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Stormwater Pollution Prevention Plan

for:

TECHNICAL AREA 60-002 Salvage and Warehouse Area

Utilities and Infrastructure Division
Los Alamos National Security, LLC (LANS)
Los Alamos, New Mexico 87545

SWPPP Contact(s):

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Revision 1, January 2016

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SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Information

Facility Information

Name of Facility: Los Alamos National Laboratory

Street: P.O. Box 1663 MS K490

City: Los Alamos State: NM ZIP Code: 87545

County or Similar Subdivision: Los Alamos

NPDES ID (i.e., permit tracking number): NMR05A734 (if covered under a previous permit)

Primary Industrial Activity SIC code, and Sector and Subsector (2015 MSGP [attached to this SWPPP as Appendix A], Appendix D and Part 8): Primary Activity Code: HZ

Co-located Industrial Activity(s) SIC code(s), Sector(s) and Subsector(s) (2015 MSGP, Appendix D):
Sector AA, Subsector 1; Sector D, Subsector 1; Sector F, Subsector 4; Sector K, Subsector 1; Sector L, Subsector 1; Sector N, Subsector 1

A copy of the facility's Notice of Intent (NOI) and LANS Delegation of Authority Letter is included in Appendix B of this SWPPP and at the Electronic Reading Room, <http://epr.lanl.gov>.

Latitude/Longitude

Latitude:
35.8739° N (decimal degrees)

Longitude:
106.3189° W (decimal degrees)

Method for determining latitude/longitude (check one):

USGS topographic map (specify scale: _____) GPS

Other (please specify): EPA Website

Horizontal Reference Datum (check one):

NAD 27 NAD 83 WGS 84

Is the facility located in Indian country? Yes No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." _____

Are you considered a "federal operator" of the facility?

Federal Operator – an entity that meets the definition of "operator" in this permit and is either any department, agency or instrumentality of the executive, legislative and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

Yes No

Estimated area of industrial activity at site exposed to stormwater: 166 (acres)

Discharge Information

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)?

Yes No

If yes, name of MS4 operator: _____

Name(s) of surface water(s) that receive stormwater from your facility: Sandia Canyon

Does this facility discharge industrial stormwater directly into any segment of an "impaired water" (see definition in 2015 MSGP, Appendix A)? Yes No

If Yes, identify name of the impaired water(s) (and segment(s), if applicable): Sandia Canyon

Identify the pollutant(s) causing the impairment(s): PCBs (Aroclors), aluminum, copper, gross alpha, and thallium

Which of the identified pollutants may be present in industrial stormwater discharges from this facility? None

Has a Total Maximum Daily Load (TMDL) been completed for any of the identified pollutants? If yes, please list the TMDL pollutants:

Does this facility discharge industrial stormwater into a receiving water designated as a Tier 2, Tier 2.5 or Tier 3 water (see definitions in 2015 MSGP, Appendix A)? Yes No

Are any of your stormwater discharges subject to effluent limitation guidelines (ELGs) (2015 MSGP Table 1-1)? Yes No

If Yes, which guidelines apply?

1.2 Contact Information/Responsible Parties

Facility Operator(s):

Name: Los Alamos National Security, LLC (LANS)
Address: PO Box 1663, MS K490
City, State, Zip Code: Los Alamos, NM 87545
Telephone Number: 505-667-5061

Facility Owner(s):

Name: Department of Energy, Los Alamos Field Office
Address: 3747 West Jemez Road
City, State, Zip Code: Los Alamos, NM 87544
Telephone Number: 505-667-6691

SWPPP Contact(s):

SWPPP Contact Name (Primary): Holly Wheeler, MSGP SWPPP Compliance Project Leader
Telephone number: 505-667-1312

Email address: hbenenson@lanl.gov

SWPPP Contact Name (Backup): Leonard Sandoval, MSGP SWPPP Inspector, Deployed
 Telephone number: 505-667-3557 Cell: 505-231-1235
 Email address: lesandoval@lanl.gov

1.3 Stormwater Pollution Prevention Team

The Stormwater Pollution Prevention Team (PPT) for the TA-60-002 Salvage and Warehouse Area consists of operations and management personnel from the facility, Multi-Sector General Permitting (MSGP) stormwater personnel from Environmental Compliance Programs (ENV-CP) organization, and Deployed Environmental Professionals. The ENV-CP representative is responsible for Laboratory compliance under the National Pollutant Discharge Elimination System (NPDES) permit regulations. The team members are selected on the basis of their familiarity with the activities at the facility and the potential impacts of those activities on stormwater runoff. The Warehouse and Salvage Yard are a single shift operation; therefore, a member of the PPT is always present during operations.

The specific duties of individual team members of the PPT are listed below.

Staff Names	Individual Responsibilities
Russell Stone (Acting), Utilities Infrastructure – Facility Operations Director (UI-FOD) DSESH Group Leader	Responsible for the management of all environmental, safety, health, and quality programs for the buildings and facilities listed within this Plan. This includes performing oversight and periodic walk downs to ensure implementation of the requirements of the MSGP and this SWPPP including overseeing the assigned duties of other PPT members. The Group Leader is responsible for ensuring that problems noted in inspections are corrected. The Group Leader must also ensure funding is established to cover compliance requirements of the MSGP and this SWPPP.
Cliff Heinstchel (primary), Leonard Sandoval (backup), Utilities Infrastructure – Facility Operations Director (UI-FOD) Deployed Environmental Professional (DEP)	Responsible for the management of all environmental programs and issues for the buildings and facilities listed within this Plan. The DEP is responsible for training, recordkeeping, and SWPPP revision. The DEP will ensure that all PPT, operations site workers (as appropriate), and applicable supervisors receive annual MSGP and SWPPP training. The DEP will ensure that inspection documents and other required MSGP records relative to the SWPPP are managed in accordance with the permit and established document control procedures and that the SWPPP is kept current. The DEP provides technical and regulatory support to the TA-60-002 Salvage and Warehouse Area personnel regarding implementation of the MSGP and this SWPPP. Lastly, the DEP conducts routine inspections and visual assessments as required by the MSGP. Identified corrective actions from routine inspection are entered into the ENV-CP Corrective Action Report (CAR) database. The DEP is responsible for tracking and updating the status of corrective actions that cannot be implemented immediately.

Lawrence Chavez, Utilities Infrastructure – Facility Operations Director (UI-FOD) Operations Manager	Responsible for managing the operation and maintenance of all aspects of the buildings and facilities listed within this Plan. The Operations Manager shall provide review and ensure coordination with core personnel and the PPT, as appropriate, when tenants within the UI FOD propose a new process or a new site or operation that may be subject to the MSGP.
Holly Wheeler, Environmental Compliance Programs (ENV-CP) MSGP Project Lead	The MSGP Project Lead is responsible for managing and administering the Multi-Sector General Permit Storm Water Program for all industrial facilities within Los Alamos National Laboratory. The MSGP Project Lead advises and provides guidance to facility personnel on NPDES MSGP regulations/requirements. The MSGP Project Lead also acts as the institutional point of contact for all interactions with the regulatory authority (EPA) and supervises personnel implementing storm water monitoring requirements for the facility.

1.4 Site Description

The TA-60-002 Salvage and Warehouse Area is operated for the Laboratory by personnel from the Utilities & Institutional Facilities Division Office (UI-DO) and oversight is by representatives from the LANS Water Quality & Compliance group (ENV-CP). The boundary of this site covers an estimated 6.01 acres on Eniwetok Drive in Los Alamos. The site is located southeast of Sandia Canyon, which serves as the watershed for the area. The site includes Buildings 60-0002 and 60-0003 and associated storage yards located to the south and east. Ninety-five percent of the site consists of impervious surfaces including the main Salvage/Warehouse building, canopied storage structures, and paved outdoor lots.

Building 60-0002 is a warehouse. The north side is used for the storage and distribution of products and chemicals use by the Maintenance organization. The south side is use by the salvage organization for storage of new items, used computers and office supplies; receiving of various parts and equipment; and is a storage area for archived files. It also consists of offices for purchasing and warehouse personnel. There are two loading dock areas located in the front (or west side) of the building; one on both the north and south end. The loading docks serve the warehouse, Building 60-0002. Paved parking areas are located on the west and north sides of the building.

Most of the salvage activity takes place outside and to the south and/or east of Building 60-0002. Prior to receipt, all materials and equipment in the Salvage area are reviewed for potential contamination including radiological and hazardous constituents and its applicability for reuse using LANL Form 1893, Excess/Salvage Equipment Request Form. Used office furniture and supplies, available for re-use to laboratory personnel or for auction, are stored on the westernmost half of the fenced salvage yard south of Building 60-0002. Additional items stored in the south and east lots include racks of piping and various laboratory equipment that is to be sold or salvaged. Several roll-off storage containers are located in the south and east lots.

A lead acid battery storage area is located south of Building 60-0002. The battery storage area is a secondary containment unit constructed of concrete berms with a locked drain on the north end. The batteries are stored in poly drums or buckets or are sealed and covered with plastic and sit on wooden

pallets inside the bermed area. The batteries are picked up at least once every six months by a recycling vendor.

A metal-roofed (canopy) structure is attached to the east side of Building 60-0002. Items stored under the structure include used circuit boards and shredded hard drives in boxes and poly drums, erosion control materials (e.g., mulch), potassium-based de-icer, oil sponges, fertilizer (previously stored), soda ash, and plywood. Potassium-based de-icer is also stored to the north of the canopied area and is covered with a tarp. The forklifts used to transport materials around the facility are also parked in this area along with other small equipment that is to be salvaged or sold. The northern portion of the canopied area is bermed.

At the northeast edge of the yard is an enclosed corrugated metal storage shed, Building 60-0007, that was temporarily used to store new containers of chemicals that had been ordered by various facilities throughout the Laboratory. Building 60-0007 is currently used to store tires.

Building 60-0003 is located directly east (or across) from Building 60-0002 and is a metal-roofed (canopy) open storage area, which is used to store erosion control materials (e.g., fiber rolls and mulch), potassium-based de-icer, treated wood, and used and new equipment.

There are three stormwater discharges associated with this facility, 026, 027, and 028. Discharge outfalls 027 and 028 are "substantially identical" to discharge point 026. All of the discharge points are located on the eastern boundary of the site. Discharge point 026 is the most southern of the discharge points and includes a stormwater monitoring station. An earthen berm along the south east corner of the facility diverts stormwater to discharge point 026. Discharge point 028, the most northern discharge points, lays outside the boundary of the facility and is fed by a slotted drain located in front (west) of Building 60-0007 which runs into a metal culvert. Discharge point 028 merges with discharge point 021 from the Heavy Equipment Yard.

Area South and East of the Warehouse is used to store lineman utility poles. It is also used to store excess recyclable materials. This area includes outfall 075 and MSGP sampler 60-00025.

1.5 General Location Map

The general location map for the facility can be found in Appendix C as Figure C-1 and identifies the location of the TA-60-002 Salvage and Warehouse Area relative to the Laboratory and surrounding area.

Appendix C, Figure C-3 shows the receiving waters of the TA-60-002 Salvage and Warehouse Area. 100% of the site flows to Sandia Canyon. The Canyon at this location is a perennial stream and eventually flows into the Rio Grande approximately 10 miles southeast of the site.

Sandia Canyon is on the New Mexico Environmental Department's 303d list for non-attainment of its designated uses. Total Maximum Daily Loads (TMDLs) have not been developed for the stream. Potential contaminants leading to the inclusion of Sandia Canyon on the 303d list are aluminum, Aroclors, copper, gross alpha, and thallium. These listings are based primarily on stormwater data. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently no US EPA assessments or listing methodologies for incorporation of storm water data.

Beginning in April 2009, LANL conducted and continues to conduct the required Impaired Waters sampling.

1.6 Site Map

A site map is provided in Appendix C, Figure C-2 and illustrates the facility's activities including property boundaries, structures, impervious surfaces, operational areas as well as information on drainage patterns, stormwater and erosion control structures, and potential pollutant sources. Features located on this map provide the facility operators with information on where potential stormwater pollutants are located, where they mix with stormwater, and where stormwater leaves the site. This information is essential in identifying the best opportunities for stormwater pollution prevention or control.

As required by the 2015 MSGP, the following information specific to the facility is shown either on the site map or with additional information provided in this SWPPP.

- **Site Boundaries and Acreage.** The site covers approximately 3.7 acres
- **Significant Structures and Impervious Surfaces.** The site is almost entirely impervious, primarily structures and paved lots.
- **Direction of Stormwater Flow and Site Drainage.** Direction of flow is indicated with arrows.
- **Locations of Structural Stormwater Control Measures.** This includes canopies, earthen berming, and gravel bags.
- **Locations of all Stormwater Conveyances.** This includes all outfalls, ditches, and pipes.
- **Locations of Potential Pollutant Sources.**
- **Locations of Significant Spills or Leaks.**
- **Locations of all Stormwater Monitoring Points.**
- **Locations of Stormwater Inlets and Outfalls.** Each outfall is identified with a unique outfall identifier and outfalls are identified as "substantially identical."
- This facility is not associated with a municipal separate storm sewer system (MS4).
- There are no non-stormwater discharges at the facility (see certification in Appendix D).
- Locations of the following activities where such activities are exposed to precipitation:
 - fueling stations (none at this facility)
 - vehicle and equipment maintenance and/or cleaning areas (none at this facility);
 - loading/unloading areas;
 - locations used for the treatment, storage, or disposal of wastes (none at this facility);
 - liquid storage tanks (none at this facility);
 - processing and storage areas;
 - immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
 - transfer areas for substances in bulk (none at this facility);
 - machinery; and
 - locations and sources of run-on to your site.
- **Locations of all Receiving Waters.** A USGS quadrangle map (Figure C-3, Appendix C) identifies the location of the receiving water for stormwater discharges. The receiving water associated with

drainage from the TA-60-002 Salvage and Warehouse Area is both an ephemeral and intermittent stream flow contained within Sandia Canyon. The flow terminates into the Rio Grande. The stream flow in Sandia Canyon has been identified by the New Mexico Environment Department (NMED) on a 303(d) list as having probable causes of impairment, but no TMDL has yet been established.

- **Areas of designated critical habitat for endangered or threatened species.** There are none in the direct vicinity of the facility. An endangered species habitat map (for LANL property) is provided in Appendix I.

SECTION 2: POTENTIAL POLLUTANT SOURCES

Section 2 describes all areas of the TA-60-002 Salvage and Warehouse Area where industrial materials or activities are exposed to stormwater. This section provides the industrial activities, potential pollutants, spills and leaks, unauthorized non-stormwater discharges evaluation, salt storage, stormwater sampling data, and descriptions of control measures.

2.1 Potential Pollutants Associated with Industrial Activity

Industrial activities that could potentially result in releases to the environment are summarized below. In general, materials stored in outside locations at the TA-60-002 Salvage and Warehouse Area have containment structures, are in roofed areas, or have other devices or practices to contain spills and prevent run-on and run-off. These areas are indicated in Figure C-2 provided in Appendix C. The primary activities and equipment areas at the facility that are industrial activities and the associated pollutants are provided below.

Industrial Activity / Pollutant Source	Associated Pollutants
Mobil Fueling	Fuel, oil
Material Storage: East and South Storage Lots - storage of metal and wooden office furniture (for salvage, sale, or laboratory re-use), roll-off bins containing materials and debris for disposal; and de-icer	metals from roll-off bins, de-icer - potassium, sodium chloride
Material Storage: Bldg. 60-0002 Canopied Storage - Used circuit boards, shredded hard drives from computers, electronic equipment/machinery, equipment, potassium-based deicer, fertilizer (storage discontinued < 3 years ago), soda ash (sodium carbonate), erosion control (mulch, non-polymer), forklifts	De-icer - potassium, sodium chloride; sodium carbonate; fertilizer-nitrogen, phosphoric acid, soluble potash; oil; fuel
Material Storage: Bldg. 60-0003 Canopied Storage - Equipment, potassium-based deicer, treated wood, erosion control (mulch, non-polymer), drums of oil, new and used equipment	De-icer - potassium, sodium chloride; oil; gasoline; diesel; treated wood – copper, arsenic, fuel, oil
Material Storage: Oil storage, South Storage Lot Secondary Containment - 55 gallon drums of oil (on drum rack) in a secondary containment unit (removed within last three years)	oil
Material Storage: Metal storage, East Storage Lot – pipe racks storing metal piping	heavy metals
Material Storage: Recycled battery storage, South Storage Lot Secondary Containment	lead, acid

Outdoor vehicle and equipment storage and parking: East and South Storage Lots – storage of equipment/machinery and vehicles	oil, fuel, hydraulic fluids, heavy metals, organics
Access roads and paved area used by carriers to convey warehouse and salvage materials	oil, fuel
Loading and unloading: North Loading Dock – Maintenance Organization products and supplies	flammable liquids, aerosols, corrosives, hydraulic oil, mineral oil
Loading and unloading: Materials stored in South and East Lots	All of above
Roofs	Dust

2.2 Spills and Leaks

Areas where leaks and spills could occur are summarized in the following table.

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Discharge Points
Battery Storage Area	026
South and East Storage Lots	026, 027, 028
Bldg. 60-0002 Canopied Storage Area	026, 027, 028
Bldg. 60-0003 Canopied Storage Area	026, 027, 028
Bldg. 60-0002 De-icer Storage East Side	027, 028

Leaks and spills occurring in the last three year are summarized in the following table.

Description of Past Spills/Leaks

Date	Description	Discharge Points
July 2015	Pail containing lead acid batteries breached during transport and battery acid leaked onto paved surface in south storage lot. The spill was immediately contained and clean-up.	No battery acid from the spill was released to a discharge point.
October 2014	Hydraulic oil leak from truck onto paved area. Paved area cleaned with dry absorbent and Micro-Blaze applied to the leak area. Truck was sent to Heavy Equipment Yard for repair.	No hydraulic oil from leak reached discharge point.
September 2014	Leaking turbine located under west canopy of Building 60-0002. Leak was cleaned with dry absorbents and Micro-Blaze was applied to leak area. Turbine was placed on secondary containment structure.	No oil from leak reached discharge point.
July 2014	Hydraulic oil staining found on paved surface where circuit board shredder vendor's truck was parked. Stained area was sprayed with Micro-Blaze. LANL procurement issued formal notice to vendor barring site entry pending verification of leak repair.	No hydraulic oil from leak reached discharge point.
February 2014	Hydraulic leak to paved area from circuit board shredder vendor's truck. Area was cleaned with dry absorbent and sprayed with Micro-Blaze. Vendor was requested to inspect vehicle for leaks prior further work.	No hydraulic oil from leak reached discharge point.
January 2014	Hydraulic oil from a forklift stained the paved area in the storage yard. The stain was sprayed with Micro-Blaze. The	No hydraulic oil from leak reached discharge point.

Description of Past Spills/Leaks

Date	Description	Discharge Points
	forklift was picked up and send to Heavy Equipment Yard for repair.	
October 2013	Hydraulic oil, approximately 1 quart, was released to a paved surface. Paved area cleaned with dry absorbent and Micro-Blaze applied to the leak area.	No hydraulic oil from leak reached discharge point.
July 2013	Diesel fuel spill, approximately ½ quart, resulting from a 55-gallon drum tipping over without bung. Liquid was absorbed with dry absorbent and leak area was sprayed with Micro-Blaze.	No diesel fuel from leak reached discharge point.
June 2013	Hydraulic oil leak onto paved area from circuit board shredder vendor's truck. Paved area cleaned with dry absorbent and Micro-Blaze applied to the leak area.	No hydraulic oil from leak reached discharge point.
September 2012	Oil staining found under forklift in southern part of storage yard. Stain was sprayed with Micro-Blaze.	No oil from leak reached discharge point.
September 2012	Red concrete dye spilled under 60-0003 canopied storage. Red dye swept up.	No concrete dye from leak reached discharge point.
July 2012	Oil sheen was noted draining from a drainage pipe near Outfall 027 (formerly 60-WH-2). The 60-0003 canopied storage area, directly proximal to the outfall, was inspected and two potential sources for the sheen were noted; roll of tar roofing felt and the outside of a secondary containment structure. Two absorbent pigs were positioned to prevent the sheen from discharging to the outfall.	No pollutants reached discharge point.
February 2012	Less than 2 gallons of non-PCB mineral oil from a transformer leaked onto the ground during off-loading operations. Emergency Operations was called out and they applied sorb-all and Micro-Blaze to the area.	No mineral oil was released to a discharge point.

2.3 Non-stormwater Discharges Documentation

In August 2015, LANL personnel completed an evaluation of unauthorized non-stormwater discharges. No unauthorized non-stormwater discharges were identified. A "Non-Stormwater Discharge Assessment and Certification" is provided in Appendix D. This form certifies that all stormwater outfalls have been evaluated for the presence of non-stormwater discharges. This form will be updated whenever a change in possible non-stormwater discharge is determined.

There are no NPDES permitted non-stormwater discharges or unpermitted outfalls associated with the facility. Potential sources of non-stormwater discharges at the facility include the testing of fire hydrants in the area. There are no discharges of water from any warehouse equipment to sewer drains inside the building.

2.4 Salt Storage

Bagged potassium and sodium chloride based de-icer is stored in canopied storage areas 60-0003 and 6-0002 and on the east side of Building 60-0002.

2.5 Sampling Data Summary

Discharge monitoring reports for the past permit period (April 2009 through April 2015) are attached as Appendix E. The following summarizes, by year, stormwater sampling data collected from discharge point 026 (formerly 60-WH-1).

2009

Evaluation of the analytical data from annual monitoring indicated that the impaired water quality was exceeded for aluminum on 7/5/2009 at outfall 60-WH-1.

The impaired waters pollutants Aroclors and mercury were not present in the stormwater discharge. Annual monitoring for these pollutants was discontinued per Section 6.2.4.2 of the 2008 MSGP based on analytical data from the sampling event on 7/5/2009 at outfall 60-WH-1.

2010

A background study finalized on 9/30/2010 showed that aluminum was present in stormwater from the 7/5/2009 collection date at a concentration solely attributable to background.

2011

The impaired water quality standard was exceeded for copper at outfall 60-WH-1 for storm event on 4/7/2011. The pollutant concentration for copper was solely attributable to natural background. No pollutants were documented during visual assessments at the facility.

2012

For outfall 60-WH-1, no impaired waters monitoring was required. No pollutants were documented during visual assessments of this facility.

2013

For outfall 60-WH-1, no impaired waters monitoring was required. No pollutants were documented during visual assessments of this facility.

2014

For outfall 60-WH-1, no impaired waters monitoring was required. No pollutants were documented during visual assessments of this facility.

2015

Sample was collected from outfall 60-WH-1 on 5/5/2015 and analyzed for thallium. The impaired waters pollutant thallium was not present in stormwater discharge.

SECTION 3: STORMWATER CONTROL MEASURES

One of the important elements in the development of a SWPPP is identification of appropriate control measures to minimize exposure of certain activities to stormwater. Minimize means to reduce and/or eliminate to the extent achievable using control measures - including Best Management Practices (BMPs) - that are technologically available and economically practicable and achievable in light of best industry practice. This facility will control its stormwater discharges as necessary to meet applicable water quality standards. If the facility determines, or is informed by EPA, that any of its discharges contribute to or have caused an exceedance of water quality standards, corrective actions will be initiated to eliminate the

problem. The EPA may impose additional requirements for this facility or require an individual permit if information suggests that activities at this facility cause or contribute to a water quality standard.

The following control measures and design criteria were considered in selection of stormwater controls at the site:

- Preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater.
- Using control measures in combination may be more effective than using control measures in isolation for minimizing pollutants in stormwater discharge.
- Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit.
- Minimizing impervious areas at the facility and infiltrating runoff onsite (including bio-retention cells, green roofs, and impervious pavement, among other approaches) can reduce runoff and improve ground water recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination.
- Attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows.
- Conserving and/or restoring riparian buffers will help protect streams from stormwater runoff and improve water quality.
- Using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

The site map (Figure C-2, Appendix C) illustrates stormwater flow directions at the facility. Activities at the facility provide opportunities for pollutants to be transported by stormwater. Control measures in the form of BMPs; either administrative (e.g., SOPs and/or Utility Operating Procedures [UOPs]) and/or maintenance procedures or structural (e.g., berms) provide a first line of defense at the facility in minimizing the potential for spills, exposure of materials, or any other event that could adversely affect the quality of water and sediment that is transported beyond the facility boundary. In minimizing exposure, facility staff focus particular attention to the control measures described in Sections 3.1 to 3.6. The following sections document the location and types of control measures that are installed and implemented to achieve the non-numeric effluent limits associated with this facility.

3.1 Non-numeric Technology-based Effluent Limits (BPT/BAT/BCT)

The following section details compliance with non-numeric effluent limits as well as any sector-specific non-numeric effluent limits. The following table summarizes for each industrial activity the best management practices use to control pollutant discharge. The LANL Storm Water BMP Manual is consulted as needed.

BMPs for Potential Pollutant Sources at the TA-60-002 Warehouse and Salvage Area	
Industrial Activity/Pollutant Source	BMPs
Mobil Fueling	<p>Minimize Exposure Use drip pan under the transfer hose. Use fueling hoses with check valves to prevent hose drainage after filling. Fueling vehicle is equipped with manual shutoff valve.</p> <p>Training Discourage "topping off" of fuel tanks Train personnel on fueling BMPs</p> <p>Spills and Leaks Any identified pollutants are immediately cleaned-up using dry absorbents and Micro-blaze is applied to petroleum based leaks. Facility personnel are trained in spill and leak response and notification.</p>
Material Storage Areas (all)	<p>Inspections and Training Daily inspections for spills and leaks minimize the potential for releases. Weekly inspection of potential pollutant sources, BMPs, and outfalls.</p> <p>Spills and Leaks Any identified pollutants are immediately cleaned-up using dry absorbents and Micro-blaze is applied to petroleum based leaks. Facility personnel are trained in spill and leak response and notification.</p> <p>Minimize Exposure To eliminate the potential for pollutant release from salvage items, all salvage equipment, vehicles, and office furniture that enters the facility is screened per LANL Form 1893 which prohibits any items containing radiological, hazardous, or explosive contamination and minimize receipt of non-salvageable items that will require storage for extended periods. Operational practices minimize the storage time of salvage items to less than 6 months. Salvage items that are not used internally are transported offsite for auction. Vehicles and equipment are posted for sale by GSA or auctioned.</p> <p>Good Housekeeping Stored materials are clearly labeled (i.e., "de-icer," "battery storage").</p> <p>Management of Runoff/Erosion and Sediment Control An earthen berm is located at the fence line along the south east corner of the facility to promote infiltration and prevent stormwater runoff. Outfall 026 has gravel bags and rock lining. Outfalls 027 and 028 are rock lined.</p>
De-icer (uncovered, stored on east side of Bldg. 60-0002)	<p>Minimize Exposure Placed on pallet and covered with waterproof tarp.</p>
Roll-off bins and dumpsters containing materials and debris for disposal	<p>Minimize Exposure Roll-off bins and dumpsters are tarped or lids are kept closed when not in use to prevent accumulation of stormwater.</p> <p>Good Housekeeping</p>

BMPs for Potential Pollutant Sources at the TA-60-002 Warehouse and Salvage Area	
	Full bins are removed from site for content disposition every 7 to 10 days.
Metal storage on pipe racks	<p>Minimize Exposure Currently in the process of consolidating the inventory of metal piping to allow for covering by tarps or canopy.</p>
Bldg. 60-0002 Canopied Storage - Used circuit boards, shredded hard drives from computers, potassium-based deicer, fertilizer (storage discontinued < 3 years ago), soda ash (sodium carbonate), erosion control (mulch, non-polymer), forklifts	<p>Minimize Exposure Materials are stored under metal canopy. De-icer and soda ash are placed on pallets and wrapped in plastic.</p>
Bldg. 60-0003 Canopied Storage - Equipment, potassium-based deicer, treated wood, erosion control (mulch, non-polymer), drums of oil	<p>Minimize Exposure Materials are stored under metal canopy. De-icer placed on pallets and wrapped in plastic. Equipment, machinery, treated wood, and other supplies are placed on pallets or are located on elevated platforms. Drummed oil placed on secondary containment structure.</p>
Lead acid batteries for recycling	<p>Minimize Exposure Batteries are contained in poly containers or wrapped in plastic and covered with a waterproof tarp. Batteries are stored in a secondary containment area (bermed concrete area). Excessive stormwater accumulation in the bermed area is sampled prior to discharge.</p> <p>Housekeeping Batteries for recycle are picked up by a recycling vendor every 6 months or more frequently based on inventory.</p>
Oil storage (drummed) - uncovered (removed within last three years)	<p>Minimize Exposure Drummed oil stored in a secondary containment area (bermed concrete area). Excessive stormwater accumulation in the bermed area is sampled prior to discharge.</p>

BMPs for Potential Pollutant Sources at the TA-60-002 Warehouse and Salvage Area	
Outdoor vehicle and equipment storage and parking	<p>Inspections and Training Daily inspections for spills and leaks minimize the potential for releases. Any identified pollutants are immediately cleaned-up using dry absorbents and Micro-blaze is applied to petroleum based leaks. Weekly inspection of potential pollutant sources, BMPs, and outfalls.</p> <p>Spills and Leaks Any identified pollutants are immediately cleaned-up using dry absorbents and Micro-blaze is applied to petroleum based leaks. Facility personnel are trained in spill and leak response and notification.</p> <p>Minimize Exposure Drip pans are placed under vehicles, equipment, and machinery when leaks are identified. Vehicles, equipment, and machinery are drained for extended storage. Forklift is stored under canopy area when not in use.</p> <p>Management of Runoff/Erosion and Sediment Control An earthen berm located at the fence line along the south east corner of the facility to promote infiltration and prevent stormwater runoff. Outfall 026 has gravel bags, and rock lining. Outfalls 027 and 028 are rock lined.</p>
Access roads and paved area used by carriers to convey warehouse and salvage materials	<p>Inspections and Training Daily inspections for spills and leaks minimize the potential for releases. Any identified pollutants are immediately cleaned-up using dry absorbents and Micro-blaze is applied to petroleum based leaks.</p>
Roofs	<p>Management of Runoff/Erosion and Sediment Control An earthen berm is located at the fence line along the south east corner of the facility to promote infiltration and prevent stormwater runoff. Outfall 026 has gravel bags, and rock lining. Outfalls 027 and 028 are rock lined.</p>
Loading and Unloading: Materials stored outside or in canopied storage	<p>Inspections and Training Daily inspections for spills and leaks minimize the potential for releases. Any identified pollutants are immediately cleaned-up using dry absorbents and Micro-blaze is applied to petroleum based leaks. Weekly inspection of potential pollutant sources, BMPs, and outfalls.</p> <p>Minimize Exposure Avoid loading/unloading in the rain. Inspect area before loading or unloading. Do not unload near outfalls. Load and unload in covered areas.</p> <p>Management of Runoff/Erosion and Sediment Control An earthen berm is located at the fence line along the south east corner of the facility to promote infiltration and prevent stormwater runoff. Outfall 026 has gravel bags, and rock lining. Outfalls 027 and 028 are rock lined.</p>

3.1.1 Minimize Exposure

Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option at the facility. Minimizing exposure prevents pollutants, including debris, from coming into contact with precipitation and can reduce the need for BMPs to treat contaminated stormwater runoff. It can also prevent debris from being picked up by stormwater and carried into drains and surface waters. Examples of BMPs used for exposure minimization at this facility include:

- locating industrial materials and activities inside or protecting them with storm resistant coverings; (NOTE: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving waters or if discharges are authorized under another NPDES permit).
- using grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
- locating materials, equipment, and activities so that leaks are contained in existing containment and diversion systems;
- cleaning up spills and leaks promptly using dry methods (e.g., absorbents) to prevent discharge of pollutants;
- using drip pans and absorbents under or around leaky vehicles and equipment or storing equipment indoors where feasible;
- use of spill/overflow protection equipment;
- keeping dumpster lids closed and roll-off bins tarped;
- draining fluids from equipment and vehicles prior to on-site storage or disposal;
- performing all cleaning operations indoors; and
- routing all wash water drains to a proper collection system (i.e., not the stormwater drainage system).

3.1.2 Good Housekeeping

Good housekeeping is a practical, cost-effective way to maintain a clean and orderly facility and to prevent potential pollution sources from coming into contact with stormwater. It includes establishing protocols to reduce the possibility of mishandling materials or equipment and training employees in good housekeeping techniques. Common areas where good housekeeping practices are specifically applicable to the prevention of stormwater contamination at this facility include material storage areas and loading areas.

Outdoor areas are walked-down daily to ensure that the grounds are kept in an orderly condition and weekly to ensure that stormwater control structures are properly maintained, free of debris or other obstructions, or free of excess stormwater accumulation. Any identified garbage and debris is collected to prevent discharge. These inspections also identify any leaks, spills, or non-stormwater discharges in any of the areas.

Loading areas are kept clean of potential pollutants.

Materials are store in appropriate containers, covered/tarped, and placed on pallets. Roll-off containers and dumpsters are tarped or lids are kept closed when not in use to prevent the collection of rainwater.

Operational practices minimize the storage time of salvage items to less than 6 months. Salvage items that are not used internally are transported offsite for auction. Vehicles and equipment are posted for sale by GSA or auctioned.

Batteries for recycle are picked up by a recycling vendor every 6 months or more frequently based on inventory.

Full bins are removed from site for content disposition every 7 to 10 days.

This area does not handle or manage pre-production plastic materials.

3.1.3 Maintenance

The entire facility is walked down daily to ensure that the grounds are kept in an orderly condition. Stormwater control structures and outfalls are inspected weekly for condition, proper operation, and presence of stormwater (containments). Upon discovery of a routine maintenance deficiency, maintenance is conducted immediately to minimize pollutant discharges. If a control measure is in need of repaired or replacement, all reasonable steps are immediately taken to prevent or minimize the discharge of pollutants until the final repair or replacement is implemented, including cleaning up any contaminated surfaces so that the material will not be discharged during subsequent storm events. Final repairs/replacement of stormwater controls is completed as soon as feasible but must be no later than the timeframe established for corrective actions.

The preventive maintenance program consists of good housekeeping practices specifically applicable to the prevention of stormwater contamination.

The preventive maintenance program in general includes the following:

- Standard Operating Procedures (SOPs) that specify appropriate methods for handling wastes;
- Maintenance of operational areas in a clean and orderly state;
- Regular inspections to ensure that procedures are properly followed and that no potential contaminants are present in exposed areas.
- Facility equipment is evaluated by appropriate systems engineers to determine the need for, schedule for, and procedures for preventive maintenance. The results of these evaluations are documented and standing work orders are established for equipment and/or systems that are determined to need preventive maintenance. All preventive maintenance activities are tracked in maintenance history logs.

BMPs used for management of stormwater and sediment at the facility include a slotted drain and metal convert for discharge point 028, gravel bags for discharge point 026, and an earthen berm on the southeast corner of site to promote infiltration and prevent run-off. Each outfall (026, 027, and 028) and the associated stormwater conveyance ditches are rock lined to prevent erosion. The BMPs are inspected periodically to ensure that they are not obstructed by debris and that any maintenance or repair of the structure is performed promptly and adequately. Maintenance and repairs of control measures and stormwater structures (i.e., sediment removal) are documented in the ENV-CP MSGP Corrective Action Report (CAR) Database and scheduled with craft personnel for implementation. Nonstructural control measures are also diligently maintained (e.g., spill response supplies available, personnel appropriately

trained). Final repairs/replacements are completed as soon as feasible (within 14 days) but no later than 45 days.

In addition, stormwater collected within the battery secondary containment structure is on a regular maintenance schedule to minimize the potential for pollution from overflowing or future cross-contamination. The Salvage and Warehouse Area staff follow the ENV-CP-WQ procedures for visual inspection of stormwater within containment before considering any releases. Staff notifies ENV-CP-WQ and the LANS contractor of the results of the visual inspection and the need to discharge stormwater from the containment. Visual examination includes a description of the odor, color, and clarity of the discharge. If present, foam, floating solids of raw or waste material, settled solids, and suspended solids are also described as part of the visual inspection. Staff complies with the decision made by ENV-CP-WQ regarding the request and files all findings and a record of all secondary containment releases. Copies are sent to ENV-CP-WQ and the LANS contractor.

3.1.4 Spill Prevention and Response

Spills are prevented by ensuring container integrity, plainly labeled containers that could be susceptible to spillage or leakage, properly maintaining equipment, inspecting equipment and BMPs, correcting deficiencies, maintaining proper housekeeping, ensuring adequate training, and diligently performing work. Spill control consists of proper BMPs and engineering and administrative controls. The probability of spills or releases at the facility is minimized by application of good housekeeping procedures and appropriate operational methods. These operational procedures include but are not limited to: drum dollies and drum grapplers on forklifts used for unloading and reloading operations. Facility personnel are trained annually to response measures for spills or releases in "Multi-Sector General Permit Annual Industrial Storm Water Training for TA-3-38, Material Recycle Facility, Roads and Grounds, TA-60 Warehouse, TA-60 Heavy Equipment Yard, and the Asphalt Batch Plant" which addresses specific spill response and cleanup procedures that are in place depending on the nature of the spilled material. Spill kits are available in the cabinet located at the south end of the drum rack containment unit and additional absorbent material is available outdoors at the east end of Building 60-0002.

Spill Prevention consists of spills, leaks, or releases that are minimized by the application of good housekeeping procedures, BMPs, and engineering and administrative controls. Examples of these measures include storing equipment with drip pans and inspecting regularly for leaks. All facility personnel are trained to respond to leaks and spill as described in Section 4.5 of this SWPPP.

In general, the approach to spill cleanup is to secure the spill area and contact ENV-CP and the Emergency Operations Center (EOC) Emergency Management & Response (EM&R) Team (if necessary). Contact information is available the main desk at Building 60-0002, the Warehouse, so it is readily accessible and available. For incidental releases, absorbents are used to pick up free liquids and the contaminated absorbents are properly disposed.

All significant incidents shall be reported to the Emergency Operations Center (EOC) or Facility Duty Officer in accordance with LANL's Manual for Communicating, Investigating, and Reporting Abnormal Events: <https://int.lanl.gov/policy/documents/P322-3.pdf>.

The EOC or Facility Duty Officer shall report all spills or releases. All uncontrollable spills or releases must be reported to the EOC/EM&R Office or Facility Duty Officer by calling 667-6211 or, after hours, at 667-

7080. If fire or explosion is present, or if the potential for such exists, the situation must be reported by dialing 911 from a non-cellular phone or by activating a fire pull box. In the event of a spill, the EOC/EM&R Office will determine appropriate cleanup procedures and will notify the individuals or organizations responsible for completing spill reports or fulfilling regulatory reporting requirements. An emergency trailer with spill cleanup and safety equipment ready for rapid transport to any part of the Laboratory is available at TA-63.

The completion of a spill investigation and a spill report is also required in the event of a spill. Spill investigations are conducted per ENV-CP-QP-007, Spill Investigation. The spill report will be handled according to internal spill recordkeeping procedures and may require external agency notification, depending on the nature of the spilled material and the location of the release. External agency notification may consist of verbal or written notification to the National Response Center, Environmental Protection Agency Region VI, or the New Mexico Environment Department. The determination for the type of reporting will be made by the EOC/EM&R Office and ENV-CP in accordance with Laboratory and DOE policies and federal and state regulatory reporting requirements. Copies of internal spill reports are maintained by the responsible organization. If an un-reportable spill occurs it will be documented in the spill log that is maintained with the SWPPP.

Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the National Response Center (NRC) must be contacted at (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as there is knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies

3.1.5 Erosion and Sediment Controls

Sediment transport and erosion at the facility is minimal because 95% of the area within the facility boundary is occupied by structures or has been paved for access and parking. Areas where erosion could occur (e.g., in unlined channels where runoff water is concentrated) are addressed by installation of appropriate BMPs. Erosion control BMPs, including gravel bags, slot drain to an underground metal culvert, and rock lining have been installed in those areas where soil may become or has been dislodged and/or transported during storm events (see Appendix C, Figure C-2, Site Map for location). Sediment control (i.e., silt fences, sediment ponds, and stabilized entrances) will be used as back-up for erosion control BMPs if required. LANL staff utilize the LANL Storm Water BMP Manual as guidance in the selection, function, installation, inspection and maintenance of BMPs for stormwater management and sediment and erosion control.

Stormwater management practices at the facility have included placement of flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. BMP placement will address any issues discovered during preventive maintenance inspections, regular facility inspections, and/or observations made during monthly/quarterly routine inspections conducted at the facility by designated members of the PPT. These team members will examine the condition of conveyance channels and other unpaved areas for signs of excessive erosion, such as gullies on slopes or undermining of structures and paved areas. In the event that excessive

erosion of the drainage channels is observed, corrective measures to minimize or prevent further erosion will be implemented. Members of the PPT Team from ENV-CP Stormwater team will be consulted to ensure appropriate corrective measures are taken.

In selecting, designing, installing, and implementing control measures, the facility PPT Members will, in addition to obtaining recommendations proposed by ENV-CP Stormwater representatives, consult with EPA's internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific Industrial Stormwater Fact Sheet Series (EPA-833-F-06-030), (www.epa.gov/npdes/stormwater/msgp), National Menu of Stormwater BMPs (www.epa.gov/npdes/stormwater/menuofbmps), and National Management Measures to Control Nonpoint Source Pollution from Urban Areas (www.epa.gov/owow/nps/urbanmm/index.html), and any similar State or Tribal publications.

All BMPs at the facility are regularly maintained to ensure they function as intended. Inspections are conducted monthly and during runoff events. If any problems are found, corrective actions are initiated immediately. Final repairs/replacements are completed as soon as feasible (within 14 days) but no later than 45 days.

3.1.6 Management of Runoff

Approximately 95% of the entire surface region within the facility boundary is impervious - paved with asphalt or concrete and covered by buildings or structures. Water flows from the western portion of the facility to the east. Stormwater from the south storage area runs northeast to discharge point 026. The loading docks drain under Building 60-0002 and exit on the east side of the building draining into discharge point 026. Stormwater from the eastern area of the facility runs along the northern side of Building 60-0002 and discharges at discharge points 027 and 028. Stormwater from the east storage area runs east and discharges from discharge points 026, 027, or 028. All three discharge points flow into Sandia Canyon.

A detailed view of stormwater flow direction at the facility is illustrated in Figure C-2 provided in Appendix C. Water leaves the facility and discharges into a tributary located in Sandia Canyon (Figure C-3, Appendix C).

An earthen berm along the southeast corner of the site promotes infiltration of stormwater and diversion to outfall 026. Each of the outfalls (026, 027, and 028) and the immediate downstream conveyance ditches are rock lined to prevent erosion. Outfalls 027 and 028 utilize rock check dams to reduce flow velocities and promote infiltration.

During routine inspections, BMPs are evaluated by PPT members to determine if they are being maintained to function as intended, especially during runoff events. Problems found associated with runoff are addressed through corrective actions and initiated as soon as possible. Final repairs/replacements are completed as soon as feasible (within 14 days) but no later than 45 days.

3.1.7 Salt Storage Piles or Piles Containing Salt

Bags of potassium and sodium chloride de-icer are stored under the canopy on the east side of Bldg. 60-0002 and at 60-0003. De-icer is stored on pallets and covered in shrink wrap. A small inventory of de-icer

is stored on the east side of Building 60-0002 and is placed on a pallet and covered by a tarp. Daily and weekly inspections ensure that the de-icer bags are in good condition and no product is released.

3.1.8 Dust Generation and Vehicle Tracking of Industrial Materials

Erosion/dust generation at the Salvage Warehouse facility is minimal because ninety-five percent of the site is paved or occupied by structures. However, sediment transport is possible due to the accumulation of dust from office furniture and materials stored in the salvage yards and from the transport of materials throughout the site. Sediment transport is also possible from parking lot runoff that drains roads from west to east onto the site and from the unpaved bermed and lot areas in the south and east yards.

3.2 Sector-Specific Non-Numeric Effluent Limits

The industrial activities occurring at the site are identified by the Activity Code specified under **Sector P (Land Transportation and Warehousing)** found in Part 8 of the 2015 MSGP. The applicable activities specific to this site are provided below with applicable controls.

Vehicle and Equipment Storage Areas

See Section 3.1 for specific control measures to control spills and leaks.

Material Storage Areas

See Section 3.1 for specific control measures to control spills and leaks.

Employee Training

See employee training in Section 4.5.

3.3 Numeric Effluent Limitations Based on Effluent Limitations Guidelines

The TA-60-002 Salvage and Warehouse Area is not subject to the effluent limitation guidelines identified in Table 2-1 of the 2015 MSGP.

3.4 Water Quality-based Effluent Limitations and Water Quality Standards

Stormwater monitoring data for TA-60-002 Salvage and Warehouse Area confirms that the controls implemented, as described in Section 3 of this SWPPP, result in stormwater discharges that meet applicable water quality standards. To date, no additional water quality standards are imposed upon this site.

SECTION 4: SCHEDULES AND PROCEDURES

4.1 Good Housekeeping

All site areas exposed to precipitation are walked down weekly and during monthly inspections to ensure that the grounds are kept in an orderly condition. These weekly inspections also identify any leaks, spills, or non-storm water discharges in any of the areas.

The "Multi-Sector General Permit Annual Industrial Storm Water Training for TA-3-38, Material Recycle Facility, Roads and Grounds, TA-60 Warehouse, TA-60 Heavy Equipment Yard, and the Asphalt Batch Plant" is the training provided to facility personnel and instructs them in housekeeping practices, recognizing pollutant sources, spill response, and notifications.

Operational practices minimize the storage time of salvage items to less than 6 months. Salvage that is not used internally is transported offsite for auction. Vehicles and equipment are posted for sale by GSA or auctioned.

Battery recycle is performed in accordance with ADESH-TOOL-703, Batteries for Salvage. This tool requires that batteries for recycle be properly containerize and labeled prior to receipt at TA-60-002 Salvage Area. Stored batteries for recycle are picked up at TA-60-002 Salvage Area by a recycling vendor every 6 months or more frequently based on inventory.

Full bins are removed from site for content disposition every 7 to 10 days.

The Laboratory has a Pollution Prevention and Sustainability website for maintenance and operations waste, which includes the path forward and procedures for waste disposal and storage. The Laboratory also has a website with all applicable waste management tools. This is the main reference site for LANL waste management coordinators and provides series tools for storage, labeling, and management of hazardous waste, radiological waste, universal waste, New Mexico Special waste, and other wastes. The figure below shows the waste management process at LANL.

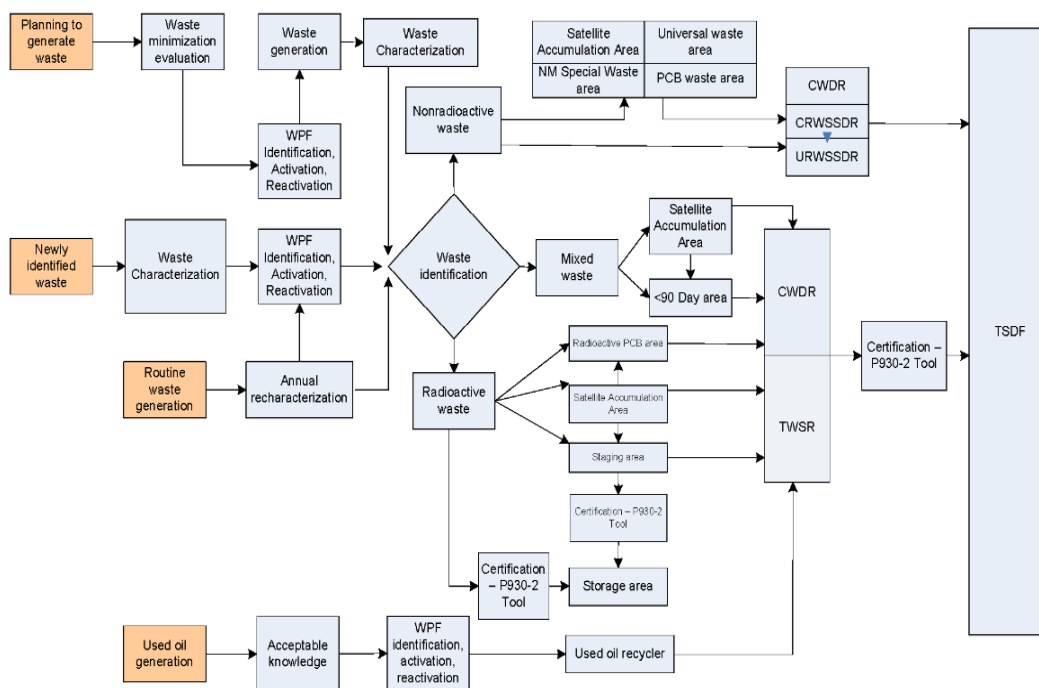
Good housekeeping practices that are specifically applicable to the prevention of stormwater contamination include:

- Regular daily and weekly walk through inspections are conducted to ensure that procedures are properly followed and that no potential contaminants are present in exposed areas.
- Procedures and practices for material management and storage as detailed in Section 3.1 minimize the potential for runoff contamination.
- All storage areas are kept clean and neat. Vehicles and other equipment are stored and maintained in specified areas.
- Garbage and floatables are routinely picked up by facility personnel. All garbage containers are covered to prevent windblown debris.
- Backup practices including the installation of temporary BMPs will be installed to mitigate runoff while a control measure is off line.

Contact P409rep@LANL.gov to report errors or broken links

P409 WASTE MANAGEMENT PROCESS

[Glossary](#) and [Acronyms](#)



This document was DC reviewed and is unclassified.

4.2 Maintenance

Stormwater control measures and BMPs are inspected weekly to ensure proper operation and functionality are maintained and that outfalls are free of debris, sediment, and other obstructions. These weekly inspections also identify any leaks, spills, or non-storm water discharges in any of the areas. If any maintenance or repairs of the BMPs are required, the requirements of ENV-RCRA-QP-022, MSGP Stormwater Corrective Actions are implemented. In addition, personnel involved in maintaining BMPs at the warehouse are trained to this SWPPP and ENV-RCRA QAPP-MSGP, Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities.

4.3 Spill Prevention and Response Procedures

ENV-CP staff and contract personnel who perform spill response and investigation require training on the latest version of procedure ENV-CP-QP-007, Spill Investigations.

Annual re-training to this SWPPP is required. Specific training requirements are updated as needed.

The training method for this SWPPP is part "self-study" and part on-the-job training (OJT). The OJT training is to be conducted by a Team Leader or person designated as Subject Matter Expert (SME) by the ENV-

CP Group Leader. The self-study and OJT will be documented in accordance with ENV-DO-QP-115, Personnel Training.

The following procedures ensure spill prevention at fuel, chemical, and miscellaneous loading and/or unloading areas.

- Procedures UI-PROC-66-20-020, Spill Prevention Control & Countermeasure Plan, UI-PROC-66-20-170, Fuel Oil Delivery and Reloading onto Trucks, UI-PROC- 66-20-050, Chemical Hygiene, have been implemented by Operations and Maintenance personnel to minimize contamination of precipitation or surface runoff from fuel oil and chemical unloading areas. These procedures include the use of containment curbs and having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up.
- Waste containers are plainly labeled, inspected, and managed per P409, LANL Waste Management. This applies to such items as Used Oil.
- All chemical containers are to be plainly labeled per UI-PROC- 66-20-050, Chemical Hygiene, to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Loading and unloading activities are confined to designated areas and away from drainage pathways and free of exposure to stormwater and use preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
- Spill and overflow protection (e.g., drip pans) beneath fuel oil connectors are being used and procedures are in place for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak are trained to the latest version of Multi-Sector General Permit Annual Industrial Stormwater Training. Site workers are instructed to check under heavy equipment for spills/leaks and to:
 - Call EM&R to treat oil leaks with MicroBlaze.
 - Absorb diesel, gasoline, and oil to the extent possible.
 - If the leak or spill is to soil, dig up and containerize the spill residueThe necessary spill response equipment is available for quick response.

The “Multi-Sector General Permit Annual Industrial Storm Water Training for TA-3-38, Material Recycle Facility, Roads and Grounds, TA-60 Warehouse, TA-60 Heavy Equipment Yard, and the Asphalt Batch Plant” is the training provided to facility personnel and instructs them in housekeeping practices, recognizing pollutant sources, spill response, and notifications.

The following list of procedures is implemented by personnel at the Facility to minimize contamination of stormwater runoff from delivery and/or residue hauling vehicles arriving at the site:

- Procedure UI-PROC-66-20-170, Fuel Oil Delivery and Reloading onto Trucks, is implemented to address this effluent limit. This procedure ensures overall integrity of the body or container and deal with leakage or spillage from vehicles or containers.
- Spill reduction measures have been implemented at the facility through Procedure UI-PROC-66-20-020, Spill Prevention Control and Countermeasure Compliance.

4.4 Erosion and Sediment Control

Polymers and/or other chemical treatments are not used for erosion or sediment control at the site. Structures used at the site for erosion and sediment control include gravel bags and rock lined run downs.

4.5 Employee Training

Employee training is essential to effective implementation of the SWPPP. The goals for the training program are to ensure that employees are more capable of preventing spills, responding safely and effectively to an accident when one occurs, and recognizing situations that could lead to stormwater contamination.

Training relevant to the SWPPP is required for all operational workers at the facility who work in areas where industrial materials or activities are exposed to stormwater including personnel responsible for the storage and handling of chemicals and materials that could become contaminants in stormwater discharges; managers and supervisors who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel); and all members of the PPT. Training provided and assigned to these personnel cover both the specific control measures used to achieve the effluent limits in Section 3 of this SWPPP; along with monitoring, inspection, planning, reporting, and documentation requirements described in Section 4 of this SWPPP. Training is conducted at least annually. Training records are kept in Appendix G of the SWPPP.

The topics in this SWPPP to be covered in the latest version of training made available to staff (LANL training course ENV-CP-QAPP-MSGP, Quality Assurance Project Plan for the Stormwater Multi-Sector General Permit for Industrial Activities Program), include the following:

- An overview of what is in the SWPPP;
- Spill response procedures, good housekeeping, maintenance requirements, and material management practices;
- The location of all controls on the site required by this permit and how they are to be maintained;
- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.
- Additional training is provided to the PPT members responsible for design, installation, maintenance, and/or repair of controls (including pollution prevention measures), conducting and documenting monitoring and inspections, and taking and documenting corrective actions. Qualified team members are hired and trained as prescribed in ENV-DO-QP-115, Personnel Training. This initial and annual training includes quality assurance requirements, reporting, inspections, logbook use, health and safety, report preparation, and engineering and design criteria.
- Training activities are documented in accordance with the LANL's Training Standards. Training records are maintained at the facility and in Appendix G of this SWPPP. In cases where staff briefings are formalized enough to include written learning objectives; an outline of topics covered, and instructor or presenter qualifications and training activity will be recorded in LANL's official training database, UTRAIN.
- Informal briefings, such as those included in group safety meetings for temporary workers or for safety documentation, are not recorded in UTRAIN. Sign-in sheets are used to track attendance.

The following provides the specific training for MSGP Inspectors, MSGP SWPPP Preparers, ENV-CP Design Engineers, MSGP Visual Inspectors, and Field Workers.

Curricula 10697 ENV-RCRA MSGP Inspector

- Item 43337 ENV-CP-QAPP-MSGP
- Item 54892 ENV-RCRA-QP-022 MSGP Stormwater Corrective Actions
Item 42415 ENV-DO-QP-101 Environmental Reporting Requirements for Releases or Events
- Item 42547 ENV-DO-QP-111 Reporting Environmental Releases to Pueblo Governments
- Item 40708 ENV-DO-QP-108 Preparation of External Correspondence for Review and Approval
- Item 43172 ENV-DO-QP-112 Coordinating Regulatory Inspections
- Item 42891 ENV-DO-QP-113 Tracking Issues and Actions
- Item 43805 ENV-DO-QP-114 Logbook Use and Control
- Item 45777 ENV-DO-QP-100 General Field Safety

Curricula 7814 ENV-RCRA MSGP SWPPP Preparer

- Item 43337 ENV-CP-QAPP-MSGP
- Item 56593 ENV-RCRA-QP-044 Preparing Stormwater Discharge Monitoring Reports (MDMRs) for the NPDES Multi-Sector General Permit
- Item 40708 ENV-DO-QP-108 External Correspondence
- Item 43172 ENV-DO-QP-112 Coordinating Regulatory Inspections
- Item 42891 ENV-DO-QP-113 Tracking Issues and Actions
- Item 43805 ENV-DO-QP-114 Logbook Use and Control
- Item 45777 ENV-DO-QP-100 General Field Safety

Curricula 51 ENV-CP Design Engineer

- Item 44269, COE Review of LANL Produced Design Documents, AP-341-620
- Item 44266, COE System Design Descriptions, AP-341-61
- Item 44263, COE Engineering Drawings and Sketches, AP-341-608
- Item 44261, COE Calculation, AP-341-605
- Item 44258, COE Requirements and Criteria Document, AP-341-602
- Item 44257, COE Functions & Requirements Document, AP-341-601
- Item 43658, CORE Engineering Overview
- Item 55428, COE Management Level Determination, AP-341-502
- Item 54168, P342 Engineering Standards
- Item 47029, COE LANL Review of Design by External Agencies, AP-341-622
- Item 43666, Engineering Design Management
- Item 43663, Engineering Technical Baseline
- Item 44225, COE Evaluation of Vendor Information, AP-341-701

Curricula 10698 ENV-RCRA MSGP Visual Assessor

- Item 43337 ENV-RCRA-QAPP-MSGP
- Item 50493 ENV-RCRA-QP-064 MSGP Stormwater Visual Assessments
- Item 42415 ENV-DO-QP-101 Environmental Reporting Requirements for Releases or Events
- Item 42547 ENV-DO-QP-111 Reporting Environmental Releases to Pueblo Governments.
- Item 40708 ENV-DO-QP-108 External Correspondence

- Item 43172 ENV-DO-QP-112 Coordinating Regulatory Inspections
- Item 42891 ENV-DO-QP-113 Tracking Issues and Actions
- Item 43805 ENV-DO-QP-114 Logbook Use and Control
- Item 45777 ENV-DO-QP-100 General Field Safety

Curricula 131 Field Worker

- Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace
- Item 3574 or 13264 First Aid

4.6 Inspections and Assessments

The following sections document the procedures for performing the types of inspections specified by this permit, including: routine facility inspections and quarterly visual assessment of stormwater discharges.

4.6.1 Routine Facility Inspections

Routine facility inspections are conducted and documented monthly by a qualified member of the PPT (typically the Deployed Environmental Professional or ENV-CP SME).

One routine facility inspection is conducted during an active storm water discharge, if possible. Routine facility inspections evaluate the following, at a minimum (checklist/procedure attached as Appendix H):

- Presence of previously unidentified discharges of pollutants;
- Control measures needing maintenance or repairs;
- Failed controlled measures that need replacement;
- Incidents of noncompliance, and
- Need for additional control measures needed to comply with the permit requirements.

Specific areas of the facility to be inspected include:

- Bldg. 60-0002 canopy storage area
- Bldg. 60-0003 canopy storage area
- Lead acid battery secondary containment
- Earthen berm at southeast corner of facility
- Tarps on roll-off bins
- Lids on metal containers
- Drip pans under leaking vehicles/equipment
- Secondary containment for drummed materials (oil)
- De-icer and soda ash placed on pallets
- De-icer (not under canopy) tarped
- Storage lots
- Outfalls 026, 027, 028

The PPT member performing the inspection documents the inspection and notes potential stormwater pollution problems that were encountered on the routine facility inspection form. Monthly inspection reports

are retained in this SWPPP as Appendix H. Corrective actions are recorded and documented in the ENV-CP MSGP CAR database and stored in Appendix J of this SWPPP.

Any required corrective actions identified during the assessment are addressed in accordance with ENV-RCRA-QP-022, MSGP Storm Water Corrective Actions.

Any deviations from schedule are noted in the form. Findings are summarized in the annual report required by part 7.5 of the 2015 MSGP. An annual report is submitted to EPA annually by January 30th for each year of permit coverage containing information generated from the past calendar year.

4.6.2 Quarterly Visual Assessment of Stormwater Discharges

Quarterly visual assessments are directed in the latest version of procedure ENV-RCRA-QP-064, MSGP Stormwater Visual Inspections. The MSGP Visual Inspection Form is filled out as part of the inspection process and is attached as Appendix H.

The quarterly visual assessments are conducted by a qualified member of the PPT (Deployed Environmental Professional or ENV-CP SME). Visual assessments will:

- use a clean clear glass or plastic sample container in a well-lit area;
- be collected in the first 30 minutes of a discharge from a storm event or document why it could not be collected during the specified time frame (adverse conditions etc.);
- be conducted at least 72 hours since the last storm event;
- document rationale if a visual assessment is unable to be collected in a quarter (no precipitation event or adverse conditions);
- perform an additional assessment during the next qualifying storm event if unable to perform in a particular quarter, and
- perform one quarterly assessment during snow melt discharge.

Collection of quarterly visual assessments occurs on the following schedule for each calendar year in accordance with ENV-CP-QP-064, MSGP Stormwater Visual Inspections:

- April 1 – May 31
- June 1 – July 31
- August 1 – September 30
- October 1 – November 30.

Each outfall, including outfalls 026, 027, and 028 (see Figure C-2, Site Map, in Appendix C,) will be visually inspected quarterly per the schedule above.

The visual assessment will inspect for the following water quality characteristics: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution.

The PPT member performing the visual assessment will document the results of the visual inspection on the Quarterly Visual Assessment form which is maintained with the SWPPP. Any required corrective actions identified during the assessment are addressed in accordance with ENV-RCRA-QP-022, MSGP Storm Water Corrective Actions.

If an event triggering corrective action is associated with a single outfall that is identified as a substantially identical outfall, the review of the need for action will encompass all related substantially identical outfalls.

Any deviations from schedule are noted in the form. Findings are summarized in the annual report required by the 2015 MSGP. An annual report is submitted to EPA annually by January 30th for each year of permit coverage containing information generated from the past calendar year.

LANL is located in a high elevation, semi-arid climate where the majority of rainfall occurs during a period between July and September. Freezing conditions that would prevent runoff from occurring for extended periods may also occur during the winter months. For these conditions if monitoring cannot be performed on the quarterly schedule above, monitoring events will be distributed during seasons when precipitation occurs, or when snowmelt results in a measurable discharge from the site. If adverse weather conditions prevent the collection of samples according to the relevant monitoring schedule, a substitute sample will be collected during the next qualifying storm event or as soon as practical.

4.6.3 Exception to Routine Facility Inspections and Quarterly Visual Assessments for Inactive and Unstaffed Sites

No exemption is invoked for the TA-60-002 Salvage and Warehouse Area to Routine Facility Inspection and Quarterly Visual Assessments for Inactive and Unstaffed Sites.

4.7 Monitoring

The following sections summarize applicable impair waters monitoring conducted at TA-60-002 Warehouse and Salvage Area.

4.7.1 Monitoring Schedule

The 2015 MSGP Sampling and Analysis Plan requires outfall 026 to be sampled annually. Impaired waters monitoring will be performed on an annual basis with a sample collected in the period between April 1 and November 30.

4.7.2 Substantially identical Outfalls

TA-60-002 Warehouse and Salvage Area monitoring occurs at automated sampling station #60-0002E (located at outfall #026) in a rock lined stormwater conveyance ditch east of building 60-0002. Outfall 026 is representative of all stormwater associated with the facility including any discharge occurring at outfalls 027 and 028. Outfalls 026, 027, and 028 at the TA-60-002 Warehouse and Salvage Area have been identified as substantially identical based on common potential pollutant sources, drainage areas, activities within the drainage areas, and general site topography and characteristics. Each outfall is located along the eastern down gradient boundary of the site. There are gravel bags at outfall 026, a slotted drain and piped conveyance at outfall 028, and all three outfalls run offs are rock lined. Potential contaminants include equipment related chemical spills (hydraulic oil, mineral oil), battery acid, heavy metals, loading docks spills (flammable liquids, corrosives, hydraulic oil, mineral oil), de-icer salt, and vehicles related spills (oil, lubricants, antifreeze/coolants, transmission fluids, diesel, gas). Monitoring is performed at outfall 026 and is considered representative of 026, 027, and 028. Outfall 026 has a flow coefficient percentage of 46.2% (medium runoff coefficient).

4.7.3 Monitoring Requirements

The 2015 MSGP Sampling and Analysis Plan proposes outfall 026 to be sampled for aluminum, gross alpha, copper, thallium, and Aroclors and visually inspected quarterly. The pollutants to be sampled can change yearly based on the requirements of the MSGP. The sampling and analysis plan is updated every year. The following table summarized the monitoring requirements.

Summary of Monitoring Requirements

Monitoring Type	Location	Parameter	Monitoring Concentration	Schedule	Procedures
Impaired Waters	Outfall 026 (Station number 60-0002E)	Aluminum	0.75 mg/L ^a	Annual	1. Collect samples in automated samplers; 2. Samples retrieved by ENV-CP personnel; 3. Samples taken to the LANL Sample Management Office (SMO) and shipped to off-site laboratory for analysis and data reporting. LANL Procedure, ENV-CP-QAPP-MSGP: http://int.lanl.gov/training/env-courses/43337/env-cp-qapp-msgp.pdf
		Gross Alpha, adjusted	15 pCi/L		
		Copper, Acute	0.0090 mg/L ^{a, b}		
		Thallium, dissolved	0.00047 mg/L		
		Aroclors in Water Column	0.00064 mg/L		

^a The lowest water quality standard from the Standards for Interstate and Intrastate Surface Waters (as approved on June. 5, 2013), 20.6.4.900 NMAC.

^b Copper value based on hardness value of 57 mg/L.

4.7.4 Monitoring Procedures

Samples are retrieved in accordance with Inspecting Storm Water Runoff Samplers and Retrieving Samples for the MSGP, ENV-RCRA-QP-047. Stormwater samples are processed in accordance with Processing MSGP Storm Water Samples, ENV-CP-QP-048. All stormwater monitoring is conducted in accordance with the Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities Program, ENV-CP-QAPP-MSGP and the current year MSGP Field Implementation Plan.

ENV-CP staff and contract personnel who process stormwater samples for the MSGP will be trained to procedure ENV-CP-QAPP-MSGP, Stormwater Multi-Sector General Permit for Industrial Activities Program. In addition, personnel must be familiar with and use the following procedures as applicable:

ENV-CP MSGP Sampling and Analysis Plan

ENV-CP-QP-048: Processing MSGP Stormwater

ENV-RCRA-QP-022: MSGP Stormwater Corrective Action

ENV-RCRA-QP-066: Chemical Preservation of Water Samples.

OIO-QP-219: Sample Control and Field Documentation

OIO-QP-220: Sample Containers, Preservation and Field Quality Control

OIO-QP-221: Handling, Packaging, and Transporting Field Samples

OIO-TP-222: Shipping/Receiving of Environmental Samples by the Sample Management Office (SMO)

SOP-5255: Shipping of Environmental Samples by the SMO

OIO-SOP-5269: Chain-of-Custody and Final Records Preparation for Analytical Data

A minimum of one grab sample from a discharge resulting from a measurable storm event will be collected. Samples must be collected within the first 30 minutes of a measurable storm event. If that is not possible, the sample must be collected as soon as practicable after the first 30 minutes and documentation must be kept with the SWPPP explaining why it was not possible to take samples within the required time frame. In the case of snowmelt, samples must be taken during a period with a measurable discharge. Sampling must be conducted at least 72 hours from the last storm event.

The collection, screening (if applicable), and transport of samples are documented on standard forms generated by the SMO. These include sample collection logs, chain-of-custody forms, and sample container labels. Collection logs are completed at the time of sample collection and are signed by the sampler and a reviewer who verifies the logs for completeness and accuracy. Corresponding labels are initialed and applied to each sample container and custody seals are placed around container lids or openings. Chain-of-custody forms are completed and assigned to verify that the samples are not left unattended.

Specific requirements/processes for sample containers, preservation techniques, and holding times are based on EPA guidance for environmental sampling, preservation, and quality assurance. Specific requirements for each sample are printed on the sample collection logs provided by the SMO (size and type of container (glass, amber glass, polyethylene, preservative, etc.)). All samples are preserved by placing in insulated containers with ice to maintain a temperature of 4 °C. Other requirements such as nitric acid or other preservatives may apply.

Field-team members seal and label samples before packing and ensure that the sample containers and the containers used for transport are free of external contamination. Field team members package all samples so as to minimize the possibility of breakage during transportation. After all environmental samples are collected, packaged, and preserved, a field team member transports the samples to the SMO under chain of custody. The SMO arranges for shipping of samples to analytical laboratories. Samples will be shipped to GEL Laboratories in Charleston, SC for analysis.

4.8 Recordkeeping

For each monitoring event, except snowmelt monitoring, the following information is recorded and maintained through field data sheets, LANL database systems, and Discharge Monitoring Records:

- The date, exact place, and time of sampling or measurements;
- The date and duration (in hours) of the rainfall event;
- Rainfall total (in inches) for that rainfall event;
- Time (in days) since the previous measurable storm event;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical techniques or methods used; and

- The results of such analyses.

All records of monitoring information, including all calibration and maintenance records are maintained for a minimum period of at least three years from the date the permit expires. Monitoring results will be maintained with this SWPPP.

All monitoring data collected will be submitted to EPA using EPA's NetDMR system (available at www.epa.gov/netdmr) no later than 30 days after LANS has received the complete laboratory results for all monitoring outfalls for the reporting period. The results are also reported in the Annual MSPG reports.

SECTION 5: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

5.1 Documentation Regarding Endangered Species

The Los Alamos National Laboratory (LANL) Threatened and Endangered Species Habitat Management Plan (HMP) was prepared to provide for the protection of federally listed threatened and endangered species and their habitats at LANL. The HMP was designed to be a comprehensive landscape-scale management plan that balances the current operations and future development needs of LANL with the habitat requirements of threatened and endangered species. It also facilitates DOE compliance with the Endangered Species Act and related federal regulations. The HMP received concurrence from the U.S. Fish and Wildlife Service (USFWS) and was first implemented in 1999. All changes to the HMP, such as adding new species or changing requirements, are assessed in a new consultation with the USFWS before being implemented. The HMP provides guidance by species for different types of activities allowed without further review by the USFWS.

Currently, the only federally-listed species that have habitat or occur at LANL are the Southwestern Willow Flycatcher (*Empidonax trailii extimus*), Jemez Mountains Salamander (*Plethodon neomexicanus*), and Mexican Spotted Owl (*Strix occidentalis lucida*). Suitable habitats for these species, along with a protective buffer area surrounding the habitats, have been designated as Areas of Environmental Interests (AEIs). An AEI consists of a core area that contains important breeding or wintering habitat for a specific species and a buffer area around the core area. The buffer protects the core area from disturbances that would degrade the value of the core area to the species.

The HMP includes ecorisk analyses which account for any industrial facility's stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities. In addition, the Site-wide Environmental Impact Statement (SWEIS) biological assessment (BA) covered the continuation of Laboratory operations and included outfalls.

As determined by earlier evaluations, stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities from LANL MSGP locations are not likely to adversely affect any species that is federally-listed as endangered or threatened under Criterion D Section iii, the ESA, and will not result in the adverse modification or destruction of habitat that is federally-designated as "critical habitat" under the ESA. New activities are evaluated to determine if they will have an impact to any species. If an activity can be completed within the guidelines of the HMP it can go forward as scheduled; however, if the activity can not comply with the guidelines, the HMP requires that a project-specific BA be prepared for the action and go through the consultation process with the USFWS.

Appendix I of this SWPPP includes the USFWS IPaC Trust Resource Report and concurrence on LANL's biological assessment of the effects of implementing the Jemez Mountain Salamander Site Plan.

5.2 Documentation Regarding Historic Properties

In August 2015 and December 2008, the Cultural Resources Team (using GPS spatial data as well as conducting visual inspections), reviewed the Laboratory industrial sites (see list below) and their associated outfalls and monitoring stations subject to the 2015 Multi-Sector General Permit (Permit #NMR050000) for effects on historic properties. All of these sites were found to be undertakings of no effect and in compliance with Section 106 of the National Historic Preservation Act (i.e., Criterion B).

- TA-3-22 Power and Steam Plant
- TA-3-38 Metals Fabrication Shop
- TA-3-38 Wood Shop
- TA-3-39 and 102 Metal Shop
- TA-3-66 Sigma Complex
- TA-60 Asphalt Batch Plant
- TA-60-1 Heavy Equipment Yard
- TA-60 Material Recycle Facility
- TA-60 Roads and Grounds
- TA-60-2 Warehouse
- TA-54 Area L
- TA-54 Area G
- TA-54 Maintenance Facility West
- TA-54 RANT

SECTION 6: CORRECTIVE ACTION PROCESS

When any of the flowing conditions occur or are detected during an inspection, monitoring or any other means, this SWPPP (e.g., sources of pollution; spill and leak procedures; non-stormwater discharges; the selection, design, installation and implementation of control measures) will be reviewed and revised (as appropriate) so that the effluent limits of the 2015 MSGP permit are met and pollutant discharges are minimized:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the U.S.) occurs at the facility;
- A discharge violates a numeric effluent limit;
- Control measures are not stringent enough for the discharge to meet applicable water quality standards or non-numeric effluent limits;
- An inspection identifies that a required control measure was never installed, was installed incorrectly, or is not being properly operated or maintained; and
- Whenever a visual assessment shows evidence of stormwater pollution.

Immediate Actions: If a corrective action is required, immediate steps must be reasonably taken to minimize or prevent discharges from occurring (i.e., spill clean-up, scheduling repairs) until a permanent

solution (if needed) can be implemented. Immediate action means all reasonable steps must be taken within 24 hours (on the same work day or no later than the following work day if it is too late in the day to take corrective action). In the case of leaks and/or spills, response actions, date and time of cleanup, notifications, and any other requirements must be documented.

Subsequent Actions: If further corrective actions are required (e.g., installing or making operational a new or modified control, completing repairs, ordering BMPs) they must be completed by the next storm event, if possible or within 14 calendar days (from initial discovery). If it is infeasible to complete corrective actions within 14 days, documentation of why it is infeasible must be provided in the SWPPP. This documentation must also include a timeframe and schedule for completion of the work, which must be completed no later than 45 days (from initial discovery). If time needed to make corrective actions will exceed 45 days, EPA must be notified and provided a justification of why actions will exceed the timeframe and a minimal amount of additional time to complete the work may be approved.

Within 14 days of discovery of the identified condition, corrective actions (or documentation that no corrective action is needed) will be documented by the DEP on the form provided in Appendix J. Upon completion of this information, the form will be emailed to ENV-CP personnel for review and comment. Upon review and comment by ENV-CP, the form will be emailed back to the Deployed Environmental Professional and to the ENV Division Issues Management Coordinator. Only repeat CARs are tracked in the Performance Feedback Issues Tracking System (PFITS). Documentation of Maintenance and Repairs of Control Measures (BMPs) will be kept in Appendix F of this SWPPP. If any problems are found, corrective actions are initiated immediately.

Conditions Requiring Review to Determine if Modifications Are Necessary

If the following condition occurs, a review of the selection, design, installation, and implementation of control measures will be performed to determine if modifications are necessary to meet the effluent limits in this permit:


- construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in stormwater from the facility or significantly increases the quantity of pollutants discharged.

If a review identifies any necessary modifications, they will be performed following the corrective action process identified above.

SECTION 7: SWPPP CERTIFICATION

I certify under penalty of law that this document and all appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

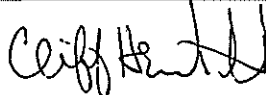
Signature:  _____ Date: _____

Digitally signed by Andrew Erickson, 141880
DN: cn=Andrew Erickson, 141880, o=Los Alamos National Laboratory, ou=Facility
Operations Director Utility and Institutional Facilities, email=erickson@lanl.gov,
c=US
Date: 2015.08.28 13:19:38 -0600

SECTION 8: SWPPP MODIFICATIONS

SWPPP Modification Log

This log will be completed as modifications are made to this SWPPP in response to corrective actions and other changes.

Description of Modification	Name of Person Responsible for Modification	Signature	Date
EPA NOI EPA NOI Acceptance Notification EPA notification of MSGP Tracking number Section 1.4, modification to site description Updated MSGP map Monthly MSGP inspection reports for 10/2015-12/2015	Cliff Heintschel		1/20/16

SECTION 9: SWPPP APPENDICES

Appendix A – MSGP

Appendix B – NOI and Delegation of Authority Letter

Appendix C – Maps

Appendix D – Non-Storm Water Discharge Assessment and Certification

Appendix E – Monitoring Data

Appendix F – Maintenance/Repair Records

Appendix G – Training Records

Appendix H – Inspection Forms

Appendix I – Endangered Species Documentation

Appendix J – Corrective Actions

Appendix K – Referenced Documents

Appendix A
MSGP

Available at LANL Electronic Reading Room at <http://epr.lanl.gov>

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
MULTI-SECTOR GENERAL PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITY (MSGP)**

In compliance with the provisions of the Clean Water Act (CWA), as amended (33 U.S.C. 1251 *et seq.*), operators of stormwater discharges associated with industrial activity located in an area identified in Appendix C where EPA is the permitting authority are authorized to discharge to waters of the United States in accordance with the eligibility and Notice of Intent (NOI) requirements, effluent limitations, inspection requirements, and other conditions set forth in this permit. This permit is structured as follows:

- General requirements that apply to all facilities are found in Parts 1 through 7;
- Industry sector-specific requirements are found in Part 8; and
- Specific requirements that apply in individual states and Indian country are found in Part 9.

The Appendices (A through P) contain additional permit conditions that apply to all operators covered under this permit.

This permit becomes effective on June 4, 2015.

This permit and the authorization to discharge shall expire at midnight, June 4, 2020.

Signed and issued this 4th day of June, 2015

Ken Moraff
Director, Office of Ecosystem Protection,
EPA Region 1

Signed and issued this 4th day of June, 2015

Karen Flournoy
Director, Water, Wetlands, and Pesticides Division, EPA
Region 7

Signed and issued this 4th day of June, 2015

José C. Font
Director, Caribbean Environmental Protection Division,
EPA Region 2

Signed and issued this 4th day of June, 2015

Darcy O' Connor
Acting Assistant Regional Administrator, EPA Region 8

Signed and issued this 4th day of June, 2015

Jon. M Capacasa
Water Protection Division, EPA Region 3

Signed and issued this 4th day of June, 2015

Nancy Woo
Acting Director, Water Division, EPA Region 9

Signed and issued this 4th day of June, 2015

Tinka G. Hyde
Director, Water Division, EPA Region 5

Signed and issued this 4th day of June, 2015

Daniel D. Opalski
Director, Office of Water and Watersheds, EPA Region 10

Signed and issued this 4th day of June, 2015

William K. Honker
Director, Water Quality Protection Division, EPA Region 6

**NPDES MULTI-SECTOR GENERAL PERMIT FOR STORMWATER
DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY**

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1. Coverage Under this Permit.**1.1 Eligibility.****1.1.1 Facilities Covered.**

To be eligible to discharge under this permit, you must (1) have an allowable stormwater discharge or an allowable non-stormwater discharge associated with industrial activity from your primary industrial activity, as defined in Appendix A, provided your primary industrial activity is included in Appendix D, or (2) be notified by EPA that you are eligible for coverage under Sector AD of this permit. Your facility must also be located in an area where EPA is the permitting authority (see Appendix C).

1.1.2 Allowable Stormwater Discharges.

Unless otherwise made ineligible under Part 1.1.4, the following discharges are eligible for coverage under this permit:

1.1.2.1 *Stormwater discharges associated with industrial activity for any primary industrial activities and co-located industrial activities, as defined in Appendix A, except for any stormwater discharges specifically prohibited in Part 8;*

1.1.2.2 *Discharges designated by EPA as needing a stormwater permit as provided in Sector AD;*

1.1.2.3 *Discharges that are not otherwise required to obtain NPDES permit authorization but are mixed with discharges that are authorized under this permit; and*

1.1.2.4 *Stormwater discharges from facilities subject to any of the national stormwater-specific effluent limitations guidelines listed in Table 1-1.*

Table 1-1. Stormwater-Specific Effluent Limitations Guidelines

Regulated Discharge	40 CFR Section	MSGP Sector	New Source Performance Standard (NSPS)	New Source Date
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I	A	Yes	1/26/81
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	Part 418, Subpart A	C	Yes	4/8/74
Runoff from asphalt emulsion facilities	Part 443, Subpart A	D	Yes	7/28/75
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C	E	Yes	2/20/74
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, and D	J	No	N/A
Runoff from hazardous waste and non-hazardous waste landfills	Part 445, Subparts A and B	K, L	Yes	2/2/00
Runoff from coal storage piles at steam electric generating facilities	Part 423	O	Yes	11/19/82 (10/8/74) ¹

¹ NSPS promulgated in 1974 were not removed via the 1982 regulation; therefore wastewaters generated by Part 423-applicable sources that were New Sources under the 1974 regulations are subject to the 1974 NSPS.

Regulated Discharge	40 CFR Section	MSGP Sector	New Source Performance Standard (NSPS)	New Source Date
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Part 449	S	Yes	6/15/12

1.1.3 Allowable Non-Stormwater Discharges.

Below in Part 1.1.3.1 are the only non-stormwater discharges authorized under this permit for all sectors provided that all discharges comply with the effluent limits set forth in Parts 2 and 8. In addition to the authorized non-stormwater discharges in Part 1.1.3.1 applicable to all sectors, for Sector A, there is an additional non-stormwater discharge in Part 1.1.3.2 below, and for the mining sectors (Sectors G, H, and J), there are additional authorized non-stormwater discharges in Part 1.1.3.3 below. The additional allowable non-stormwater discharges for Sectors G, H, and J apply only to discharges from earth-disturbing activities conducted prior to active mining activities as defined in Part 8.G.3.2, 8.H.3.2, and 8.J.3.2 provided that, with the exception of water used to control dust and to irrigate areas to be vegetatively stabilized, these discharges are not routed to areas of exposed soil and all discharges comply with the permit's effluent limits.

Also allowed for all sectors are discharges of stormwater listed above in Parts 1.1.2 or authorized non-stormwater discharges in Part 1.1.3, mixed with a discharge authorized by a different NPDES permit and/or a discharge that does not require NPDES permit authorization. All other non-stormwater discharges requiring NPDES permit coverage except those specifically listed in Part 1.1.3 are not authorized by this permit. If non-stormwater discharges requiring NPDES permit coverage other than those specifically authorized in Part 1.1.3, including sector-specific non-stormwater discharges that are listed in Part 8 as prohibited (a non-exclusive list provided to raise awareness of contaminants or sources of contaminants characteristic of certain sectors), will be discharged, such non-stormwater discharges are not authorized by this permit and must either be eliminated or covered under another NPDES permit.

1.1.3.1 Allowable Non-Stormwater Discharges for all Sectors of Industrial Activity:

- Discharges from emergency/unplanned fire-fighting activities;
- Fire hydrant flushings;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents or hazardous cleaning products are used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols), and the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities (see Part 5.2.3), or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods (e.g., applying absorbent materials and sweeping, using hydrophobic mops/rags) and you have implemented

appropriate control measures to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention; settlement);

- Routine external building washdown / power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols);
- Uncontaminated ground water or spring water;
- Foundation or footing drains where flows are not contaminated with process materials; and
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown; drains).

1.1.3.2 Additional Allowable Non-Stormwater Discharge for Sector A: Discharges from the spray down of lumber and wood product storage yards where no chemical additives are used in the spray-down waters and no chemicals are applied to the wood during storage (applicable only to Sector A facilities provided the non-stormwater component of the discharge is in compliance with the non-numeric effluent limits requirements in Part 2.1.2).

1.1.3.3 Additional Allowable Non-Stormwater Discharges for Earth-Disturbing Activities Conducted Prior to Active Mining Activities for Sectors G, H and J:

- Water used to wash vehicles and equipment, provided that there is no discharge of soaps, solvents, or detergents used for such purposes;
- Water used to control dust; and
- Dewatering water that has been treated by an appropriate control under Parts 8.G.4.2.9, 8.H.4.2.9, or 8.J.4.2.9.

Note: These non-stormwater discharges are only authorized for earth-disturbing activities conducted prior to active mining activities, as defined in Part 8.G.3.2, 8.H.3.2, and 8.J.3.2. Once the earth-disturbing activities conducted prior to active mining activities have ceased, the only allowable non-stormwater discharges for Sectors G, H, and J are those listed in Part 1.1.3.1.

1.1.4 Limitations on Coverage.

Any discharges not expressly authorized in this permit cannot become authorized or shielded from liability under Clean Water Act (CWA) section 402(k) by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including the Notice of Intent (NOI) to be covered by the permit, the Stormwater Pollution Prevention Plan (SWPPP), or during an inspection.

1.1.4.1 For Discharges Mixed with Non-Stormwater. Stormwater discharges that are mixed with non-stormwater discharges, other than those mixed with allowable non-stormwater discharges listed in Part 1.1.3 and/or those mixed with a discharge authorized by a different NPDES permit and/or a discharge that does not require NPDES authorization, are not eligible for coverage under this permit.

1.1.4.2 For Stormwater Discharges Associated with Construction Activity. Stormwater discharges associated with construction activity disturbing one acre or more, or that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one acre or more, are not eligible for coverage

under this permit, unless in conjunction with mining activities or certain oil and gas extraction activities as specified in Sectors G, H, I, and J of this permit.

1.1.4.3 *For Discharges Currently or Previously Covered by Another Permit.* Unless you have received written notification from EPA specifically allowing these discharges to be covered under this permit, you are not eligible for coverage under this permit for any of the following:

- Stormwater discharges associated with industrial activity that are currently covered under an individual NPDES permit or an alternative NPDES general permit;
- Discharges covered within five years prior to the effective date of this permit by an individual permit or alternative general permit where that permit established site-specific numeric water quality-based limitations developed for the stormwater component of the discharge; or
- Discharges from facilities where any NPDES permit has been or is in the process of being denied, terminated, or revoked by EPA (this does not apply to the routine reissuance of permits every five years).

1.1.4.4 *For Stormwater Discharges Subject to Effluent Limitations Guidelines.* For discharges from facilities subject to stormwater effluent limitation guidelines under 40 CFR, Subchapter N, only those stormwater discharges identified in Table 1-1 are eligible for coverage under this permit.

1.1.4.5 *Endangered and Threatened Species and Critical Habitat Protection.* Coverage under this permit is available only if your stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities were the subject of an Endangered Species Act (ESA) consultation or an ESA section 10 permit, or if your stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities are not likely to adversely affect any species that are federally listed as endangered or threatened ("listed") and are not likely to adversely affect habitat that is designated as "critical habitat" under the ESA. You must meet one of the criteria below, following the procedures in Appendix E:

Criterion A. No federally listed threatened or endangered species or their designated critical habitat(s) are likely to occur in the "action area" as defined in Appendix A. To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. You must also provide a description of the basis for the criterion you selected on your NOI form and provide documentation supporting your eligibility determination in your SWPPP.

Criterion B. Your industrial activity's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under this permit, and there is no reason to believe that federally listed species or designated critical habitat not considered in the prior certification may be present or located in the "action area" (e.g., due to a new species listing or critical habitat designation). To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. There must be no lapse of NPDES permit coverage in the other operator's certification. You must also comply with any additional measures that formed the basis of the other operator's valid certification of eligibility to ensure that your discharges and discharge-related

activities are protective of listed species and/or critical habitat. You must include in your NOI the NPDES ID (i.e., permit tracking number) assigned to the other operator's authorization under this permit, and a description of the basis for the criterion selected on your NOI form, including the eligibility criterion selected by the other operator's certification. You must also provide any documentation in your SWPPP that supports the other operator's eligibility determination, including any additional measures that formed the basis of the other operator's eligibility determination.

Criterion C. Federally listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your facility's "action area," and your industrial activity's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E, including completion of the *Criterion C Eligibility Form*, which you must submit to EPA at least 30 days prior to filing your NOI for permit coverage. After evaluation of your *Criterion C Eligibility Form*, EPA may require additional measures that you must implement to avoid or eliminate likely adverse effects on listed species and critical habitat from discharges and discharge-related activities. You may submit your NOI for permit coverage 30 days after submitting to EPA your completed *Criterion C worksheet*. You must also provide a description of the basis for the criterion you selected on your NOI form and provide documentation supporting your eligibility determination in your SWPPP.

Criterion D. Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action (e.g., during application for an individual wastewater discharge permit or the issuance of a wetlands dredge and fill permit), and consultation must have addressed the effects of the industrial activity's discharges and discharge-related activities on federally listed threatened or endangered species and designated critical habitat. The result of this consultation must be one of the following:

- i. A biological opinion that concludes that the action in question (taking into account the effects of your facility's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat;
- ii. A biological opinion that concludes that the action is likely to jeopardize listed species or to result in the destruction or adverse modification of critical habitat, and any recommended reasonable and prudent alternatives or reasonable and prudent measures are being implemented; or
- iii. Written concurrence from the applicable Service(s) with a finding that the facility's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat.

To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. You must verify that the consultation does not warrant reinitiation under 50 CFR §402.16. If reinitiation of consultation is required, in order to be eligible under this Criterion you must ensure consultation is reinitiated and the result of the consultation must be consistent with (i), (ii), or (iii) above.

If eligible, you must also provide supporting documentation for your determination in your NOI and SWPPP, including the Biological Opinion (or PCTS tracking number) or concurrence letter.

Criterion E. Your industrial activities are the subject of a permit under section 10 of the ESA, and this authorization addresses the effects of your facility's discharges and discharge-related activities on federally listed species and designated critical habitat. To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet*. You must also provide supporting documentation for your determination in your NOI and SWPPP, including a copy of the permit from the Services.

You must comply with any measures that formed the basis of your eligibility determination in Part 1.1.4.5 to be in compliance with the permit. These measures become permit requirements per Part 2.3. Documentation of these measures must be kept as part of your SWPPP (see Part 5.2.6.1).

1.1.4.6 *Historic Properties Preservation.* Coverage under this permit is available only if your stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities meet one of the eligibility criteria below, following the procedures in Appendix F:

Criterion A. Your stormwater discharges and allowable non-stormwater discharges do not have the potential to have an effect on historic properties and you are not constructing or installing new stormwater control measures on your site that cause subsurface disturbance; or

Criterion B. Your discharge-related activities (i.e., construction and/or installation of stormwater control measures that involve subsurface disturbance) will not affect historic properties; or

Criterion C. Your stormwater discharges, allowable non-stormwater discharges, and discharge-related activities have the potential to have an effect on historic properties, and you have consulted with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other tribal representative regarding measures to mitigate or prevent any adverse effects on historic properties, and you have either (1) obtained and are in compliance with a written agreement that outlines all such measures, or (2) been unable to reach agreement on such measures; or

Criterion D. You have contacted the SHPO, THPO, or other tribal representative and EPA in writing informing them that you have the potential to have an effect on historic properties and you did not receive a response from the SHPO, THPO, or tribal representative within 30 days of receiving your letter.

If you have been unable to reach agreement with a SHPO, THPO, or other tribal representative regarding appropriate measures to mitigate or prevent adverse effects, EPA may notify you of additional measures you must implement to be eligible for coverage under this permit.

1.1.4.7 *Eligibility for New Dischargers and New Sources: Based on Water Quality Standards.* If you are a new discharger or a new source (as defined in Appendix A), you are ineligible for coverage under this permit if EPA determines prior to your authorization to discharge that your discharges will not meet an applicable water

quality standard (i.e., your discharges will cause or contribute to an exceedance of a water quality standard). In such case, EPA may notify you that an individual permit application is necessary per Part 1.2.3, or, alternatively, EPA may authorize your coverage under this permit after you implement additional control measures so that your discharges will meet water quality standards.

1.1.4.8 Eligibility for New Dischargers and New Sources to Water-Quality Impaired Waters. If you are a new discharger or a new source (as defined in Appendix A), you are ineligible for coverage under this permit to discharge to an "impaired water" (as defined in Appendix A) unless you do one of the following:

- a. Prevent all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and retain documentation of procedures taken to prevent exposure onsite with your SWPPP;
- b. Prior to submitting your NOI, provide to the appropriate EPA Regional Office technical information or other documentation to support your claim that the pollutant(s) for which the waterbody is impaired is not present at your site, and retain such documentation with your SWPPP; or
- c. Prior to submitting your NOI, provide information to the appropriate EPA Regional Office, either data or other technical documentation, to support a conclusion that the discharge is expected to meet applicable water quality standards (i.e., that pollutants of concern will not be discharged at levels that will cause or contribute to an exceedance of a water quality standard), and retain such information with your SWPPP. The information to be submitted must be sufficient to demonstrate:
 - i. For discharges to waters without an EPA-approved or established total maximum daily load (TMDL), that the discharge of the pollutant for which the water is impaired will meet water quality standards at the point of discharge to the waterbody; or
 - ii. For discharges to waters with an applicable EPA-approved or established TMDL, that there are, in accordance with 40 CFR 122.4(i), sufficient remaining wasteload allocations in the TMDL to allow your discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards (e.g., a reserve allocation for future growth).

You are eligible under Part 1.1.4.8.c if you receive a determination from the EPA Regional Office that your discharge will meet applicable water quality standards (i.e., will not cause or contribute to an exceedance of a water quality standard), and you document the Region's determination in your SWPPP. If the EPA Regional Office fails to respond to you within 30 days after submission of data, you are considered to be eligible for coverage.

Note: For the purposes of this permit, your project is considered to discharge to an impaired water if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA as not meeting an applicable water quality standard, and:

- *Requires development of a TMDL (pursuant to section 303(d) of the CWA);*
- *Is addressed by an EPA-approved or established TMDL; or*

- *Is not in either of the above categories but the waterbody is covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1).*

For discharges that enter a separate storm sewer system² prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

1.1.4.9 Eligibility for New Dischargers and New Sources to Waters with High Water Quality.

For new dischargers and new sources to Tier 2 or Tier 2.5 waters:

If you are a new discharger or a new source (as defined in Appendix A), you are eligible to discharge to a Tier 2 or Tier 2.5 water only if your discharge will not lower the water quality of the applicable water. See a list of Tier 2 and Tier 2.5 waters in Appendix L.

For new dischargers and new sources to Tier 3 waters:

If you are a new discharger or a new source (as defined in Appendix A), you are not eligible for coverage under this permit for discharges to waters designated by a state or tribe as Tier 3 (outstanding national resource waters) for antidegradation purposes under 40 CFR 131.13(a)(3). Instead, you must submit an application for an individual permit. See a list of Tier 3 waters in Appendix L.

Note: For the purposes of this permit, your project is considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA as a Tier 2, Tier 2.5, or Tier 3 water. For discharges that enter a separate storm sewer system² prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

- 1.1.4.10 For Discharges to a Federal CERCLA Site.** If you discharge to a federal CERCLA Site listed in Appendix P, you are ineligible for coverage under this permit, unless you notify the EPA Regional Office in advance and the EPA Regional Office determines that you are eligible for permit coverage. In determining eligibility for coverage under this Part, the EPA Regional Office may evaluate whether you are implementing or plan to implement adequate controls and/or procedures to ensure that your discharge will not lead to recontamination of aquatic media at the CERCLA Site such that your discharge will cause or contribute to an exceedance of a water quality standard. If it is determined that your facility discharges to a CERCLA Site listed in Appendix P after you have obtained coverage under this permit, you must contact the EPA Regional Office and ensure that you either have implemented or will implement adequate controls and/or procedures to ensure that your discharges will not lead to recontamination of aquatic media at the CERCLA Site such that it will to cause or contribute to an exceedance of a water quality standard.

For the purposes of this permit, a permittee discharges to a federal CERCLA Site if the discharge flows directly into the site through its own conveyance, or a through

² Separate storm systems do not include combined sewer systems or sanitary sewer systems. Separate storm systems include both municipal storm sewer systems (MS4s) and non-municipal separate storm sewers.

a conveyance owned by others, such as a municipal separate storm sewer system (MS4).

1.2 Authorization Under this Permit.

1.2.1 How to Obtain Authorization.

To obtain authorization under this permit, you must:

- Be an operator of a primary industrial activity in a sector covered by this permit (see Appendix D);
- Be located in a state, territory, or Indian country, or be a federal operator identified in Appendix C where EPA is the permitting authority;
- Meet the Part 1.1 eligibility requirements;
- Select, design, install, and implement control measures in accordance with Part 2.1 and Part 8 to meet numeric and non-numeric effluent limits;
- Develop a SWPPP per Part 5 of this permit or update your existing SWPPP consistent with Part 5 prior to submitting your NOI for coverage under this permit; and
- Submit a complete and accurate NOI in accordance with this Part.

1.2.1.1 *Submitting Your NOI.* To be covered under this permit, you must submit to EPA a complete and accurate NOI by the deadline applicable to your facility presented in Table 1-2. The NOI certifies to EPA that you are eligible for coverage according to Part 1.1, and provides information on your industrial activities and related discharges.

You must complete the development of a SWPPP or update your existing SWPPP consistent with Part 5 prior to submitting your NOI for coverage under this permit. If you choose to post your SWPPP on the Internet per Part 5.4.1, you must include the URL on your NOI form and this URL must directly link to the SWPPP (not just the corporate or facility homepage). If you do not post your SWPPP online, you must enter additional facility information from your SWPPP, per Part 5.4.2.

1.2.1.2 *How to Submit Your NOI.* You must submit your NOI electronically per Part 7.1, unless you have received a waiver from electronic reporting per Part 7.1, in which case you may use the paper NOI form in Appendix G.

1.2.1.3 *Deadlines for Submitting Your NOI and Your Official Date of Permit Coverage.* Table 1-2 provides the deadlines for submitting your NOI and your official start date of permit coverage.

Table 1-2. NOI Submittal Deadlines and Discharge Authorization Dates

Category	NOI Submission Deadline	Discharge Authorization Date ^{1, 2}
Operators of industrial activities that were authorized for coverage under the 2008 MSGP.	No later than September 2, 2015 unless EPA notifies you that your deadline is extended. ³	30 days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization has been denied or delayed. <i>Note: You must review and update your SWPPP to ensure that this permit's requirements are addressed prior to submitting your NOI.</i> Provided you submit your NOI in accordance with the deadline, your authorization under the 2008 MSGP is automatically continued until you have been granted coverage under this permit or an alternative permit, or coverage is otherwise terminated.
Operators of industrial activities that commenced discharging between September 30, 2013 and September 2, 2015 and have been operating consistent with EPA's no action assurance for the NPDES Stormwater Multi-Sector General Permit for Industrial Activities.	As soon as possible, but no later than September 2, 2015, unless EPA notifies you that your deadline is extended. ³	30 days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization has been denied or delayed.
Operators of industrial activities that commence discharging after September 2, 2015, or operators seeking coverage for discharges previously covered under an individual permit or an alternative general permit.	A minimum of 30 days prior to commencing discharge in accordance with the terms of the 2015 MSGP. ³	30 days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization has been denied or delayed.
New operators of existing industrial activities with discharges previously authorized under the 2015 MSGP.	A minimum of 30 days prior to the date of transfer of control to the new operator.	30 days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization has been denied or delayed.
Other eligible operators – Operators of industrial activities that commenced discharging prior to September 2, 2015, but not covered under the 2008 MSGP or another NPDES permit and not operating consistent with EPA's no action assurance for the NPDES Stormwater Multi-Sector General Permit for Industrial Activities.	Immediately, to minimize the time discharges from the facility will continue to be unauthorized.	30 days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization has been denied or delayed.

¹ If you have missed the deadline to submit your NOI, any and all discharges from your industrial activities will continue to be unauthorized under the CWA until they are covered by this or a different NPDES permit. EPA may take enforcement action for any unpermitted discharges that occur between the commencement of discharging and discharge authorization.

² Discharges are not authorized if your NOI is incomplete or inaccurate or if you are ineligible for permit coverage.

³ Operators of industrial activities located in the State of Idaho (except Indian country), in the State of Washington (except Indian country) if operated by a federal operator, or on Spokane Tribe of Indians lands are not yet eligible for coverage under the MSGP because certifications required by section 401 of the CWA were not received in time. Once permit coverage is available in these areas, the following NOI deadlines will apply:

- For operators of industrial activities that were authorized for coverage under the 2008 MSGP: No later than 90 days after the date of permit issuance in these areas.
- For operators of industrial activities that commence discharging on or after September 30, 2013 and prior to 90 days after the date of permit issuance in these areas: As soon as possible, but no later than 90 days after permit issuance.
- For operators of industrial activities that commence discharging 90 days after permit issuance in these areas: A minimum of 30 days prior to commencing discharge in accordance with the terms of the 2015 MSGP.

1.2.2 Continuation of Coverage for Existing Permittees After the Permit Expires.

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act and 40 CFR 122.6 and remain in force and effect for discharges that were covered prior to expiration. If you obtain authorization to discharge under this permit prior to the expiration date and this permit is administratively continued, any discharges authorized under this permit will automatically remain covered by this permit after its expiration date until the earliest of:

- Your authorization for coverage under a reissued permit or a replacement version of this permit following your timely submittal of a complete and accurate NOI for coverage under the new permit; or

Note: If you fail to submit a timely NOI for coverage under the reissued or replacement permit, your coverage will terminate on the date that the NOI was due.

- Your submittal of a Notice of Termination (NOT); or
- Issuance of an individual permit for the facility's discharges; or
- A formal permit decision by EPA not to reissue this general permit, at which time EPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease at the end of this time period.

EPA reserves the right to modify or revoke and reissue this permit under 40 CFR 122.62 and 63, in which case you will be notified of any relevant changes or procedures to which you may be subject.

1.2.3 Coverage Under Alternative Permits.

EPA may require you to apply for and/or obtain authorization to discharge under an alternative permit, i.e., either an individual NPDES permit or an alternative NPDES general permit, in accordance with 40 CFR 122.64 and 124.5. If EPA requires you to apply for an alternative permit, the Agency will notify you in writing that a permit application or NOI is required. This notification will include a brief statement of the reasons for this decision and will contain alternative permit application or NOI requirements, including deadlines for completing your application or NOI.

1.2.3.1 Denial of Coverage for New or Previously Unpermitted Facilities. For new or previously unpermitted facilities, following the submittal of your NOI, you may be denied coverage under the 2015 MSGP and must apply for and/or obtain authorization to discharge under an alternative permit, per Part 1.2.3.

1.2.3.2 Loss of Authorization Under the 2015 MSGP for Existing Permitted Facilities. If your stormwater discharges are covered under this permit, you may receive a written notification that you must either apply for coverage under an individual NPDES permit or submit an NOI for coverage under an alternative general NPDES permit, per Part 1.2.3. In addition to the reasons for the decision and alternative permit application or NOI deadlines, the notice will include a statement that on the effective date of your alternative permit coverage, your coverage under the 2015 MSGP will terminate. EPA may grant additional time to submit the application or NOI if you request it. If you fail to submit an alternative permit application or NOI as required by EPA, then your authorization to discharge under the 2015 MSGP is terminated at the end of the day EPA required you to submit your alternative

permit application or NOI. EPA may take appropriate enforcement action for any unpermitted discharge.

1.2.3.3 Operator Requesting Coverage Under an Alternative Permit. You may request to be covered under an individual permit. In such a case, you must submit an individual permit application in accordance with the requirements of 40 CFR 122.28(b)(3)(iii), with reasons supporting the request, to the applicable EPA Regional Office listed in Part 7.9.1 of this permit. The request may be granted by issuance of an individual permit if your reasons are adequate to support the request. When you are authorized to discharge under an alternative permit, your authorization to discharge under the 2015 MSGP is terminated on the effective date of the alternative permit.

1.3 Terminating Coverage.

1.3.1 Submitting a Notice of Termination (NOT).

To terminate permit coverage, you must submit a complete and accurate NOT. Your authorization to discharge under this permit terminates at midnight of the day that you are notified that your complete NOT has been processed. If you submit a NOT without meeting one or more of the conditions identified in Part 1.3.3, then your NOT is not valid. You are responsible for meeting the terms of this permit until your authorization is terminated.

1.3.2 How to Submit Your NOT.

You must submit your NOT electronically per Part 7.2, unless you have received a waiver from electronic reporting per Part 7.1, in which case you may use the paper form in Appendix H.

1.3.3 When to Submit Your NOT.

You must submit a NOT within 30 days after one or more of the following conditions have been met:

- A new owner or operator has taken over responsibility for the facility; or
- You have ceased operations at the facility, there are not or no longer will be discharges of stormwater associated with industrial activity from the facility, and you have already implemented necessary sediment and erosion controls per Part 2.1.2.5; or
- You are a Sector G, H, or J facility and you have met the applicable termination requirements; or
- You obtained coverage under an individual or alternative general permit for all discharges required to be covered by an NPDES permit.

1.4 Conditional Exclusion for No Exposure.

If you are covered by this permit, and become eligible for a “no exposure” exclusion from permitting under 40 CFR 122.26(g), you may file a No Exposure Certification. You are no longer required to have a permit upon submission of a complete and accurate No Exposure Certification to EPA. If you are no longer required to have permit coverage because of a no exposure exclusion and have submitted a No Exposure Certification form to EPA, you are not required to submit a NOT. You must submit a No Exposure Certification form to EPA once every five years.

You must submit your No Exposure Certification electronically per Part 7.2, unless you have received a waiver from electronic reporting per Part 7.1, in which case you may use the paper form in Appendix K.

1.5 Permit Compliance.

Any noncompliance with any of the requirements of this permit constitutes a violation of this permit, and thus is a violation of the CWA. As detailed in Part 4 (Corrective Actions) of this permit, failure to take any required corrective actions constitutes an independent, additional violation of this permit, in addition to any original violation that triggered the need for corrective action. As such, any actions and time periods specified for remedying noncompliance do not absolve parties of the initial underlying noncompliance.

Where corrective action is triggered by an event that does not itself constitute permit noncompliance, such as an exceedance of an applicable benchmark, there is no permit violation provided you take the required corrective action within the relevant deadlines established in Part 4.3.

1.6 Severability.

Invalidation of a portion of this permit does not necessarily render the whole permit invalid. EPA's intent is that the permit is to remain in effect to the extent possible; in the event that any part of this permit is invalidated, EPA will advise the regulated community as to the effect of such invalidation.

2. Control Measures and Effluent Limits.

In the technology-based limits included in Parts 2.1 and 8, the term “minimize” means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice. The term “infeasible” means not technologically possible or not economically practicable and achievable in light of best industry practices. EPA notes that it does not intend for any permit requirement to conflict with state water rights law.

2.1 Control Measures.

You must select, design, install, and implement control measures (including best management practices) to minimize pollutant discharges that address the selection and design considerations in Part 2.1.1, meet the non-numeric effluent limits in Part 2.1.2, meet limits contained in applicable effluent limitations guidelines in Part 2.1.3, and meet the water quality-based effluent limitations in Part 2.2. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer’s specifications. Note that you may deviate from such manufacturer’s specifications where you provide justification for such deviation and include documentation of your rationale in the part of your SWPPP that describes your control measures, consistent with Part 5.2.4. If you find that your control measures are not achieving their intended effect of minimizing pollutant discharges to meet applicable water quality standards or any of the other non-numeric effluent limits in this permit, you must modify these control measures per the corrective action requirements in Part 4. **Regulated stormwater discharges from your facility include stormwater run-on that commingles with stormwater discharges associated with industrial activity at your facility.**

Effluent limit requirements in Part 2.1.2 that do not involve the site-specific selection of a control measure or are specific activity requirements (e.g., “Cleaning catch basins when the depth of debris reaches two-thirds (2/3) of the sump depth and keeping the debris surface at least six inches below the lowest outlet pipe”) are marked with an asterisk (*). When documenting in your SWPPP, per Part 5, how you will comply with the requirements marked with an asterisk, you have the option of including additional information or you may just “cut-and-paste” those effluent limits verbatim into your SWPPP without providing additional documentation (see Part 5.2.4).

2.1.1 Control Measure Selection and Design Considerations.

You must consider the following when selecting and designing control measures:

- Preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;
- Using control measures in combination may be more effective than using control measures in isolation for minimizing pollutants in your stormwater discharge;
- Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;
- Minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve ground water recharge and

stream base flows in local streams, although care must be taken to avoid ground water contamination;

- Attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;
- Conserving and/or restoring riparian buffers will help protect streams from stormwater runoff and improve water quality; and
- Using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

2.1.2 Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT).

You must comply with the following non-numeric effluent limits (except where otherwise specified in Part 8) as well as any sector-specific non-numeric effluent limits in Part 8:

2.1.2.1 *Minimize Exposure.* You must minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff in order to minimize pollutant discharges by either locating these industrial materials and activities inside or protecting them with storm resistant coverings. Unless infeasible, you must also:

- Use grading, berming or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
- Locate materials, equipment, and activities so that potential leaks and spills are contained or able to be contained or diverted before discharge;
- Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
- Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents;
- Use spill/overflow protection equipment;
- Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
- Drain fluids from equipment and vehicles that will be decommissioned, and, for any equipment and vehicles that will remain unused for extended periods of time, inspect at least monthly for leaks.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas does not discharge pollutants to receiving waters or if discharges are authorized under another NPDES permit.

2.1.2.2 *Good Housekeeping.* You must keep clean all exposed areas that are potential sources of pollutants. You must perform good housekeeping measures in order to minimize pollutant discharges, including but not limited to, the following:

- Sweep or vacuum at regular intervals or, alternatively, wash down the area and collect and/or treat, and properly dispose of the washdown water;
- Store materials in appropriate containers;

- Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids and could leak, ensure that discharges have a control (e.g., secondary containment, treatment). Consistent with Part 1.1.3 above, this permit does not authorize dry weather discharges from dumpsters or roll off boxes;*
- Minimize the potential for waste, garbage and floatable debris to be discharged by keeping exposed areas free of such materials, or by intercepting them before they are discharged.

Plastic Materials Requirements: Facilities that handle pre-production plastic must implement best management practices to eliminate discharges of plastic in stormwater. Examples of plastic material required to be addressed as stormwater pollutants include plastic resin pellets, powders, flakes, additives, regrind, scrap, waste and recycling.

2.1.2.3 Maintenance. You must maintain all control measures that are used to achieve the effluent limits in this permit in effective operating condition, as well as all industrial equipment and systems, in order to minimize pollutant discharges. This includes:

- Performing inspections and preventive maintenance of stormwater drainage, source controls, treatment systems, and plant equipment and systems that could fail and result in contamination of stormwater.
- Diligently maintaining non-structural control measures (e.g., keep spill response supplies available, personnel appropriately trained).
- Inspecting and maintaining baghouses at least quarterly to prevent the escape of dust from the system and immediately removing any accumulated dust at the base of the exterior baghouse.*
- Cleaning catch basins when the depth of debris reaches two-thirds (2/3) of the sump depth and keeping the debris surface at least six inches below the lowest outlet pipe.*

If you find that your control measures are in need of routine maintenance, you must conduct the necessary maintenance immediately in order to minimize pollutant discharges. If you find that your control measures need to be repaired or replaced, you must immediately take all reasonable steps to prevent or minimize the discharge of pollutants until the final repair or replacement is implemented, including cleaning up any contaminated surfaces so that the material will not be discharged during subsequent storm events. Final repairs/replacement of stormwater controls should be completed as soon as feasible but must be no later than the timeframe established in Part 4.3 for corrective actions, i.e., within 14 days or, if that is infeasible, within 45 days. If the completion of stormwater control repairs/replacement will exceed the 45 day timeframe, you may take the minimum additional time necessary to complete the maintenance, provided that you notify the EPA Regional Office of your intention to exceed 45 days, and document in your SWPPP your rationale for your modified maintenance timeframe. If a control measure was never installed, was installed incorrectly or not in accordance with Parts 2 and/or 8, or is not being properly operated or maintained, you must conduct corrective action as specified in Part 4.

Note: In this context, the term "immediately" requires you to, on the same day you identify that a control measure needs to be maintained, take all reasonable steps

to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. However, if a problem is identified at a time in the work day when it is too late to take action, the initiation of action must begin no later than the following work day. "All reasonable steps" means that the permittee has undertaken initial actions to assess and address the condition causing the corrective action, including, for example, cleaning up any exposed materials that may be discharged in a storm event (e.g., through sweeping, vacuuming) or making arrangements (i.e., scheduling) for a new best management practice (BMP) to be installed at a later date. "All reasonable steps" for purposes of complying with Part 4.2 Conditions Requiring SWPPP Review to Determine if Modifications Are Necessary, when you conclude a corrective action is, in fact, not necessary, could include documenting why a corrective action is unnecessary.

2.1.2.4 Spill Prevention and Response. You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur in order to minimize pollutant discharges. You must conduct spill prevention and response measures, including but not limited to, the following:

- Plainly label containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides") that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;*
- Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means designed to prevent the discharge of pollutants from these areas;
- Develop training on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. As appropriate, execute such procedures as soon as possible;
- Keep spill kits on-site, located near areas where spills may occur or where a rapid response can be made; and
- Notify appropriate facility personnel when a leak, spill, or other release occurs.

Where a leak, spill or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC, metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as you have knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available.

2.1.2.5 Erosion and Sediment Controls. You must minimize erosion by stabilizing exposed soils at your facility in order to minimize pollutant discharges and placing flow velocity dissipation devices at discharge locations to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points. You must also use structural and non-structural control measures to minimize the discharge of sediment. If you use polymers and/or other chemical treatments as part of your controls, you must identify the polymers and/or chemicals used and

the purpose in your SWPPP. There are many resources available to help you select appropriate BMPs for erosion and sediment control, including EPA's Stormwater Discharges from Construction Activities website at:

<http://water.epa.gov/polwaste/npdes/stormwater/EPA-Construction-General-Permit.cfm>.

- 2.1.2.6 Management of Runoff.** You must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with EPA's Internet-based resources relating to runoff management, including the sector-specific *Industrial Stormwater Fact Sheet Series*, (<http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>), *National Menu of Stormwater BMPs* (<http://water.epa.gov/polwaste/npdes/swbmp/index.cfm>), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (<http://water.epa.gov/polwaste/nps/urban/>), and any similar state or tribal resources.
- 2.1.2.7 Salt Storage Piles or Piles Containing Salt.** You must enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces, in order to minimize pollutant discharges. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered pursuant to this permit if stormwater runoff from the piles is not discharged or if discharges from the piles are authorized under another NPDES permit.
- 2.1.2.8 Employee Training.** You must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your stormwater pollution prevention team. You must ensure the following personnel understand the requirements of this permit and their specific responsibilities with respect to those requirements:
- Personnel who are responsible for the design, installation, maintenance, and/or repair of controls (including pollution prevention measures);
 - Personnel responsible for the storage and handling of chemicals and materials that could become contaminants in stormwater discharges;
 - Personnel who are responsible for conducting and documenting monitoring and inspections as required in Parts 3 and 6; and
 - Personnel who are responsible for taking and documenting corrective actions as required in Part 4.

Personnel must be trained in at least the following if related to the scope of their job duties (e.g., only personnel responsible for conducting inspections need to understand how to conduct inspections):

- An overview of what is in the SWPPP;
- Spill response procedures, good housekeeping, maintenance requirements, and material management practices;

- The location of all controls on the site required by this permit, and how they are to be maintained;
- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.

2.1.2.9 Non-Stormwater Discharges. You must evaluate for the presence of non-stormwater discharges. Any non-stormwater discharges not explicitly authorized in Part 1.1.3 or covered by another NPDES permit must be eliminated. This includes vehicle and equipment/tank wash water (except for those authorized in Part 1.1.3.3 for Sectors G, H, and J). If not covered under a separate NPDES permit, wastewater, wash water and any other unauthorized non-stormwater must be discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or otherwise disposed of appropriately.

2.1.2.10 Dust Generation and Vehicle Tracking of Industrial Materials. You must minimize generation of dust and off-site tracking of raw, final, or waste materials in order to minimize pollutant discharges.

2.1.3 Numeric Effluent Limitations Based on Effluent Limitations Guidelines.

If you are in an industrial category subject to one of the effluent limitations guidelines identified in Table 6-1 (see Part 6.2.2.1), you must meet the effluent limits referenced in Table 2-1 below:

Table 2-1. Applicable Effluent Limitations Guidelines

Regulated Activity	40 CFR Part/Subpart	Effluent Limit
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I	See Part 8.A.7
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	Part 418, Subpart A	See Part 8.C.4
Runoff from asphalt emulsion facilities	Part 443, Subpart A	See Part 8.D.4
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C	See Part 8.E.5
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, or D	See Part 8.J.9
Runoff from hazardous waste landfills	Part 445, Subpart A	See Part 8.K.6
Runoff from non-hazardous waste landfills	Part 445, Subpart B	See Part 8.L.10
Runoff from coal storage piles at steam electric generating facilities	Part 423	See Part 8.O.8
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Part 449	See Part 8.S.8

2.2 Water Quality-Based Effluent Limitations.

2.2.1 Water Quality Standards.

Your discharge must be controlled as necessary to meet applicable water quality standards of all affected states (i.e., your discharge must not cause or contribute to an exceedance of applicable water quality standards in any affected state).

EPA expects that compliance with the conditions in this permit will control discharges as necessary to meet applicable water quality standards. If at any time you become aware, or EPA determines, that your discharge does not meet applicable water quality standards, you must take corrective action(s) as required in Part 4.1 and document the corrective actions as required in Part 4.4. You must also comply with any additional requirements that your state or tribe requires in Part 9.

EPA may also require that you undertake additional control measures (to meet the narrative water quality-based effluent limit above) on a site-specific basis, or require you to obtain coverage under an individual permit, if information in your NOI, required reports, or from other sources indicates that your discharges are not controlled as necessary to meet applicable water quality standards. You must implement all measures necessary to be consistent with an available wasteload allocation in an EPA-established or approved TMDL.

2.2.2 Discharges to Water Quality-Impaired Waters.

You are considered to discharge to an impaired water if the first water of the U.S. to which you discharge is identified by a state, tribe or EPA as not meeting an applicable water quality standard, and:

- Requires development of a TMDL (pursuant to section 303(d) of the CWA);
- Is addressed by an EPA-approved or established TMDL; or
- Is not in either of the above categories but the waterbody is covered by a pollution control program that meets the requirements of 40 CFR 130.7(b)(1).

Note: For discharges that enter a separate storm sewer system³ prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the water from the storm sewer system.

2.2.2.1 Existing Discharge to an Impaired Water with an EPA-Approved or Established TMDL.

If you discharge to an impaired water with an EPA-approved or established TMDL, EPA will inform you whether any additional measures are necessary for your discharge to be consistent with the assumptions and requirements of the applicable TMDL and its wasteload allocation, or if coverage under an individual permit is necessary per Part 1.2.3.

2.2.2.2 Existing Discharger to an Impaired Water without an EPA-Approved or Established TMDL.

If you discharge to an impaired water without an EPA-approved or established TMDL, you are still required to comply with Part 2.2.1, and you must comply with the monitoring requirements of Part 6.2.4.1. Note that the impaired waters monitoring requirements of Part 6.2.4.1 also apply where EPA determines that your discharge is not controlled as necessary to meet applicable water quality

³ Separate storm systems do not include combined sewer systems or sanitary sewer systems. Separate storm systems include both municipal storm sewer systems (MS4s) and non-municipal separate storm sewers.

standards in an impaired downstream water segment, even if your discharge is to a receiving water that is not identified as impaired according to Part 2.2.2.

2.2.2.3 *New Discharger or New Source to an Impaired Water.* If your authorization to discharge under this permit relied on Part 1.1.4.8 for a new discharger or a new source to an impaired water, you must implement and maintain any measures that enabled you to become eligible under Part 1.1.4.8, and modify such measures as necessary pursuant to any Part 4 corrective actions. You also must comply with Part 2.2.1 and the monitoring requirements of Parts 6.2.4.1.

2.2.3 Tier 2 Antidegradation Requirements for New Dischargers, New Sources, or Increased Discharges.

If you are a new discharger or a new source (as defined in Appendix A), or an existing discharger required to notify EPA of an increased discharge consistent with Part 7.7 (i.e., a "planned changes" report), and you discharge directly to waters designated by a state or tribe as Tier 2 or Tier 2.5 for antidegradation purposes under 40 CFR 131.12(a), EPA may require that you undertake additional control measures as necessary to ensure compliance with the applicable antidegradation requirements, or notify you that an individual permit application is necessary in accordance with Part 1.2.3. See list of Tier 2 and 2.5 waters in Appendix L.

2.3 Requirements Relating to Endangered Species, Historic Properties, and Federal CERCLA Sites.

If your eligibility under either Part 1.1.4.5, Part 1.1.4.6, and/or Part 1.1.4.10 was made possible through your, or another operator's, agreement to undertake additional measures, you must comply with all such measures to maintain eligibility under the MSGP.

Note that if at any time you become aware, or EPA determines, that your discharges and/or discharge-related activities have the potential to adversely affect listed species and/or critical habitat, EPA may inform you of the need to implement additional measures on a site-specific basis to meet the effluent limits in this permit, or require you to obtain coverage under an individual permit.

3. Inspections.

3.1 Routine Facility Inspections.

During normal facility operating hours you must conduct inspections of areas of the facility covered by the requirements in this permit, including, but not limited to, the following:

- Areas where industrial materials or activities are exposed to stormwater;
- Areas identified in the SWPPP and those that are potential pollutant sources (see Part 5.2.3);
- Areas where spills and leaks have occurred in the past three years;
- Discharge points; and
- Control measures used to comply with the effluent limits contained in this permit.

Inspections must be conducted at least quarterly (i.e., once each calendar quarter), or in some instances more frequently (e.g., monthly). Increased frequency may be appropriate for some types of equipment, processes and stormwater control measures, or areas of the facility with significant activities and materials exposed to stormwater. At least once each calendar year, the routine inspection must be conducted during a period when a stormwater discharge is occurring.

Inspections must be performed by qualified personnel (as defined in Appendix A) with at least one member of your stormwater pollution prevention team participating. Inspectors must consider the results of visual and analytical monitoring (if any) for the past year when planning and conducting inspections.

During the inspection you must examine or look out for the following:

- Industrial materials, residue or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks and other containers;
- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final or waste materials from areas of no exposure to exposed areas;
- Control measures needing replacement, maintenance or repair.

During an inspection occurring during a stormwater event or discharge, control measures implemented to comply with effluent limits must be observed to ensure they are functioning correctly. Discharge points, as defined in Appendix A, must also be observed during this inspection. If such discharge locations are inaccessible, nearby downstream locations must be inspected.

3.1.1 Exceptions to Routine Facility Inspections for Inactive and Unstaffed Sites.

The requirement to conduct facility inspections on a routine basis does not apply to a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. Such a facility is only required to conduct an annual site inspection in accordance with Part 3.1. To invoke this exception, you must indicate that your facility is inactive and unstaffed on your NOI. If you are already covered under the permit and your

facility has changed from active to inactive and unstaffed, you must modify and re-certify your NOI. You must also include a statement in your SWPPP per Part 5.2.5.2 indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement must be signed and certified in accordance with Appendix B, Subsection 11. If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately resume routine facility inspections. If you are not qualified for this exception at the time you become authorized under this permit, but during the permit term you become qualified because your facility becomes inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, you must include the same signed and certified statement as above and retain it with your records pursuant to Part 5.5.

Inactive and unstaffed facilities covered under Sectors G (Metal Mining), H (Coal Mines and Coal Mining-Related Facilities), and J (Non-Metallic Mineral Mining and Dressing) are not required to meet the “no industrial materials or activities exposed to stormwater” standard to be eligible for this exception from routine inspections, per Parts 8.G.8.4, 8.H.8.1, and 8.J.8.1.

3.1.2 Routine Facility Inspection Documentation.

You must document the findings of your facility inspections and maintain this report with your SWPPP as required in Part 5.5. Do not submit your routine facility inspection report to EPA, unless specifically requested to do so. However, you must summarize your findings in the annual report per Part 7.5. Document all findings, including but not limited to, the following information:

- The inspection date and time;
- The name(s) and signature(s) of the inspector(s);
- Weather information;
- All observations relating to the implementation of control measures at the facility, including:
 - A description of any discharges occurring at the time of the inspection;
 - Any previously unidentified discharges from and/or pollutants at the site;
 - Any evidence of, or the potential for, pollutants entering the drainage system;
 - Observations regarding the physical condition of and around all outfalls, including any flow dissipation devices, and evidence of pollutants in discharges and/or the receiving water;
 - Any control measures needing maintenance, repairs, or replacement;
- Any additional control measures needed to comply with the permit requirements;
- Any incidents of noncompliance; and
- A statement, signed and certified in accordance with Appendix B, Subsection 11.

Any corrective action required as a result of a routine facility inspection must be performed consistent with Part 4 of this permit.

If you performed a discharge visual assessment required in Part 3.2 during your facility inspection, you may include the results of the assessment with the report required in Part 3.1.2, as long as all components of both types of inspections are included in the report.

3.2 Quarterly Visual Assessment of Stormwater Discharges.

3.2.1 Quarterly Visual Assessment Procedures.

Once each quarter for the entire permit term, you must collect a stormwater sample from each outfall (except as noted in Part 3.2.3) and conduct a visual assessment of each of these samples. These samples are not required to be collected consistent with 40 CFR Part 136 procedures but must be collected in such a manner that the samples are representative of the stormwater discharge. Guidance on monitoring is available at <http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>.

The visual assessment must be made:

- Of a sample in a clean, colorless glass or plastic container, and examined in a well-lit area;
- On samples collected within the first 30 minutes of an actual discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes and you must document why it was not possible to take the sample within the first 30 minutes. In the case of snowmelt, samples must be taken during a period with a measurable discharge from your site; and
- For storm events, on discharges that occur at least 72 hours (three days) from the previous discharge. The 72-hour (three-day) storm interval does not apply if you document that less than a 72-hour (three-day) interval is representative for local storm events during the sampling period.

You must visually inspect or observe the sample for the following water quality characteristics:

- Color;
- Odor;
- Clarity (diminished);
- Floating solids;
- Settled solids;
- Suspended solids;
- Foam;
- Oil sheen; and
- Other obvious indicators of stormwater pollution.

Whenever the visual assessment shows evidence of stormwater pollution, you must initiate the corrective action procedures in Part 4.

3.2.2 Quarterly Visual Assessment Documentation.

You must document the results of your visual assessments and maintain this documentation onsite with your SWPPP as required in Part 5.5. You are not required to submit

your visual assessment findings to EPA, unless specifically requested to do so. However, you must summarize your findings in the annual report per Part 7.5. Your documentation of the visual assessment must include, but not be limited to:

- Sample location(s);
- Sample collection date and time, and visual assessment date and time for each sample;
- Personnel collecting the sample and performing visual assessment, and their signatures;
- Nature of the discharge (i.e., runoff or snowmelt);
- Results of observations of the stormwater discharge;
- Probable sources of any observed stormwater contamination;
- If applicable, why it was not possible to take samples within the first 30 minutes; and
- A statement, signed and certified in accordance with Appendix B, Subsection 11.

Any corrective action required as a result of a quarterly visual assessment must be performed consistent with Part 4 of this permit.

3.2.3 Exceptions to Quarterly Visual Assessments.

Adverse Weather Conditions: When adverse weather conditions prevent the collection of samples during the quarter, you must take a substitute sample during the next qualifying storm event. Documentation of the rationale for no visual assessment for the quarter must be included with your SWPPP records as described in Part 5.5. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, electrical storms, or situations that otherwise make sampling impractical, such as extended frozen conditions.

Climates with Irregular Stormwater Runoff: If your facility is located in an area where limited rainfall occurs during many parts of the year (e.g., arid or semi-arid climate) or in an area where freezing conditions exist that prevent runoff from occurring for extended periods, then your samples for the quarterly visual assessments may be distributed during seasons when precipitation runoff occurs.

Areas Subject to Snow: In areas subject to snow, at least one quarterly visual assessment must capture snowmelt discharge, as described in Part 6.1.3, taking into account the exception described above for climates with irregular stormwater runoff.

Inactive and Unstaffed Sites: The requirement for a quarterly visual assessment does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. To invoke this exception, you must maintain a statement in your SWPPP per Part 5.2.5.2 indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement must be signed and certified in accordance with Appendix B, Subsection 11. If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately resume quarterly visual assessments. If you are not qualified for this exception at the time you are authorized under this

permit, but during the permit term you become qualified because your facility becomes inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must include the same signed and certified statement as above and retain it with your records pursuant to Part 5.5.

Inactive and unstaffed facilities covered under Sectors G (Metal Mining), H (Coal Mines and Coal Mining-Related Facilities), and J (Non-Metallic Mineral Mining and Dressing), are not required to meet the “no industrial materials or activities exposed to stormwater” standard to be eligible for this exception from quarterly visual assessments, consistent with the requirements established in Parts 8.G.8.4, 8.H.8.1, and 8.J.8.1.

Substantially Identical Outfalls: If your facility has two or more outfalls that discharge substantially identical effluents, as documented in Part 5.2.5.3, you may conduct quarterly visual assessments of the discharge at just one of the outfalls and report that the results also apply to the substantially identical outfall(s) provided that you perform visual assessments on a rotating basis of each substantially identical outfall throughout the period of your coverage under this permit.

If stormwater contamination is identified through visual assessment performed at a substantially identical outfall, you must assess and modify your control measures as appropriate for each outfall represented by the monitored outfall.

4. Corrective Actions.

4.1 Conditions Requiring SWPPP Review and Revision to Ensure Effluent Limits are Met.

When any of the following conditions occur or are detected during an inspection, monitoring or other means, or EPA or the operator of the MS4 through which you discharge informs you that any of the following conditions have occurred, you must review and revise, as appropriate, your SWPPP (e.g., sources of pollution; spill and leak procedures; non-stormwater discharges; the selection, design, installation and implementation of your control measures) so that this permit's effluent limits are met and pollutant discharges are minimized:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the U.S.) occurs at your facility.
- A discharge violates a numeric effluent limit listed in Table 2-1 and in your Part 8 sector-specific requirements.
- Your control measures are not stringent enough for the discharge to meet applicable water quality standards or the non-numeric effluent limits in this permit.
- A required control measure was never installed, was installed incorrectly, or not in accordance with Parts 2 and/or 8, or is not being properly operated or maintained.
- Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

4.2 Conditions Requiring SWPPP Review to Determine if Modifications Are Necessary.

If any of the following conditions occur, you must review your SWPPP (e.g., sources of pollution, spill and leak procedures, non-stormwater discharges, selection, design, installation and implementation of your control measures) to determine if modifications are necessary to meet the effluent limits in this permit:

- Construction or a change in design, operation, or maintenance at your facility that significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharged.
- The average of four quarterly sampling results exceeds an applicable benchmark (see Part 6.2.1.2). If less than four benchmark samples have been taken, but the results are such that an exceedance of the four quarter average is mathematically certain (i.e., if the sum of quarterly sample results to date is more than four times the benchmark level) this is considered a benchmark exceedance, triggering this review.

Note: A benchmark exceedance does not trigger a corrective action if you determine that the exceedance is solely attributable to natural background sources, or if you make a finding that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice (see Part 6.2.1.2).

Note: When run-on to your facility causes a benchmark exceedance, in addition to reviewing and revising, as appropriate, your SWPPP, you should notify the other operators contributing run-on to your discharges to abate their pollutant contribution. Where the other operators fail to take action to address the stormwater run-on, you should contact your EPA Regional Office.

4.3 Corrective Actions and Deadlines.

4.3.1 Immediate Actions.

If corrective action is needed, you must immediately take all reasonable steps necessary to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events.

Note: In this context, the term “immediately” requires you to, on the same day a condition requiring corrective action is found, take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. However, if a problem is identified at a time in the work day when it is too late to initiate corrective action, the initiation of corrective action must begin no later than the following work day. “All reasonable steps” means that the permittee has undertaken initial actions to assess and address the condition causing the corrective action, including, for example, cleaning up any exposed materials that may be discharged in a storm event (e.g., through sweeping, vacuuming) or making arrangements (i.e., scheduling) for a new BMP to be installed at a later date. “All reasonable steps” for purposes of complying with Part 4.2 Conditions Requiring SWPPP Review to Determine if Modifications Are Necessary, when you conclude a corrective action is, in fact, not necessary, could include documenting why a corrective action is unnecessary.

4.3.2 Subsequent Actions.

If you determine that additional actions are necessary beyond those implemented pursuant to Part 4.3.1, you must complete the corrective actions (e.g., install a new or modified control and make it operational, complete the repair) before the next storm event if possible, and within 14 calendar days from the time of discovery of the corrective action condition. If it is infeasible to complete the corrective action within 14 calendar days, you must document why it is infeasible to complete the corrective action within the 14-day timeframe. You must also identify your schedule for completing the work, which must be done as soon as practicable after the 14-day timeframe but no longer than 45 days after discovery. If the completion of corrective action will exceed the 45 day timeframe, you may take the minimum additional time necessary to complete the corrective action, provided that you notify the EPA Regional Office of your intention to exceed 45 days, your rationale for an extension, and a completion date, which you must also include in your corrective action documentation (see Part 4.4). Where your corrective actions result in changes to any of the controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within 14 calendar days of completing corrective action work.

These time intervals are not grace periods, but are schedules considered reasonable for documenting your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements do not persist indefinitely.

4.4 Corrective Action Documentation.

You must document the existence of any of the conditions listed in Parts 4.1 or 4.2 within 24 hours of becoming aware of such condition. You are not required to submit your corrective action documentation to EPA, unless specifically requested to do so. However, you must summarize your findings in the annual report per Part 7.5. Include the following information in your documentation:

- Description of the condition triggering the need for corrective action review. For any spills or leaks, include the following information: a description of the

incident including material, date/time, amount, location, and reason for spill, and any leaks, spills or other releases that resulted in discharges of pollutants to waters of U.S., through stormwater or otherwise;

- Date the condition was identified;
- Description of immediate actions taken pursuant to Part 4.3.1 to minimize or prevent the discharge of pollutants. For any spills or leaks, include response actions, the date/time clean-up completed, notifications made, and staff involved. Also include any measures taken to prevent the reoccurrence of such releases (see Part 2.1.2.4); and
- A statement, signed and certified in accordance with Appendix B, Subsection 11.

You must also document the corrective actions taken or to be taken as a result of the conditions listed in Part 4.1 or 4.2 (or, for triggering events in Part 4.2 where you determine that corrective action is not necessary, the basis for this determination) within 14 days from the time of discovery of any of those conditions. Provide the dates when each corrective action was initiated and completed (or is expected to be completed). If applicable, document why it is infeasible to complete the necessary installations or repairs within the 14-day timeframe and document your schedule for installing the controls and making them operational as soon as practicable after the 14-day timeframe. If you notified EPA regarding an extension of the 45 day timeframe, you must document your rationale for an extension.

4.5 Effect of Corrective Action.

If the event triggering the review is a permit violation (e.g., non-compliance with an effluent limit), correcting it does not remove the original violation. Additionally, failing to take corrective action in accordance with this section is an additional permit violation. EPA will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

4.6 Substantially Identical Outfalls.

If the event triggering corrective action is associated with an outfall that had been identified as a "substantially identical outfall" (see Parts 3.2.3 and 6.1.1), your review must assess the need for corrective action for all related substantially identical outfalls. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible, or as soon as practicable following that storm event. Any corrective actions must be conducted within the timeframes set forth in Part 4.3.

5. Stormwater Pollution Prevention Plan (SWPPP).

You must prepare a SWPPP for your facility before submitting your NOI for permit coverage. If you prepared a SWPPP for coverage under a previous version of this NPDES permit, you must review and update the SWPPP to implement all provisions of this permit prior to submitting your NOI. The SWPPP does not contain effluent limitations; such limitations are contained in Parts 2, 8, and 9 of the permit. The SWPPP is intended to document the selection, design, and installation of control measures to meet the permit's effluent limits. As distinct from the SWPPP, the additional documentation requirements (see Part 5.5) are intended to document the implementation (including inspection, maintenance, monitoring, and corrective action) of the permit requirements.

Note: Any discharges not expressly authorized in this permit cannot become authorized or shielded from liability under CWA section 402(k) by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including the Notice of Intent (NOI) to be covered by the permit, the SWPPP, during an inspection, etc.

5.1 Person(s) Responsible for SWPPP Preparation.

The SWPPP shall be prepared in accordance with good engineering practices and to industry standards. The SWPPP may be developed by either a person on your staff or a third party you hire, but it must be developed by a "qualified person" and must be certified per the signature requirements in Part 5.2.7. If EPA concludes that the SWPPP is not in compliance with Part 5.2 of this permit, EPA may require the SWPPP to be reviewed, amended as necessary, and certified by a Professional Engineer, or for Sector G, H or J, by a Professional Geologist, with the education and experience necessary to prepare an adequate SWPPP.

Note: A "qualified person" is a person knowledgeable in the principles and practices of industrial stormwater controls and pollution prevention, and possesses the education and ability to assess conditions at the industrial facility that could impact stormwater quality, and the education and ability to assess the effectiveness of stormwater controls selected and installed to meet the requirements of the permit.

5.2 Contents of Your SWPPP.

For coverage under this permit, your SWPPP must contain all of the following elements:

- Stormwater pollution prevention team (see Part 5.2.1);
- Site description (see Part 5.2.2);
- Summary of potential pollutant sources (see Part 5.2.3);
- Description of control measures (see Part 5.2.4);
- Schedules and procedures (see Part 5.2.5);
- Documentation to support eligibility considerations under other federal laws (see Part 5.2.6); and
- Signature requirements (see Part 5.2.7).

Where your SWPPP refers to procedures in other facility documents, such as a Spill Prevention, Control and Countermeasure (SPCC) Plan or an Environmental Management System (EMS), copies of the relevant portions of those documents must be kept with your SWPPP.

5.2.1 Stormwater Pollution Prevention Team.

You must identify the staff members (by name or title) that comprise the facility's stormwater pollution prevention team as well as their individual responsibilities. Your stormwater pollution prevention team is responsible for overseeing development of the SWPPP, any modifications to it, and for implementing and maintaining control measures and taking corrective actions when required. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit, the most updated copy of your SWPPP, and other relevant documents or information that must be kept with the SWPPP.

5.2.2 Site Description.

Your SWPPP must include the following:

- *Activities at the Facility.* Provide a description of the nature of the industrial activities at your facility.
- *General location map.* Provide a general location map (e.g., U.S. Geological Survey (USGS) quadrangle map) with enough detail to identify the location of your facility and all receiving waters for your stormwater discharges.
- *Site map.* Provide a map showing:
 - Boundaries of the property and the size of the property in acres;
 - Location and extent of significant structures and impervious surfaces;
 - Directions of stormwater flow (use arrows);
 - Locations of all stormwater control measures;
 - Locations of all receiving waters, including wetlands, in the immediate vicinity of your facility. Indicate which waterbodies are listed as impaired and which are identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 waters;
 - Locations of all stormwater conveyances including ditches, pipes, and swales;
 - Locations of potential pollutant sources identified under Part 5.2.3.2;
 - Locations where significant spills or leaks identified under Part 5.2.3.3 have occurred;
 - Locations of all stormwater monitoring points;
 - Locations of stormwater inlets and outfalls, with a unique identification code for each outfall (e.g., Outfall 001, 002), indicating if you are treating one or more outfalls as "substantially identical" under Parts 3.2.3, 5.2.5.3, and 6.1.1, and an approximate outline of the areas draining to each outfall;
 - If applicable, MS4s and where your stormwater discharges to them;
 - Areas of designated critical habitat for endangered or threatened species, if applicable.
 - Locations of the following activities where such activities are exposed to precipitation:
 - fueling stations;
 - vehicle and equipment maintenance and/or cleaning areas;
 - loading/unloading areas;
 - locations used for the treatment, storage, or disposal of wastes;
 - liquid storage tanks;

- processing and storage areas;
- immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
- transfer areas for substances in bulk;
- machinery;
- locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.

5.2.3 Summary of Potential Pollutant Sources.

You must describe areas at your facility where industrial materials or activities are exposed to stormwater or from which allowable non-stormwater discharges originate. Industrial materials or activities include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final products, and waste products. Material handling activities include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For structures located in areas of industrial activity, you must be aware that the structures themselves are potential sources of pollutants. This could occur, for example, when metals such as aluminum or copper are leached from the structures as a result of acid rain.

For each area identified, the description must include:

- 5.2.3.1 *Activities in the Area.*** A list of the industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams).
- 5.2.3.2 *Pollutants.*** A list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, cleaning solvents) associated with each identified activity, which could be exposed to rainfall or snowmelt and could be discharged from your facility. The pollutant list must include all significant materials that have been handled, treated, stored or disposed, and that have been exposed to stormwater in the three years prior to the date you prepare or amend your SWPPP.
- 5.2.3.3 *Spills and Leaks.*** You must document where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You must document all significant spills and leaks of oil or toxic or hazardous substances that actually occurred at exposed areas, or that drained to a stormwater conveyance, in the three years prior to the date you prepare or amend your SWPPP.

Note: Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602. This permit does not relieve you of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances.

- 5.2.3.4 *Unauthorized Non-Stormwater Discharges.*** You must document that you have evaluated for the presence of unauthorized non-stormwater discharges (see Part

1.1.3 for the exclusive list of authorized non-stormwater discharges under this permit).

Documentation of your evaluation must include:

- The date of the evaluation;
- A description of the evaluation criteria used;
- A list of the outfalls or onsite drainage points that were directly observed during the evaluation; and
- The action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), or documentation that a separate NPDES permit was obtained. For example, a floor drain was sealed, a sink drain was re-routed to sanitary, or an NPDES permit application was submitted for an unauthorized cooling water discharge.

5.2.3.5 *Salt Storage.* You must document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.

5.2.3.6 *Sampling Data.* Existing dischargers must summarize all stormwater discharge sampling data collected at the facility during the previous permit term. The summary shall include a narrative description (and may include data tables/figures) that adequately summarizes the collected sampling data to support identification of potential pollution sources at your facility. New dischargers and new sources must provide a summary of any available stormwater runoff data they may have.

5.2.4 Description of Control Measures to Meet Technology-Based and Water Quality-Based Effluent Limits.

You must document the location and type of control measures you have specifically chosen and/or designed to comply with:

- Non-numeric technology-based effluent limits in Part 2.1.2;
- Applicable numeric effluent limitations guidelines-based limits in Part 2.1.3 and Part 8;
- Water quality-based effluent limits in Part 2.2;
- Any additional measures that formed the basis of eligibility regarding threatened and endangered species, historic properties, and/or federal CERCLA Site requirements in Part 2.3;
- Applicable effluent limits in Parts 8 and 9.
- Regarding your control measures, you must also document, as appropriate:
 - How you addressed the selection and design considerations in Part 2.1.1;
 - How they address the pollutant sources identified in Part 5.2.3.

Effluent limit requirements in Part 2.1.2 that do not involve the site-specific selection of a control measure or are specific activity requirements (e.g., "cleaning catch basins when the depth of debris reaches two-thirds (2/3) of the sump depth and keeping the debris surface at least six inches below the lowest outlet pipe") are marked with an asterisk (*). For the requirements marked with an asterisk, you may include extra information, or you may just "cut-

and-paste" these effluent limits verbatim into your SWPPP without providing additional documentation.

5.2.5 Schedules and Procedures.

5.2.5.1 *Pertaining to Control Measures Used to Comply with the Effluent Limits in Part 2.* The following must be documented in your SWPPP:

- Good Housekeeping (See Part 2.1.2.2) – A schedule or the convention used for determining when pickup and disposal of waste materials occurs. Also provide a schedule for routine inspections for leaks and conditions of drums, tanks and containers.
- Maintenance (See Part 2.1.2.3) – Preventative maintenance procedures, including regular inspections, testing, maintenance and repair of all control measures to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line. The SWPPP shall include the schedule or frequency for maintaining all control measures used to comply with the effluent limits in Part 2;
- Spill Prevention and Response Procedures (See Part 2.1.2.4) – Procedures for preventing and responding to spills and leaks, including notification procedures. For preventing spills, include in your SWPPP the control measures for material handling and storage, and the procedures for preventing spills that can contaminate stormwater. Also specify cleanup equipment, procedures and spill logs, as appropriate, in the event of spills. You may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under section 311 of the CWA or BMP programs otherwise required by an NPDES permit for the facility, provided that you keep a copy of that other plan onsite and make it available for review consistent with Part 5.4;
- Erosion and Sediment Controls (Part 2.1.2.5) – If you use polymers and/or other chemical treatments as part of your controls, you must identify the polymers and/or chemicals used and the purpose;
- Employee Training (Part 2.1.2.8) – The elements of your employee training plan shall include all, but not be limited to, the requirements set forth in Part 2.1.2.8, and also the following:
 - The content of the training;
 - The frequency/schedule of training for employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit;
 - A log of the dates on which specific employees received training.

5.2.5.2 *Pertaining to Inspections and Assessments.* You must document in your SWPPP your procedures for performing, as appropriate, the types of inspections specified by this permit, including:

- Routine facility inspections (see Part 3.1) and;
- Quarterly visual assessment of stormwater discharges (see Part 3.2).

For each type of inspection performed, your SWPPP must identify:

- Person(s) or positions of person(s) responsible for inspection;

- Schedules for conducting inspections, including tentative schedule for facilities in climates with irregular stormwater runoff discharges (see Part 3.2.3);
- Specific items to be covered by the inspection, including schedules for specific outfalls.

If you are invoking the exception for inactive and unstaffed sites relating to routine facility inspections and quarterly visual assessments, you must include in your SWPPP the information to support this claim as required by Parts 3.1.1 and 3.2.3.

5.2.5.3 *Pertaining to Monitoring.* You must document in your SWPPP procedures for conducting the five types of analytical monitoring specified by this permit, where applicable to your facility, including:

- Benchmark monitoring (see Part 6.2.1);
- Effluent limitations guidelines monitoring (see Part 6.2.2);
- State- or tribal-specific monitoring (see Part 6.2.3);
- Impaired waters monitoring (see Part 6.2.4);
- Other monitoring as required by EPA (see Part 6.2.5).

For each type of monitoring, your SWPPP must document:

- Locations where samples are collected, including any determination that two or more outfalls are substantially identical;
- Parameters for sampling and the frequency of sampling for each parameter;
- Schedules for monitoring at your facility, including schedule for alternate monitoring periods for climates with irregular stormwater runoff (see Part 6.1.6);
- Any numeric control values (benchmarks, effluent limitations guidelines, TMDL-related requirements, or other requirements) applicable to discharges from each outfall;
- Procedures (e.g., responsible staff, logistics, laboratory to be used) for gathering storm event data, as specified in Part 6.1.

If you are invoking the exception for inactive and unstaffed sites for benchmark monitoring or impaired waters monitoring, you must include in your SWPPP the information to support this claim as required by Part 6.2.1.3 and 6.2.4.2.

You must document the following in your SWPPP if you plan to use the substantially identical outfall exception for your quarterly visual assessment requirements in Part 3.2.3 or your benchmark or impaired waters monitoring requirements in Parts 6.2.1 and 6.2.4.1 (see also Part 6.1.1):

- Location of each of the substantially identical outfalls;
- Description of the general industrial activities conducted in the drainage area of each outfall;
- Description of the control measures implemented in the drainage area of each outfall;

- Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to stormwater discharges;
- An estimate of the runoff coefficient of the drainage areas (low = under 40%; medium = 40 to 65%; high = above 65%);
- Why the outfalls are expected to discharge substantially identical effluents.

5.2.6 Documentation to Support Eligibility Considerations Under Other Federal Laws.

5.2.6.1 Documentation Regarding Endangered and Threatened Species and Critical Habitat Protection. You must keep with your SWPPP the documentation supporting your determination with regard to Part 1.1.4.5 (Endangered and Threatened Species and Critical Habitat Protection).

5.2.6.2 Documentation Regarding Historic Properties. You must keep with your SWPPP the documentation supporting your determination with regard to Part 1.1.4.6 (Historic Properties Preservation).

5.2.7 Signature Requirements. You must sign and date your SWPPP in accordance with Appendix B, Subsection 11.

5.3 Required SWPPP Modifications.

You must modify your SWPPP based on the corrective actions and deadlines required under Part 4.3 and that you documented under Part 4.4. SWPPP modifications must be signed and dated in accordance with Appendix B, Subsection 11.

5.4 SWPPP Availability.

You must retain a complete copy of your current SWPPP required by this permit at the facility in any accessible format. A complete SWPPP includes any documents incorporated by reference and all documentation supporting your permit eligibility pursuant to Part 1.1 of this permit, as well as your signed and dated certification page. Regardless of the format, the SWPPP must be immediately available to facility employees, EPA, a state or tribe, the operator of an MS4 into which you discharge, and representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) at the time of an onsite inspection. Your current SWPPP or certain information from your current SWPPP described below must also be made available to the public (except any confidential business information (CBI) or restricted information [as defined in Appendix A]), but you must clearly identify those portions of the SWPPP that are being withheld from public access; to do so, you must comply with one of the following two options:

5.4.1 SWPPP Posting on the Internet.

If you provide a URL in your NOI where your SWPPP can be found, and maintain your current SWPPP at this URL, you will have complied with the public availability requirements for the SWPPP. To remain current, you must post any SWPPP modifications, records and other reporting elements required for the previous year at the same URL as the main body of the SWPPP. The SWPPP update shall be no later than 45 days after conducting the final routine facility inspection for the year required in Part 3.1. If you did not provide a SWPPP URL in your NOI, you may reopen your NOI at any time subsequent to your original NOI submittal to add a URL where your current SWPPP can be found. You are not required to post any CBI or restricted information (as defined in Appendix A) (such information may be redacted), but you must clearly identify those portions of the SWPPP that are being withheld from public access. CBI may not be withheld from those staff cleared for CBI review within EPA, USFWS or NMFS.

5.4.2 SWPPP Information Provided on NOI Form.

If you did not provide a SWPPP URL in your NOI, your NOI must include the information required by Part 7.3. Irrespective of this requirement, EPA may provide access to portions of your SWPPP to a member of the public upon request (except any CBI or restricted information (as defined in Appendix A)). To remain current, you must report any modifications to the SWPPP information required by Part 7.3 through submittal of a "Change NOI" form. The SWPPP update shall be no later than 45 days after conducting the final routine facility inspection for the year required in Part 3.1.

5.5 Additional Documentation Requirements.

You are required to keep the following inspection, monitoring, and certification records with your SWPPP that together keep your records complete and up-to-date, and demonstrate your full compliance with the conditions of this permit:

- A copy of the NOI submitted to EPA along with any correspondence exchanged between you and EPA specific to coverage under this permit;
- A copy of the acknowledgment you receive from the EPA assigning your NPDES ID;
- A copy of this permit (an electronic copy easily available to SWPPP personnel is also acceptable);
- Documentation of maintenance and repairs of control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair/replacement, and for repairs, date(s) that the control measure(s) returned to full function, and the justification for any extended maintenance/repair schedules (see Part 2.1.2.3);
- All inspection reports, including the Routine Facility Inspection Reports (see Part 3.1.2) and Quarterly Visual Assessment Reports (see Part 3.2.2);
- Description of any deviations from the schedule for visual assessments and/or monitoring, and the reason for the deviations (e.g., adverse weather or it was impracticable to collect samples within the first 30 minutes of a measurable storm event) (see Parts 3.2.3 and 6.1.5);
- Corrective action documentation required per Part 4.4;
- Documentation of any benchmark exceedances and the type of response to the exceedance you employed, including:
 - the corrective action taken;
 - a finding that the exceedance was due to natural background pollutant levels;
 - a determination from EPA that benchmark monitoring can be discontinued because the exceedance was due to run-on; or
 - a finding that no further pollutant reductions were technologically available and economically practicable and achievable in light of best industry practice consistent with Part 6.2.1.2.
- Documentation to support any determination that pollutants of concern are not expected to be present above natural background levels if you discharge directly to impaired waters, and that such pollutants were not detected in your discharge or were solely attributable to natural background sources (see Part 6.2.4.1); and

- Documentation to support your claim that your facility has changed its status from active to inactive and unstaffed with respect to the requirements to conduct routine facility inspections (see Part 3.1.1), quarterly visual assessments (see Part 3.2.3), benchmark monitoring (see Part 6.2.1.3), and/or impaired waters monitoring (see Part 6.2.4.2).

6. Monitoring.

You must collect and analyze stormwater samples and document monitoring activities consistent with the procedures described in Part 6 and Appendix B, Subsections 10 – 12, and any additional sector-specific or state/tribal-specific requirements in Parts 8 and 9, respectively. Refer to Part 7 for reporting and recordkeeping requirements.

6.1 Monitoring Procedures.

6.1.1 Monitored Outfalls.

Applicable monitoring requirements apply to each outfall authorized by this permit, except as otherwise exempt from monitoring as a “substantially identical outfall.” If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to stormwater, and runoff coefficients of their drainage areas, you may monitor the effluent of just one of the outfalls and report that the results also apply to the substantially identical outfall(s). As required in Part 5.2.5.3, your SWPPP must identify each outfall authorized by this permit and describe the rationale for any substantially identical outfall determinations. The allowance for monitoring only one of the substantially identical outfalls is not applicable to any outfalls with numeric effluent limitations. You are required to monitor each outfall covered by a numeric effluent limit as identified in Part 6.2.2.

6.1.2 Commingled Discharges.

If discharges authorized by this permit commingle with discharges not authorized under this permit, any required sampling of the authorized discharges must be performed at a point before they mix with other waste streams, to the extent practicable.

6.1.3 Measurable Storm Events.

All required monitoring must be performed on a storm event that results in an actual discharge from your site (“measurable storm event”) that follows the preceding measurable storm event by at least 72 hours (three days). The 72-hour (3-day) storm interval does not apply if you are able to document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period. In the case of snowmelt, the monitoring must be performed at a time when a measurable discharge occurs at your site.

For each monitoring event, except snowmelt monitoring, you must identify the date and duration (in hours) of the rainfall event, rainfall total (in inches) for that rainfall event, and time (in days) since the previous measurable storm event. For snowmelt monitoring, you must identify the date of the sampling event.

6.1.4 Sample Type.

You must take a minimum of one grab sample from a discharge resulting from a measurable storm event as described in Part 6.1.3. Samples must be collected within the first 30 minutes of a discharge associated with a measurable storm event. If it is not possible to collect the sample within the first 30 minutes of a measurable storm event, the sample must be collected as soon as practicable after the first 30 minutes and documentation must be kept with the SWPPP explaining why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples must be taken during a period with a measurable discharge.

6.1.5 Adverse Weather Conditions.

When adverse weather conditions as described in Part 3.2.3 prevent the collection of samples according to the relevant monitoring schedule, you must take a substitute sample

during the next qualifying storm event. Adverse weather does not exempt you from having to file a benchmark monitoring report in accordance with your sampling schedule. As specified in Part 7.4, you must use NetDMR to report any failure to monitor using a “no data” or “NODI” code during the regular reporting period.

6.1.6 Climates with Irregular Stormwater Runoff.

If your facility is located in areas where limited rainfall occurs during parts of the year (e.g., arid or semi-arid climates) or in areas where freezing conditions exist that prevent runoff from occurring for extended periods, required monitoring events may be distributed during seasons when precipitation occurs, or when snowmelt results in a measurable discharge from your site. You must still collect the required number of samples. As specified in Part 7.4, you must also use NetDMR to report using a “no data” or “NODI” code for any of the regular reporting periods that there was no monitoring.

6.1.7 Monitoring Periods.

Monitoring requirements in this permit begin in the first full quarter following either September 2, 2015 or your date of discharge authorization, whichever date comes later. If your monitoring is required on a quarterly basis (e.g., benchmark monitoring), you must monitor at least once in each of the following 3-month intervals:

- January 1 – March 31;
- April 1 – June 30;
- July 1 – September 30;
- October 1 – December 31.

For example, if you obtain permit coverage on July 2, 2015, then your first monitoring quarter is October 1 - December 31, 2015. This monitoring schedule may be modified in accordance with Part 6.1.6 if the revised schedule is documented with your SWPPP. However, using NetDMR you must report using a “no data” or “NODI” code for any 3-month interval that you did not take a sample.

6.1.8 Monitoring for Allowable Non-Stormwater Discharges.

You are only required to monitor allowable non-stormwater discharges (as delineated in Part 1.1.3) when they are commingled with stormwater discharges associated with industrial activity.

6.1.9 Monitoring Reports

Monitoring data must be reported using EPA's electronic NetDMR tool at www.epa.gov/netdmr, as described in Part 7.4 (unless a waiver from electronic reporting has been granted from the EPA Regional Office, in which case you may submit a paper DMR form).

6.2 Required Monitoring.

This permit includes five types of required analytical monitoring, one or more of which may apply to your discharge:

- Quarterly benchmark monitoring (see Part 6.2.1);
- Annual effluent limitations guidelines monitoring (see Part 6.2.2);
- State- or tribal-specific monitoring (see Part 6.2.3);

- Impaired waters monitoring (see Part 6.2.4); and
- Other monitoring as required by EPA (see Part 6.2.5).

When more than one type of monitoring for the same pollutant at the same outfall applies (e.g., total suspended solids once per year for an effluent limitation and once per quarter for benchmark monitoring at a given outfall), you may use a single sample to satisfy both monitoring requirements (i.e., one sample satisfying both the annual effluent limitation sample and one of the four quarterly benchmark monitoring samples). When the effluent limitation is lower than the benchmark concentration for the same pollutant, your corrective action trigger is based on an exceedance of the effluent limitation, which would subject you to the corrective action requirements of Part 4.1.

Note: Exceedance of an effluent limitation associated with the results of any analytical monitoring type required by this Part subjects you to the corrective action requirements of Part 4.1.

All required monitoring must be conducted in accordance with the procedures described in Appendix B, Subsection B.10.

6.2.1 Benchmark Monitoring.

This permit specifies pollutant benchmark concentrations that are applicable to certain sectors / subsectors. Benchmark monitoring data are primarily for your use to determine the overall effectiveness of your control measures and to assist you in determining when additional corrective action(s) may be necessary to comply with the effluent limitations in Part 2.

The benchmark concentrations are not effluent limitations; a benchmark exceedance, therefore, is not a permit violation. However, if corrective action is required as a result of a benchmark exceedance, failure to conduct required corrective action is a permit violation.

At your discretion, more than four samples may be taken during separate runoff events and used to determine the average benchmark parameter concentration for facility discharges.

6.2.1.1 Applicability of Benchmark Monitoring. You must monitor for any benchmark parameters specified for the industrial sector(s), both primary industrial activity and any co-located industrial activities, applicable to your discharge. Your industry-specific benchmark concentrations are listed in the sector-specific sections of Part 8. If your facility is in one of the industrial sectors subject to benchmark concentrations that are hardness-dependent, you are required to submit to EPA with your NOI a hardness value, established consistent with the procedures in Appendix J, which is representative of your receiving water.

Samples must be analyzed consistent with 40 CFR Part 136 analytical methods and using test procedures with quantitation limits at or below benchmark values for all benchmark parameters for which you are required to sample.

6.2.1.2 Benchmark Monitoring Schedule. Benchmark monitoring must be conducted quarterly, as identified in Part 6.1.7, for your first four full quarters of permit coverage commencing no earlier than September 2, 2015.

Facilities in climates with irregular stormwater runoff, as described in Part 6.1.6, may modify this quarterly schedule provided that this revised schedule is reported directly to EPA by the due date of the first benchmark sample (see EPA Regional contacts in Part 7.9.1), and that this revised schedule is kept with the facility's SWPPP as specified in Part 5.5. When conditions prevent you from obtaining four samples in four consecutive quarters, you must continue monitoring until you have the four samples required for calculating your benchmark monitoring average. As noted in Part 6.1.7, you must use NetDMR to report using a "no data" or "NODI" code for any 3-month interval that you did not take a sample.

Data not exceeding benchmarks: After collection of four quarterly samples, if the average of the four monitoring values for any parameter does not exceed the benchmark, you have fulfilled your monitoring requirements for that parameter for the permit term.

Data exceeding benchmarks: After collection of four quarterly samples, if the average of the four monitoring values for any parameter exceeds the benchmark, you must, in accordance with Part 4, review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit, and either:

- Make the necessary modifications and continue quarterly monitoring until you have completed four additional quarters of monitoring for which the average does not exceed the benchmark; or
- Make a determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the technology-based effluent limits or are necessary to meet the water-quality-based effluent limitations in Parts 2.1 and 2.2 of this permit, in which case you must continue monitoring once per year. You must also document your rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with your SWPPP.

You must review your control measures and perform any required corrective action immediately (or document why no corrective action is required), per Part 4, without waiting for the full four quarters of monitoring data, when an exceedance of the four quarter average is mathematically certain. If after modifying your control measures and conducting four additional quarters of monitoring, your average still exceeds the benchmark (or if an exceedance of the benchmark by the four quarter average is mathematically certain prior to conducting the full four additional quarters of monitoring), you must again review your control measures and take one of the two actions above.

Natural background pollutant levels: Following the first four quarters of benchmark monitoring (or sooner if the exceedance is triggered by less than four quarters of data; see above), if the average concentration of a pollutant exceeds a benchmark value, and you determine that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, you are not required to perform corrective action or additional benchmark monitoring provided that:

- The average concentration of your benchmark monitoring results is less than or equal to the concentration of that pollutant in the natural background; and

- You document and maintain with your SWPPP, as required in Part 5.5, your supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. You must include in your supporting rationale any data previously collected by you or others (including literature studies) that describe the levels of natural background pollutants in your stormwater discharge.

Natural background pollutants are those substances that are naturally occurring in soils or ground water. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources which are not naturally occurring, such as other industrial sites or roadways. However, the EPA Regional Office may determine that you are eligible to discontinue monitoring for pollutants that occur solely from run-on sources.

6.2.1.3 *Exception for Inactive and Unstaffed Sites.* The requirement for benchmark monitoring does not apply at a facility that is inactive and unstaffed, provided that there are no industrial materials or activities exposed to stormwater. To invoke this exception, you must do the following:

- Maintain a statement with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Appendix B, Subsection 11.
- If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the applicable benchmark monitoring requirements under Part 6.2 as if you were in your first year of permit coverage. You must indicate in your NOI that your facility has materials or activities exposed to stormwater or has become active and/or staffed.
- If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must notify EPA of this change on your NOI form. You may discontinue benchmark monitoring once you have notified EPA, and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

Note: This exception has different requirements for Sectors G, H, and J (see Part 8).

6.2.2 Effluent Limitations Monitoring.

6.2.2.1 *Monitoring Based on Effluent Limitations Guidelines.* Table 6-1 identifies the stormwater discharges subject to effluent limitation guidelines that are authorized for coverage under this permit. An exceedance of the effluent limitation is a permit violation. Beginning in the first full quarter following September 2, 2015 or your date of discharge authorization, whichever date comes later, you must monitor once per year at each outfall containing the discharges identified in Table 6-1 for the parameters specified in the sector-specific section of Part 8.

Table 6-1. Required Monitoring for Effluent Limits Based on Effluent Limitations Guidelines

Regulated Activity	Effluent Limit	Monitoring Frequency	Sample Type
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	See Part 8.A.7	1/year	Grab
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	See Part 8.C.4	1/year	Grab
Runoff from asphalt emulsion facilities	See Part 8.D.4	1/year	Grab
Runoff from material storage piles at cement manufacturing facilities	See Part 8.E.5	1/year	Grab
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	See Part 8.J.9	1/year	Grab
Runoff from hazardous waste landfills	See Part 8.K.6	1/year	Grab
Runoff from non-hazardous waste landfills	See Part 8.L.10	1/year	Grab
Runoff from coal storage piles at steam electric generating facilities	See Part 8.O.8	1/year	Grab
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures.	See Part 8.S.8	1/year	Grab

6.2.2.2 *Substantially Identical Outfalls.* You must monitor each outfall discharging runoff from any regulated activity identified in Table 6-1. The substantially identical outfall monitoring provisions are not available for numeric effluent limits monitoring.

6.2.2.3 *Follow-up Actions if Discharge Exceeds Numeric Effluent Limitation.* If any monitoring value exceeds a numeric effluent limitation contained in this permit, you must indicate the exceedance on a "Change NOI" form in the NPDES eReporting Tool (NeT), and you must conduct follow-up monitoring within 30 calendar days (or during the next qualifying runoff event, should none occur within 30 days) of implementing corrective action(s) taken per Part 4. When your follow-up monitoring exceeds the applicable effluent limitation, you must:

- **Submit an Exceedance Report:** You must submit an Exceedance Report no later than 30 days after you have received your laboratory result consistent with Part 7.6; and
- **Continue to Monitor:** You must monitor, at least quarterly, until your discharge is in compliance with the effluent limit or until EPA waives the requirement for additional monitoring. Once your discharge is back in compliance with the effluent limitation you must indicate this on a "Change NOI" form per Part 7.4.

6.2.3 **State or Tribal Monitoring Provisions.**

6.2.3.1 *Sectors Required to Conduct State or Tribal Monitoring.* You must comply with any state or tribal monitoring requirements (see Part 9) applicable to your facility's location.

6.2.3.2 *State or Tribal Monitoring Schedule.* If a monitoring frequency is not specified for an applicable requirement in Part 9, you must monitor once per year for the entire permit term.

6.2.4 Discharges to Impaired Waters Monitoring.

Note: For the purposes of this permit, your project is considered to discharge to an impaired water if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA pursuant to section 303(d) of the CWA as not meeting an applicable water quality standard, or has been removed from the 303(d) list either because the impairments are addressed by an EPA-approved or established TMDL or is covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1). For discharges that enter a separate storm sewer system⁴ prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

6.2.4.1 Permittees Required to Monitor Discharges to Impaired Waters.

Discharges to impaired waters without an EPA-approved or established TMDL:

Beginning in the first full quarter following September 2, 2015 or your date of discharge authorization, whichever date comes later, you must monitor all pollutants for which the waterbody is impaired and for which a standard analytical method exists (see 40 CFR Part 136) once per year at each outfall (except substantially identical outfalls) discharging stormwater to impaired waters without an EPA-approved or established TMDL.

If the pollutant of concern for the impaired waterbody is suspended solids, turbidity or sediment/sedimentation, you must monitor for Total Suspended Solids (TSS). If a pollutant of concern is expressed in the form of an indicator or surrogate pollutant, you must monitor for that indicator or surrogate pollutant. No monitoring is required when a waterbody's biological communities are impaired but no pollutant, including indicator or surrogate pollutants, is specified as causing the impairment, or when a waterbody's impairment is related to hydrologic modifications, impaired hydrology, or other non-pollutant. Permittees should consult the appropriate EPA Regional Office for any available guidance regarding required monitoring parameters under this part.

If the pollutant of concern is not detected and not expected to be present in your discharge, or it is detected but you have determined that its presence is caused solely by natural background sources, you may discontinue monitoring for that pollutant. To support a determination that the pollutant's presence is caused solely by natural background sources, you must document and maintain with your SWPPP, as required by Part 5.5:

- An explanation of why you believe that the presence of the pollutant of concern in your discharge is not related to the activities or materials at your facility; and
- Data and/or studies that tie the presence of the pollutant of concern in your discharge to natural background sources in the watershed.

Natural background pollutants include those that occur naturally as a result of native soils, and vegetation, wildlife, or ground water. Natural background pollutants do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources that are not naturally occurring. However, you may be eligible to discontinue annual monitoring for pollutants that

⁴ Separate storm systems do not include combined sewer systems or sanitary sewer systems. Separate storm systems include both municipal storm sewer systems (MS4s) and non-municipal separate storm sewers.

occur solely from these sources and should consult the appropriate EPA Regional Office for related guidance.

Discharges to impaired waters with an EPA-approved or established TMDL: For stormwater discharges to waters for which there is an EPA-approved or established TMDL, you are not required to monitor for the pollutant(s) for which the TMDL was written unless EPA informs you, upon examination of the applicable TMDL and its wasteload allocation, that you are subject to such a requirement consistent with the assumptions and requirements of the applicable TMDL and its wasteload allocation. EPA's notice will include specifications on monitoring parameters and frequency. Permittees must consult the appropriate EPA Regional Office for guidance regarding required monitoring under this Part.

6.2.4.2 *Exception for Inactive and Unstaffed Sites.* The requirement for impaired waters monitoring does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to stormwater. To invoke this exception, you must do the following:

- Maintain a statement with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Appendix B, Subsection 11.
- If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the applicable impaired waters monitoring requirements under Part 6.2 as if you were in your first year of permit coverage. You must indicate in a "Change NOI" form per Part 7.4 that your facility has materials or activities exposed to stormwater or has become active and/or staffed.
- If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must notify EPA of this change on your NOI form. You may discontinue impaired waters monitoring once you have notified EPA, and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

Note: This exception has different requirements for Sectors G, H, and J (see Part 8).

6.2.5 Additional Monitoring Required by EPA.

EPA may notify you of additional discharge monitoring requirements that EPA determines are necessary to meet the permit's effluent limitations. Any such notice will briefly state the reasons for the monitoring, locations, and parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements.

7. Reporting and Recordkeeping.

7.1 Electronic Reporting Requirement.

You must submit all NOIs, NOTs, NOEs, Annual Reports, Discharge Monitoring Reports (DMRs), and other reporting information as appropriate electronically, unless you have received a **waiver** from your EPA Regional Office based on one of the following conditions:

- If your headquarters is physically located in a geographic area (i.e., zip code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission; or
- If you have limitations regarding available computer access or computer capability.

Waivers are only granted for a one-time use for a single information submittal, i.e., an initial waiver does not apply for the entire term of the permit. If you need to submit information on paper after your first waiver, you must apply for a new waiver. However, waivers may be extended on a case-by-case basis by the EPA Regional Office.

If you wish to obtain a waiver from submitting a report electronically, you must submit a request to your EPA Regional Office. EPA Regional Office contact information can be found in Part 7.9.1 of this permit. In that request you must document which exemption you meet, provide evidence supporting any claims, and a copy of your completed NOI form. A waiver may only be considered granted once you receive written confirmation from EPA or its authorized representative.

7.2 Submitting Information to EPA.

Most information required to be submitted by this permit shall be submitted via EPA's electronic NPDES eReporting tool (NeT), unless the permit states otherwise or unless a waiver has been granted per Part 7.1. NeT allows you to both prepare and submit required information using specific forms, found in the permit's appendices. To access NeT, go to <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>.

Information required to be submitted to EPA via NeT:

- Notice of Intent (Part 1.2);
- No Exposure Certification (Part 1.4);
- Notice of Termination (Part 1.3); and
- Annual Report (Part 7.5).

Note: Discharge Monitoring Reports (see Part 7.4) are required to be submitted using EPA's NetDMR system, available at www.epa.gov/netdmr.

If you are given a waiver by the EPA Regional Office to submit information in paper form, you must utilize the required forms found in the Appendices.

Information required to be submitted to an EPA Regional Office at the address in Part 7.9.1:

- New Dischargers and New Sources to Water Quality-Impaired Waters (Part 1.1.4.8);

- Exceedance Report for Numeric Effluent Limitations (Part 7.6); and
- Additional Reporting (Part 7.7)

7.3 Additional SWPPP Information Required in Your NOI.

If you did not provide a SWPPP URL in your NOI per Part 5.4.1, your NOI must include the additional SWPPP information as follows:

- Onsite industrial activities exposed to stormwater, including potential spill and leak areas (see Parts 5.2.3.1, 5.2.3.3 and 5.2.3.5);
- Pollutants or pollutant constituents associated with each industrial activity exposed to stormwater that could be discharged in stormwater and/or any authorized non-stormwater discharges listed in Part 1.1.3 (see Part 5.2.3.2);
- Stormwater control measures you employ to comply with the non-numeric technology-based effluent limits required in Part 2.1.2 and Part 8, and any other measures taken to comply with the requirements in Part 2.2 Water Quality - Based Effluent Limitations (see Part 5.2.4). If you use polymers and/or other chemical treatments as part of your controls, you must identify the polymers and/or chemicals used and the purpose; and
- Schedule for good housekeeping and maintenance (see Part 5.2.5.1) and schedule for all inspections required in Part 3 (see Part 5.2.5.2).

7.4 Reporting Monitoring Data to EPA.

All monitoring data collected pursuant to Part 6.2 must be submitted to EPA using EPA's NetDMR system (available at www.epa.gov/netdmr) (unless a waiver from electronic reporting has been granted, in which case you may submit a paper DMR form) no later than 30 days after you have received your complete laboratory results for all monitoring outfalls for the reporting period. Your monitoring requirements (i.e., parameters required to be monitored and sample frequency) will be prepopulated on your electronic Discharge Monitoring Report (DMR) form based on the information you reported on your NOI form (through the NDPES eReporting tool (NeT)). Accordingly, the following changes to your monitoring frequency must be reported to EPA through the submittal of a "Change NOI" form in NeT, which will trigger changes to your monitoring requirements in NetDMR:

- All benchmark monitoring requirements have been fulfilled for the permit term;
- All impaired waters monitoring requirements have been fulfilled for the permit term;
- Benchmark and/or impaired monitoring requirements no longer apply because your facility is inactive and unstaffed;
- Benchmark and/or impaired monitoring requirements now apply because your facility has changed from inactive and unstaffed to active and staffed;
- For Sector G2 only: Discharges from waste rock and overburden piles have exceeded benchmark values;
- A numeric effluent limitation guideline has been exceeded;
- A numeric effluent limitation guideline exceedance is back in compliance.

Once monitoring requirements have been completely fulfilled, you are no longer required to report monitoring results using NetDMR. If you have only partially fulfilled your benchmark monitoring and/or impaired waters monitoring requirements (e.g., your four

quarterly average is below the benchmark for some, but not all, parameters; you did not detect some, but not all, impairment pollutants), you must continue to use NetDMR to report your results, but you must report a "no data" or "NODI" code for any monitoring parameters that have been fulfilled.

If you have received a waiver per Part 7.1, paper reporting forms must be submitted by the same deadline.

See Part 9 for specific reporting requirements applicable to individual states or tribes.

For benchmark monitoring, note that you are required to submit sampling results to EPA no later than 30 days after receiving your complete laboratory results for all monitored outfalls for each quarter that you are required to collect benchmark samples, per Part 6.2.1.2. If you collect samples during multiple storm events in a single quarter (e.g., due to adverse weather conditions, climates with irregular stormwater runoff, or areas subject to snow), you are required to submit all sampling results for each storm event to EPA within 30 days of receiving all laboratory results for the event. Or, for any of your monitored outfalls that did not have a discharge within the reporting period, using NetDMR you must report using a "no data" or "NODI" code for that outfall no later than 30 days after the end of the reporting period.

7.5 Annual Report.

You must submit an Annual Report to EPA electronically, per Part 7.2, by January 30th for each year of permit coverage containing information generated from the past calendar year. You must include the following information:

- A summary of your past year's routine facility inspection documentation required (Part 3.1.2). In addition, if you are an operator of an airport facility (Sector S) that is subject to the airport effluent limitations guidelines, and are complying with the Part 8.S.8.1 effluent limitation through the use of non-urea-containing deicers, provide a statement certifying that you do not use pavement deicers containing urea. (Note: Operators of airport facilities that are complying with Part 8.S.8.1 by meeting the numeric effluent limitation for ammonia do not need to include this statement.)
- A summary of your past year's quarterly visual assessment documentation (see Part 3.2.2 of the permit);
- For any four-sample (minimum) average benchmark monitoring exceedance, if after reviewing the selection, design, installation, and implementation of your control measures and considering whether any modifications are necessary to meet the effluent limits in the permit, you determine that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice, your rationale for why you believe no further reductions are achievable (see Part 6.2.1.2 of the permit); and
- A summary of your past year's corrective action documentation (see Part 4.4). If corrective action is not yet completed at the time of submission of your annual report, you must describe the status of any outstanding corrective action(s). Also describe any incidents of noncompliance in the past year or currently ongoing, or if none, provide a statement that you are in compliance with the permit.

Your Annual Report must also include a statement, signed and certified in accordance with Appendix B, Subsection 11.

7.6 Exceedance Report for Numeric Effluent Limitations.

If follow-up monitoring per Part 6.2.2.3 exceeds a numeric effluent limit, you must submit an Exceedance Report to EPA no later than 30 days after you have received your laboratory results. Your report must include the following:

- NPDES ID;
- Facility name, physical address and location;
- Name of receiving water;
- Monitoring data from this and the preceding monitoring event(s);
- An explanation of the situation, including what you have done and intend to do (should your corrective actions not yet be complete) to correct the violation;
- An appropriate contact name and phone number.

Send the Exceedance Report to the appropriate EPA Regional Office listed in Part 7.9.1, and report the monitoring data through NetDMR

7.7 Additional Reporting.

In addition to the reporting requirements stipulated in Part 7, you are also subject to the standard permit reporting provisions of Appendix B, Subsection 12.

You must submit the following reports to the appropriate EPA Regional Office listed in Part 7.9.1, as applicable. If you discharge through an MS4, you must also submit these reports to the MS4 operator (identified pursuant to Part 5.2.2).

- 24-hour reporting (see Appendix B, Subsection 12.F) – You must report any noncompliance which may endanger health or the environment. Any information must be provided orally within 24 hours from the time you become aware of the circumstances;
- 5-day follow-up reporting to the 24 hour reporting (see Appendix B, Subsection 12.F) – A written submission must also be provided within five days of the time you become aware of the circumstances;
- Reportable quantity spills (see Part 2.1.2.4) – You must provide notification, as required under Part 2.1.2.4, as soon as you have knowledge of a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity;
- Planned changes (see Appendix B, Subsection 12.A) – You must give notice to EPA promptly, no fewer than 30 days prior to making any planned physical alterations or additions to the permitted facility that qualify the facility as a new source or that could significantly change the nature or significantly increase the quantity of pollutants discharged;
- Anticipated noncompliance (see Appendix B, Subsection 12.B) – You must give advance notice to EPA of any planned changes in the permitted facility or activity which you anticipate will result in noncompliance with permit requirements;

- Compliance schedules (see Appendix B, Subsection 12.F) – Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date;
- Other noncompliance (see Appendix B, Subsection 12.G) – You must report all instances of noncompliance not reported in your annual report, compliance schedule report, or 24-hour report at the time monitoring reports are submitted; and
- Other information (see Appendix B, Subsection 12.H) – You must promptly submit facts or information if you become aware that you failed to submit relevant facts in your NOI, or that you submitted incorrect information in your NOI or in any report.

7.8 Recordkeeping.

You must retain copies of your SWPPP (including any modifications made during the term of this permit), additional documentation requirements pursuant to Part 5.5 (including documentation related to corrective actions taken pursuant to Part 4), all reports and certifications required by this permit, monitoring data, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that your coverage under this permit expires or is terminated.

7.9 Addresses for Reports.

7.9.1 EPA Addresses.

7.9.1.1 *Region 1: Connecticut, Massachusetts, and New Hampshire, Rhode Island, Vermont.*

U.S. EPA Region 1
Office of Ecosystem Protection
Stormwater and Construction Permits Section
5 Post Office Square, Suite 100
(OEP 06-1)
Boston, MA 02109-3912

7.9.1.2 *Region 2: New Jersey, New York, Puerto Rico, and Virgin Islands.*

For Puerto Rico and the Virgin Islands

U.S. EPA Region 2
Caribbean Environmental Protection Division
NPDES Stormwater Program
City View Plaza II – Suite 7000
48 Rd. 165 Km 1.2
Guaynabo, PR 00968-8069

For New Jersey and New York:

(Coverage not available under this permit.)
U.S. EPA Region 2
NPDES Stormwater Program
290 Broadway, 24th Floor
New York, NY 10007-1866

7.9.1.3 *Region 3: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.*

U.S. EPA Region 3
Office of NPDES Permits and Enforcement
NPDES Permits Branch, Mailcode 3WP41
1650 Arch Street
Philadelphia, PA 19103

7.9.1.4 *Region 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee.*

(Coverage not available under this permit.)

U.S. EPA Region 4
Water Protection Division
NPDES Stormwater Program
Atlanta Federal Center
61 Forsyth Street SW
Atlanta, GA 30303-3104

7.9.1.5 *Region 5: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.*

U.S. EPA Region 5
NPDES Program Branch
77 W. Jackson Blvd.
Mail Code WN16J
Chicago, IL 60604-3507

7.9.1.6 *Region 6: Arkansas, Louisiana, Oklahoma, Texas, and New Mexico (except see Region 9 for Navajo lands, and see Region 8 for Ute Mountain Reservation lands).*

U.S. EPA Region 6
NPDES Stormwater Program (WQ-PP)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

7.9.1.7 *Region 7: Iowa, Kansas, Missouri, Nebraska.*

U.S. EPA Region 7
NPDES Stormwater Program
11201 Renner Blvd
Lenexa, KS 66219

7.9.1.8 *Region 8: Colorado, Montana, North Dakota, South Dakota, Wyoming, Utah (except see Region 9 for Goshute Reservation and Navajo Reservation lands), the Ute Mountain Reservation in New Mexico, and the Pine Ridge Reservation in Nebraska.*

EPA Region 8 Storm Water Program
Mailcode: 8P-W-WW
1595 Wynkoop Street
Denver, CO 80202-1129

7.9.1.9 *Region 9: Arizona, California, Hawaii, Nevada, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Goshute Reservation in Utah*

and Nevada, the Navajo Reservation in Utah, New Mexico, and Arizona, the Duck Valley Reservation in Idaho, Fort McDermitt Reservation in Oregon.

U.S. EPA Region 9
Water Division
NPDES Stormwater Program (WTR-2-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

7.9.1.10 *Region 10: Alaska, Idaho, Oregon (except see Region 9 for Fort McDermitt Reservation), Washington.*

U.S. EPA Region 10
NPDES Stormwater Program
1200 6th Avenue (OWW-191)
Seattle, WA 98101-3140

7.9.2 State and Tribal Addresses.

See Part 9 (states and tribes) for the addresses of applicable states or tribes that require submission of information to their agencies.

Part 8 – Sector-Specific Requirements for Industrial Activity

You must comply with the requirements applicable to your industrial sector(s) in this Part, in addition to the requirements applicable to all facilities in Parts 1 through 7 and the appendices to the permit.

Subpart A – Sector A – Timber Products.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.A.1 Covered Stormwater Discharges.

The requirements in Subpart A apply to stormwater discharges associated with industrial activity from Timber Products facilities as identified by the SIC Codes specified under Sector A in Table D-1 of Appendix D of the permit.

8.A.2 Limitations on Coverage.

8.A.2.1 *Prohibition of Discharges.* (See also Part 1.1.4) Not covered by this permit: stormwater discharges from areas where there may be contact with the chemical formulations sprayed to provide surface protection. These discharges must be covered by a separate NPDES permit.

8.A.2.2 *Authorized Non-Stormwater Discharges.* (See also Part 1.1.3) Also authorized by this permit, provided the non-stormwater component of the discharge is in compliance with the requirements in Part 2.1.2 (Non-Numeric Effluent Limits): discharges from the spray down of lumber and wood product storage yards where no chemical additives are used in the spray-down waters and no chemicals are applied to the wood during storage.

8.A.3 Additional Technology-Based Effluent Limits.

8.A.3.1 *Good Housekeeping.* (See also Part 2.1.2.2) In areas where storage, loading and unloading, and material handling occur, perform good housekeeping to minimize the discharge of wood debris, leachate generated from decaying wood materials, and the generation of dust.

8.A.4 Additional SWPPP Requirements.

8.A.4.1 *Drainage Area Site Map.* (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: processing areas, treatment chemical storage areas, treated wood and residue storage areas, wet decking areas, dry decking areas, untreated wood and residue storage areas, and treatment equipment storage areas.

8.A.4.2 *Inventory of Exposed Materials.* (See also Part 5.2.3.2) Where such information exists, if your facility has used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving, document in your SWPPP the following: areas where contaminated soils, treatment equipment, and stored materials still remain and the management practices employed to minimize the contact of these materials with stormwater runoff.

8.A.4.3 *Description of Stormwater Management Controls.* (See also Part 5.2.4) Document measures implemented to address the following activities and sources: log, lumber, and wood product storage areas; residue storage areas; loading and unloading areas;

material handling areas; chemical storage areas; and equipment and vehicle maintenance, storage, and repair areas. If your facility performs wood surface protection and preservation activities, address the specific control measures, including any BMPs, for these activities.

8.A.5 Additional Inspection Requirements. (See also Part 3.1)

If your facility performs wood surface protection and preservation activities, inspect processing areas, transport areas, and treated wood storage areas monthly to assess the usefulness of practices to minimize the deposit of treatment chemicals on unprotected soils and in areas that will come in contact with stormwater discharges.

8.A.6 Sector-Specific Benchmarks. (See also Part 6)

Table 8.A-1 identifies benchmarks that apply to the specific subsectors of Sector A. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector A1. General Sawmills and Planing Mills (SIC 2421)	Chemical Oxygen Demand (COD)	120.0 mg/L
	Total Suspended Solids (TSS)	100 mg/L
	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L
Subsector A2. Wood Preserving (SIC 2491)	Total Arsenic (freshwater)	0.15 mg/L
	Total Arsenic (saltwater) ¹	0.069 mg/L
	Total Copper (freshwater) ² Total Copper (saltwater) ¹	Hardness Dependent 0.0048 mg/L
Subsector A3. Log Storage and Handling (SIC 2411)	Total Suspended Solids (TSS)	100 mg/L
Subsector A4. Hardwood Dimension and Flooring Mills; Special Products Sawmills, not elsewhere classified; Millwork, Veneer, Plywood, and Structural Wood; Wood Pallets and Skids; Wood Containers, not elsewhere classified; Wood Buildings and Mobile Homes; Reconstituted Wood Products; and Wood Products Facilities not elsewhere classified (SIC 2426, 2429, 2431-2439 (except 2434), 2441, 2448, 2449, 2451, 2452, 2493, and 2499)	Chemical Oxygen Demand (COD)	120.0 mg/L
	Total Suspended Solids (TSS)	100.0 mg/L

¹ Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Copper (mg/L)	Zinc (mg/L)
0-24.99 mg/L	0.0038	0.04
25-49.99 mg/L	0.0056	0.05
50-74.99 mg/L	0.0090	0.08
75-99.99 mg/L	0.0123	0.11
100-124.99 mg/L	0.0156	0.13
125-149.99 mg/L	0.0189	0.16
150-174.99 mg/L	0.0221	0.18
175-199.99 mg/L	0.0253	0.20
200-224.99 mg/L	0.0285	0.23
225-249.99 mg/L	0.0316	0.25
250+ mg/L	0.0332	0.26

8.A.7 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2)

Table 8.A-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Industrial Activity	Parameter	Effluent Limitation
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	pH	6.0 - 9.0 s.u
	Debris (woody material such as bark, twigs, branches, heartwood, or sapwood)	No discharge of debris that will not pass through a 2.54-cm (1-in.) diameter round opening

¹ Monitor annually.

8.A.7.1 Credit for Pollutants in Intake Water. For discharges that are comprised solely of water drawn from the same body of water into which the discharges flow and that exceed an applicable effluent limitation, you may be eligible for a credit to the extent necessary to meet the limitation. To obtain this credit, you must show that your discharge would meet the limitation in the absence of the pollutant(s) in the intake water by demonstrating that the control measures you use to meet the limitation would, if properly installed and operated, meet the limitations for the pollutant (i.e., the pollutant level in your discharge is in exceedance of the limitation due to the pollutant concentration in the source or intake water). You must consult the appropriate EPA Regional Office for guidance in seeking a pollutant credit under this Part. EPA will notify you whether you are eligible for the credit, and, if so, provide the scope of such credit.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart B – Sector B – Paper and Allied Products.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.B.1 Covered Stormwater Discharges.

The requirements in Subpart B apply to stormwater discharges associated with industrial activity from Paper and Allied Products Manufacturing facilities, as identified by the SIC Codes specified under Sector B in Table D-1 of Appendix D of the permit.

8.B.2 Sector-Specific Benchmarks. (See also Part 6)

Table 8.B-1 identifies benchmarks that apply to the specific subsectors of Sector B. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.B-1.		
Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector B1. Paperboard Mills (SIC Code 2631)	Chemical Oxygen Demand (COD)	120 mg/L

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart C – Sector C – Chemical and Allied Products Manufacturing, and Refining.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.C.1 Covered Stormwater Discharges.

The requirements in Subpart C apply to stormwater discharges associated with industrial activity from Chemical and Allied Products Manufacturing, and Refining facilities, as identified by the SIC Codes specified under Sector C in Table D-1 of Appendix D of the permit.

8.C.2 Limitations on Coverage.

8.C.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) The following are not covered by this permit: non-stormwater discharges containing inks, paints, or substances (hazardous, nonhazardous, etc.) resulting from an onsite spill, including materials collected in drip pans; wash water from material handling and processing areas; and wash water from drum, tank or container rinsing and cleaning. (EPA includes this prohibited non-stormwater discharge here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.C.3 Sector-Specific Benchmarks. (See also Part 6)

Table 8.C-1 identifies benchmarks that apply to the specific subsectors of Sector C. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector C1. Agricultural Chemicals (SIC 2873-2879)	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Total Lead (freshwater) ² Total Lead (saltwater) ¹	Hardness Dependent 0.21 mg/L
	Total Iron	1.0 mg/L
	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L
	Phosphorus	2.0 mg/L
Subsector C2. Industrial Inorganic Chemicals (SIC 2812-2819)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L
Subsector C3. Soaps, Detergents, Cosmetics, and Perfumes (SIC 2841-2844)	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L
Subsector C4. Plastics, Synthetics, and Resins (SIC 2821-2824)	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

²The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Lead (mg/L)	Zinc (mg/L)
0-24.99 mg/L	0.014	0.04
25-49.99 mg/L	0.023	0.05
50-74.99 mg/L	0.045	0.08
75-99.99 mg/L	0.069	0.11
100-124.99 mg/L	0.095	0.13
125-149.99 mg/L	0.122	0.16
150-174.99 mg/L	0.151	0.18
175-199.99 mg/L	0.182	0.20
200-224.99 mg/L	0.213	0.23
225-249.99 mg/L	0.246	0.25
250+ mg/L	0.262	0.26

8.C.4 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1)

Table 8.C-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Industrial Activity	Parameter	Effluent Limitation
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	Total Phosphorus (as P)	105.0 mg/L, daily maximum
		35 mg/L, 30-day avg.
	Fluoride	75.0 mg/L, daily maximum
		25.0 mg/L, 30-day avg.

¹ Monitor annually.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart D – Sector D – Asphalt Paving and Roofing Materials and Lubricant Manufacturing.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.D.1 Covered Stormwater Discharges.

The requirements in Subpart D apply to stormwater discharges associated with industrial activity from Asphalt Paving and Roofing Materials and Lubricant Manufacturing facilities, as identified by the SIC Codes specified under Sector D in Table D-1 of Appendix D of the permit.

8.D.2 Limitations on Coverage.

The following stormwater discharges associated with industrial activity are not authorized by this permit (see also Part 1.1.4):

8.D.2.1 *Stormwater discharges from petroleum refining facilities, including those that manufacture asphalt or asphalt products, that are subject to nationally established effluent limitation guidelines found in 40 CFR Part 419 (Petroleum Refining).*

The following stormwater discharges associated with industrial activity are not authorized under Sector D:

8.D.2.2 *Stormwater discharges from oil recycling facilities, which are covered under Sector N (see Part 8.N); and*

8.D.2.3 *Stormwater discharges associated with fats and oils rendering, which are covered under Sector U (see Part 8.U).*

8.D.3 Sector-Specific Benchmarks. (See also Part 6)

Table 8.D-1 identifies benchmarks that apply to the specific subsectors of Sector D. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector	Parameter	Benchmark Monitoring Concentration
Subsector D1. Asphalt Paving and Roofing Materials (SIC 2951, 2952)	Total Suspended Solids (TSS)	100 mg/L

8.D.4 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1)

Table 8.D-2 identifies effluent limitations that apply to the industrial activities described below. Compliance with these effluent limitations is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Table 8.D-2 ¹		
Industrial Activity	Parameter	Effluent Limitation
Discharges from asphalt emulsion facilities.	Total Suspended Solids (TSS)	23.0 mg/L, daily maximum 15.0 mg/L, 30-day avg.
	pH	6.0 - 9.0 s.u.
	Oil and Grease	15.0 mg/L, daily maximum
		10 mg/L, 30-day avg.

¹Monitor annually.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart E – Sector E – Glass, Clay, Cement, Concrete, and Gypsum Products.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.E.1 Covered Stormwater Discharges.

The requirements in Subpart E apply to stormwater discharges associated with industrial activity from Glass, Clay, Cement, Concrete, and Gypsum Products facilities, as identified by the SIC Codes specified under Sector E in Table D-1 of Appendix D of the permit.

8.E.2 Additional Technology-Based Effluent Limits.

8.E.2.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2) As part of your good housekeeping program, prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, settled dust, or other significant material in stormwater from paved portions of the site that are exposed to stormwater. Sweep or vacuum paved surfaces of the site that are exposed to stormwater at regular intervals or use other equivalent measures (e.g., wash down the area and collect and/or treat and properly dispose of the washdown water) to minimize the potential discharge of these materials in stormwater. Indicate in your SWPPP the frequency of sweeping, vacuuming or other equivalent measures. Determine the frequency based on the amount of industrial activity occurring in the area and the frequency of precipitation, but it must be performed at least once a week in areas where cement, aggregate, kiln dust, fly ash or settled dust are being handled or processed and may be discharged in stormwater. You must also prevent the exposure of fine granular solids (e.g., cement, fly ash, kiln dust) to stormwater, where practicable, by storing these materials in enclosed silos, hoppers, buildings or under other covering.

8.E.3 Additional SWPPP Requirements.

8.E.3.1 *Drainage Area Site Map.* (See also Part 5.2.2) Document in the SWPPP the locations of the following, as applicable: bag house or other dust control device; recycle/sedimentation pond, clarifier, or other device used for the treatment of process wastewater; and the areas that drain to the treatment device.

8.E.3.2 *Discharge Testing.* (See also Part 5.2.3.4) For facilities producing ready-mix concrete, concrete block, brick, or similar products, include in the non-stormwater discharge testing a description of measures that ensure that process wastewaters resulting from washing trucks, mixers, transport buckets, forms, or other equipment are discharged in accordance with NPDES wastewater permit requirements or are recycled.

8.E.4 Sector-Specific Benchmarks. (See also Part 6)

Table 8.E-1 identifies benchmarks that apply to the specific subsectors of Sector E. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.E-1.		
Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector E1. Clay Product Manufacturers (SIC 3251-3259, 3261-3269)	Total Aluminum	0.75 mg/L
Subsector E2. Concrete and Gypsum Product Manufacturers (SIC 3271-3275)	Total Suspended Solids (TSS)	100 mg/L
	Total Iron	1.0 mg/L

8.E.5 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1)

Table 8.E-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these limits is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Table 8.E-2 ¹		
Industrial Activity	Parameter	Effluent Limitation
Discharges from material storage piles at cement manufacturing facilities (SIC 3241)	Total Suspended Solids (TSS)	50 mg/L, daily maximum ²
	pH	6.0 - 9.0 s.u. ²

¹Monitor annually.

²Any untreated overflow from facilities designed, constructed and operated to treat the volume of runoff from materials storage piles which is associated with a 10-year, 24-hour rainfall event shall not be subject to the pH and TSS limitations (40 CFR 411.32(b)).

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart F – Sector F – Primary Metals.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.F.1 Covered Stormwater Discharges.

The requirements in Subpart F apply to stormwater discharges associated with industrial activity from Primary Metals facilities, as identified by the SIC Codes specified under Sector F in Table D-1 of Appendix D of the permit.

8.F.2 Additional Technology-Based Effluent Limits.

8.F.2.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2) As part of your good housekeeping program, you must implement a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust or debris may accumulate to minimize the discharge of pollutants in stormwater. The cleaning and maintenance program must encompass, as appropriate, areas where material loading and unloading, storage, handling and processing occur.

Stabilize unpaved areas using vegetation or paving where there is vehicle traffic or where material loading and unloading, storage, handling and processing occurs, unless feasible.

For paved areas of the facility where particulate matter, dust or debris may accumulate, to minimize the discharge of pollutants in stormwater, implement control measures such as the following, where determined to be feasible (list not exclusive): sweeping or vacuuming at regular intervals; and washing down the area and collecting and/or treating and properly disposing of the washdown water. For unstabilized areas or for stabilized areas where sweeping, vacuuming, or washing down is not possible, to minimize the discharge of particulate matter, dust, or debris or other pollutants in stormwater, implement stormwater management devices such as the following, where determined to be feasible (list not exclusive): sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, and other equivalent measures that effectively trap or remove sediment.

8.F.3 Additional SWPPP Requirements.

8.F.3.1 *Drainage Area Site Map.* (See also Part 5.2.2) Identify in the SWPPP where any of the following activities may be exposed to precipitation or surface runoff: storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operations, etc., and could result in a discharge of pollutants in stormwater.

8.F.3.2 *Inventory of Exposed Material.* (See also Part 5.2.3) Include in the inventory of materials handled at the site that potentially may be exposed to precipitation or runoff areas where there is the potential for deposition of particulate matter from process air emissions or losses during material-handling activities.

8.F.4 Additional Inspection Requirements. (See also Part 3.1)

As part of conducting your routine facility inspections at least quarterly (Part 3.1), address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitators, scrubbers, cyclones), for any signs of degradation (e.g., leaks, corrosion, improper operation) that could limit their efficiency and lead to excessive emissions. Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap or slag, as well as chemicals stored in tanks and drums) for signs of material losses due to wind or stormwater runoff.

8.F.5 Sector-Specific Benchmarks. (See also Part 6)

Table 8.F-1 identifies benchmarks that apply to the specific subsectors of Sector F. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector F1. Steel Works, Blast Furnaces, and Rolling and Finishing Mills (SIC 3312-3317)	Total Aluminum	0.75 mg/L
	Total Zinc (freshwater) ²	Hardness Dependent
	Total Zinc (saltwater) ¹	0.09 mg/L
Subsector F2. Iron and Steel Foundries (SIC 3321-3325)	Total Aluminum	0.75 mg/L
	Total Suspended Solids (TSS)	100 mg/L
	Total Copper (freshwater) ²	Hardness Dependent
	Total Copper (saltwater) ¹	0.0048 mg/L
	Total Iron	1.0 mg/L
Subsector F3. Rolling, Drawing, and Extruding of Nonferrous Metals (SIC 3351-3357)	Total Zinc (freshwater) ²	Hardness Dependent
	Total Zinc (saltwater) ¹	0.09 mg/L
	Total Copper (freshwater) ²	Hardness Dependent
Subsector F4. Nonferrous Foundries (SIC 3363-3369)	Total Copper (saltwater) ¹	0.0048 mg/L
	Total Zinc (freshwater) ²	Hardness Dependent
	Total Zinc (saltwater) ¹	0.09 mg/L

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

²The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Copper (mg/L)	Zinc (mg/L)
0-24.99 mg/L	0.0038	0.04
25-49.99 mg/L	0.0056	0.05
50-74.99 mg/L	0.0090	0.08
75-99.99 mg/L	0.0123	0.11
100-124.99 mg/L	0.0156	0.13
125-149.99 mg/L	0.0189	0.16
150-174.99 mg/L	0.0221	0.18
175-199.99 mg/L	0.0253	0.20
200-224.99 mg/L	0.0285	0.23
225-249.99 mg/L	0.0316	0.25
250+ mg/L	0.0332	0.26

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart G – Sector G – Metal Mining.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

Note: Where compliance with a requirement in a separate exploration permit, mining permit, reclamation plan, Surface Mining Control and Reclamation Act (SMCRA) requirements, etc. will result in you fully meeting any requirement in this Subpart, you are considered to have complied with the relevant requirement in this Subpart. You must include documentation in your SWPPP describing your rationale for concluding that any particular action on your part is sufficient to comply with the corresponding requirement in this Subpart.

8.G.1 Covered Stormwater Discharges.

The requirements in Subpart G apply to stormwater discharges associated with industrial activity from Metal Mining facilities, including mines abandoned on Federal lands, as identified by the SIC Codes specified under Sector G in Table D-1 of Appendix D. Coverage is required for metal mining facilities that discharge stormwater contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation.

8.G.1.1 Covered Discharges from Inactive Facilities. All stormwater discharges.

8.G.1.2 Covered Discharges from Active and Temporarily Inactive Facilities. Only the stormwater discharges from the following areas are covered:

- Waste rock and overburden piles if composed entirely of stormwater and not combined with mine drainage;
- Topsoil piles;
- Offsite haul and access roads;
- Onsite haul and access roads constructed of waste rock, overburden or spent ore if composed entirely of stormwater and not combining with mine drainage;
- Onsite haul and access roads not constructed of waste rock, overburden or spent ore except if mine drainage is used for dust control;
- Runoff from tailings dams or dikes when not constructed of waste rock or tailings and no process fluids are present;
- Runoff from tailings dams or dikes when constructed of waste rock or tailings and no process fluids are present, if composed entirely of stormwater and not combining with mine drainage;
- Concentration building if no contact with material piles;
- Mill site if no contact with material piles;
- Office or administrative building and housing if mixed with stormwater from industrial area;
- Chemical storage area;
- Docking facility if no excessive contact with waste product that would otherwise constitute mine drainage;
- Explosive storage;
- Fuel storage;
- Vehicle and equipment maintenance area and building;
- Parking areas (if necessary);
- Power plant;

- Truck wash areas if no excessive contact with waste product that would otherwise constitute mine drainage;
- Unreclaimed, disturbed areas outside of active mining area;
- Reclaimed areas released from reclamation requirements prior to December 17, 1990;
- Partially or inadequately reclaimed areas or areas not released from reclamation requirements.

8.G.1.3 *Covered Discharges from Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* All stormwater discharges.

8.G.1.4 *Covered Discharges from Facilities Undergoing Reclamation.* All stormwater discharges.

8.G.2 Limitations on Coverage.

8.G.2.1 *Prohibition of Stormwater Discharges.* Stormwater discharges not authorized by this permit: discharges from active metal mining facilities that are subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).

Note: Stormwater runoff from these sources are subject to 40 CFR Part 440 if they are mixed with other discharges subject to Part 440. In this case, they are not eligible for coverage under this permit. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless they: (1) drain naturally (or are intentionally diverted) to a point source; and (2) combine with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440, and meets the other eligibility criteria contained in Part 1.1 of the permit. Operators bear the initial responsibility for determining if they are eligible for coverage under this permit, or must seek coverage under another NPDES permit. EPA recommends that operators contact the relevant NPDES permit issuance authority for assistance to determine the nature and scope of the "active mining area" on a mine-by-mine basis, as well as to determine the appropriate permitting mechanism for authorizing such discharges.

8.G.2.2 *Prohibition of Non-Stormwater Discharges.* Not authorized by this permit: adit drainage, and contaminated springs or seeps discharging from waste rock dumps that do not directly result from precipitation events (see also the standard Limitations on Coverage in Part 1.1.4). (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3)

8.G.3 Definitions.

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

8.G.3.1 *Mining operations* – For this permit, mining operations are grouped into two distinct categories, with distinct effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. "Mining operations" can occur at both inactive mining facilities and temporarily inactive mining facilities.

8.G.3.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:

- a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and
- b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional effluent limits in Part 8.G.4.2.

8.G.3.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and beneficiation of metal ore from the earth; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in Part 8.G.4 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities."

8.G.3.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of metal ore is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

Note: Earth-disturbing activities described in the definition in Part 8.G.3.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in Part 8.G.4.

8.G.3.5 *Inactive metal mining facility* – A site or portion of a site where metal mining and/or milling occurred in the past but there are no active mining activities occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive metal mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

8.G.3.6 *Temporarily inactive metal mining facility* – A site or portion of a site where metal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable state or federal agency.

8.G.4 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.

Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in Part 8.G.3.2) are covered under this permit. For such earth-disturbing

activities, you must comply with all applicable requirements in Parts 1-9 of the MSGP except for the technology-based effluent limits in Part 8.G.5 and Part 2.1.2, the inspection requirements in Part 8.G.7 and Part 3, and the monitoring requirements in Part 8.G.8 and Part 6.

Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in Part 8.G.4.1.9 or 8.G.4.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to the Part 8.G.4 requirements. At such time, authorized discharges become subject to all other applicable requirements in the MSGP, including the effluent limits in Parts 2.1.2 and 8.G.5, the inspection requirements in Parts 3 and 8.G.7, and the monitoring requirements in Parts 6 and 8.G.8.

8.G.4.1 *Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in Part 8.G.3.2(a) and 8.G.3.2(b). These limits supersede the technology-based limits listed in Part 2.1.2 and Part 8.G.5 of the MSGP.

8.G.4.1.1 *Erosion and sediment control installation requirements.*

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible you must install and make such controls operational as soon as practicable or as soon as site conditions permit.
- All other stormwater controls described in the SWPPP must be installed and made operational as soon as conditions on each portion of the site allows.

8.G.4.1.2 *Erosion and sediment control maintenance requirements.* You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater control must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon practicable.

8.G.4.1.3 *Perimeter controls.* You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

8.G.4.1.4 *Sediment track-out.* For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Use appropriate stabilization techniques to minimize sediment track-out from vehicles and equipment prior to exit;
- Use additional controls to remove sediment from vehicle and equipment tires prior to exit, where necessary;
- Remove sediment that is tracked out onto paved roads by end of the work day.

Note: EPA recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such “staining” is not a violation of Part 8.G.4.1.4.

8.G.4.1.5 *Soil or sediment stockpiles.* You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.
- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
- Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).

8.G.4.1.6 *Sediment basins.* If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:

- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
- Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.

8.G.4.1.7 *Minimize dust.* You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.

8.G.4.1.8 *Restrictions on use of treatment chemicals.* If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:

- Use conventional erosion and sediment controls prior to and after application of chemicals;
- Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
- Minimize the discharge risk from stored chemicals;
- Comply with state/local requirements;
- Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
- Ensure proper training;
- Provide proper SWPPP documentation.

If you plan to use cationic treatment chemicals (as defined in Appendix A), you are ineligible for coverage under this permit, unless you notify your applicable EPA Regional Office in advance and the EPA Regional Office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

8.G.4.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in 8.G.3.2(a) (i.e., not applicable to construction of staging areas for structures and access roads as defined in 8.G.3.2(b)).* You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance)

(although you are encouraged to do so within the active mining area, where appropriate):

- *Temporary stabilization of disturbed areas.* Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.G.3.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.
- *Final stabilization of disturbed areas.* Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.G.3.2(a)) have permanently ceased, but in no case more than 14 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

8.G.4.2 Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads. The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in Part 8.G.3.2(b). These limits supersede the technology-based limits listed in Part 2.1.2 and Part 8.G.5 of the MSGP. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.G.3.2(a)).

8.G.4.2.1 Area of disturbance. You must minimize the amount of soil exposed during construction activities.

8.G.4.2.2 Erosion and sediment control design requirements. You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from construction activities. Account for the following factors in designing your erosion and sediment controls:
 - The expected amount, frequency, intensity and duration of precipitation;
 - The nature of stormwater runoff and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
 - The range of soil particle sizes expected to be present on the site.

- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.
- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

8.G.4.2.3 *Natural Buffers.* For any stormwater discharges from construction activities within 50 feet of a water of the U.S., you must comply with one of the following compliance alternatives:

1. Provide a 50-foot undisturbed natural buffer between construction activities and the water of the U.S.; or
2. Provide an undisturbed natural buffer that is less than 50 feet supplemented by additional erosion and sediment controls, which in combination, achieve a sediment load reduction that is equivalent to a 50-foot undisturbed natural buffer; or
3. If it is infeasible to provide an undisturbed natural buffer of any size, implement erosion and sediment controls that achieve a sediment load reduction that is equivalent to a 50-foot undisturbed natural buffer.

There are exceptions when buffer requirements do not apply:

- There is no stormwater discharge from construction disturbances to a water of the U.S.;
- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for the construction of a water-dependent structure or construction approved under a CWA section 404 permit;
- For linear construction projects, you are not required to comply with the requirements if there are site constraints provided that, to the extent feasible, you limit disturbances within 50 feet of a water of the U.S. and/or you provide supplemental erosion and sediment controls to treat stormwater discharges from any disturbances within 50 feet of a water of the U.S.

See

http://water.epa.gov/polwaste/npdes/stormwater/upload/cgp2012_appendixg.pdf for guidance on complying with these alternatives.

- 8.G.4.2.4 *Soil or sediment stockpiles.*** In addition to the requirements in Part 8.G.4.1.5, you must locate any piles outside of any natural buffers established under Part 8.G.4.2.3.
- 8.G.4.2.5 *Sediment basins.*** In addition to the requirements in Part 8.G.4.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established under Part 8.G.4.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.
- 8.G.4.2.6 *Native topsoil preservation.*** You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.
- 8.G.4.2.7 *Steep slopes.*** You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

- 8.G.4.2.8 *Soil compaction.*** Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/ equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.
- 8.G.4.2.9 *Dewatering Practices.*** You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems). Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- Discharge requirements:
 - No discharging visible floating solids or foam;
 - Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);
 - Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the U.S. be considered part of the treatment area;
 - Implement velocity dissipation devices at all points where dewatering water is discharged;
 - Haul backwash water away for disposal or return it to the beginning of the treatment process; and

- Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.
- Treatment chemical restrictions: If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in Parts 8.G.4.1.8.

8.G.4.2.10 *Pollution prevention requirements.*

- *Prohibited discharges* (this non-exhaustive list of prohibited non-stormwater discharges is included here as a reminder that only the only allowable non-stormwater discharges are those enumerated in Part 1.1.3):
 - Wastewater from washout of concrete;
 - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
 - Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;
 - Soaps, solvents, or detergents used in vehicle or equipment washing;
 - Toxic or hazardous substances from a spill or other release.
- *Design and location requirements*: Minimize the discharge of pollutants from pollutant sources by:
 - Minimizing exposure;
 - Using secondary containment, spill kits, or other equivalent measures;
 - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
 - Cleaning up spills immediately (do not clean by hosing area down).
- *Pollution prevention requirements for wash waters*: Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- *Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes*: Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

8.G.4.2.11 *Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in 8.G.3.2(b)* (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in 8.G.3.2(a)). You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;

- If using vegetative measures, by no later than 14 days after initiating stabilization:
 - Seed or plant the area, and provide temporary cover to protect the planted area;
 - Once established, vegetation must be uniform, perennial (if final stabilization), and cover at least 70% of stabilized area based on density of native vegetation.
- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:
 - Install or apply all non-vegetative measures;
 - Cover all areas of exposed soil.

Note: For the purposes of this permit, EPA will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting the exposed area; 4. Starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid (if construction occurs during seasonally dry period), or drought-stricken areas:
 - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
 - Initiate vegetative stabilization as soon as conditions on the site allow;
 - Document the schedule that will be followed for initiating and completing vegetative stabilization;
 - Plant the area so that within 3 years the 70% cover requirement is met.
- Sites affected by severe storm events or other unforeseen circumstances:
 - Initiate vegetative stabilization as soon conditions on the site allow;
 - Document the schedule that will be followed for initiating and completing vegetative stabilization;
 - Plant the area so that so that within 3 years the 70% cover requirement is met.

8.G.4.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in Part 8.G.3.2(a) and 8.G.3.2(b), in addition to the water quality-based limits in Part 2.2 of the MSGP.

Stricter requirements apply if your site will discharge to an impaired water or a water that is identified by your state, tribe, or EPA as a Tier 2 or Tier 2.5 for antidegradation purposes:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping earth-disturbing work.
- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

8.G.4.4 Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.

The following requirements supersede the inspection requirements in Part 3 and 8.G.7 of the MSGP for earth-disturbing activities conducted prior to active mining activities defined in Part 8.G.3.2(a) and 8.G.3.2(b).

8.G.4.4.1 Inspection frequency

- At least once every 7 calendar days, or
- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Note:

- Inspections only required during working hours;
- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day.

Note: You are required to specify in your SWPPP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

8.G.4.4.2 Reductions in inspection frequency.

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to Part 8.G.4.1.9 or 8.G.4.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

8.G.4.4.3 Areas to be inspected. You must at a minimum inspect the all of the following areas:

- Disturbed areas;
- Stormwater controls and pollution prevention measures;
- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;

- Areas where stormwater flows;
- Points of discharge.

8.G.4.4.4 *What to check for during inspections.* At a minimum you must check:

- Whether all stormwater controls are installed, operational and working as intended;
- Whether any new or modified stormwater controls are needed;
- For conditions that could lead to a spill or leak;
- For visual signs of erosion/sedimentation at points of discharge.

If a discharge is occurring, check:

- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

8.G.4.4.5 *Inspection report.* Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);
- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

8.G.5 Technology-Based Effluent Limits for Active Mining Activities.

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active mining as defined in 8.G.3.2(a) or 8.G.3.2(b).

8.G.5.1 *Employee training.* (See also Part 2.1.2.8) Conduct employee training at least annually at active and temporarily inactive facilities.

8.G.5.2 *Stormwater controls.* Apart from the control measures you implement to meet your Part 2 technology-based effluent limits, where necessary to minimize pollutant discharges in stormwater, implement the following control measures at your site. The potential pollutants identified in Part 8.G.6.3 shall determine the priority and appropriateness of the control measures selected. For mines subject to dust control requirements under state or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Part 2.1.2.10.

Stormwater diversions: Divert stormwater away from potential pollutant sources through implementation of control measures such as the following, where determined to be feasible (list not exclusive): interceptor or diversion controls (e.g., dikes, swales, curbs, berms); pipe slope drains; subsurface drains; conveyance systems (e.g., channels or gutters, open-top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector and culverts); or their equivalents.

Capping: When capping is necessary to minimize pollutant discharges in stormwater, identify the source being capped and the material used to construct the cap.

Treatment: If treatment of stormwater (e.g., chemical or physical systems, oil - water separators, artificial wetlands) is necessary to protect water quality, describe the type and location of treatment used. Passive and/or active treatment of stormwater runoff is encouraged, where feasible. Treated runoff may be discharged as a stormwater

source regulated under this permit provided the discharge is not combined with discharges subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).

8.G.5.3 *Discharge testing.* (See also Part 5.2.3.4) Test or evaluate all outfalls covered under this permit for the presence of specific mining-related but unauthorized non-stormwater discharges such as seeps or adit discharges, or discharges subject to effluent limitations guidelines (e.g., 40 CFR Part 440), such as mine drainage or process water. Alternatively (if applicable), you may keep a certification with your SWPPP consistent with Part 8.G.6.6.

8.G.6 Additional SWPPP Requirements for Mining Operations.

Note: The requirements in Part 8.G.6 are not applicable to inactive metal mining facilities.

8.G.6.1 *Nature of industrial activities.* (See also Part 5.2.2) Briefly document in your SWPPP the mining and associated activities that can potentially affect the stormwater discharges covered by this permit, including a general description of the location of the site relative to major transportation routes and communities.

8.G.6.2 *Site map.* (See also Part 5.2.2) Document in your SWPPP the locations of the following (as appropriate): mining or milling site boundaries; access and haul roads; outline of the drainage areas of each stormwater outfall within the facility with indications of the types of discharges from the drainage areas; location(s) of all permitted discharges covered under an individual NPDES permit; outdoor equipment storage, fueling, and maintenance areas; materials handling areas; outdoor manufacturing, outdoor storage, and material disposal areas; outdoor chemicals and explosives storage areas; overburden, materials, soils, or waste storage areas; location of mine drainage (where water leaves mine) or other process water; tailings piles and ponds (including proposed ones); heap leach pads; off-site points of discharge for mine drainage and process water; surface waters; boundary of tributary areas that are subject to effluent limitations guidelines; and location(s) of reclaimed areas.

8.G.6.3 *Potential pollutant sources.* (See also Part 5.2.3) For each area of the mine or mill site where stormwater discharges associated with industrial activities occur, identify the types of pollutants (e.g., heavy metals, sediment) likely to be present in significant amounts. Consider these factors: the mineralogy of the ore and waste rock (e.g., acid forming); toxicity and quantity of chemicals used, produced, or discharged; the likelihood of contact with stormwater; vegetation of site (if any); and history of significant leaks or spills of toxic or hazardous pollutants. Also include a summary of any existing ore or waste rock or overburden characterization data and test results for potential generation of acid rock. If any new data is acquired due to changes in ore type being mined, update your SWPPP with this information.

8.G.6.4 *Documentation of control measures.* Document all control measures that you implement consistent with Part 8.G.5.2. If control measures are implemented or planned but are not listed in Part 8.G.5.2 (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in your SWPPP. If you are in compliance with dust control requirements under state or county air quality permits, you must include (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

8.G.6.5 *Employee training.* All employee training(s) must be documented in the SWPPP.

8.G.6.6 *Certification of permit coverage for commingled non-stormwater discharges.* If you are able, consistent with Part 8.G.5.3 above, to certify that a particular discharge composed of commingled stormwater and non-stormwater is covered under a separate NPDES permit, and that permit subjects the non-stormwater portion to effluent limitations prior to any commingling, retain such certification with your SWPPP. This certification must identify the non-stormwater discharges, the applicable NPDES permit(s), the effluent limitations placed on the non-stormwater discharge by the permit(s), and the points at which the limitations are applied.

8.G.7 Additional Inspection Requirements. (See also Part 3.1)

Except for earth-disturbing activities conducted prior to active mining activities as defined in Part 8.G.3.2(a) and 8.G.3.2(b), which are subject to Part 8.G.4.4, inspect sites at least quarterly unless adverse weather conditions make the site inaccessible. Sites which discharge to waters designated as Tier 2 or 2.5 or waters which are impaired for sediment or nitrogen must be inspected monthly. See Part 8.G.8.4 for inspection requirements for inactive and unstaffed sites.

8.G.8 Monitoring and Reporting Requirements. (See also Part 6)

Note: There are no Part 8.G.8 monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

8.G.8.1 Benchmark Monitoring for Active Copper Ore Mining and Dressing Facilities.

Table 8.G-1 identifies benchmarks that apply to active copper ore mining and dressing facilities. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector G1. Active Copper Ore Mining and Dressing Facilities (SIC 1021)	Total Suspended Solids (TSS)	100 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L

8.G.8.2 Benchmark Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Metal Mining Facilities. For discharges from waste rock and overburden piles, perform benchmark monitoring once in the first year for the parameters listed in Table 8.G-2, and twice annually in all subsequent years of coverage under this permit for any parameters for which the benchmark has been exceeded. You are also required to conduct analytic monitoring for the parameters listed in Table 8.G-3 in accordance with the requirements in Part 8.G.8.3. The Director may also notify you that you must perform additional monitoring to accurately characterize the quality and quantity of pollutants discharged from your waste rock and overburden piles.

Table 8.G-2.

Subsector (Discharges may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector G2. Iron Ores; Copper Ores; Lead and Zinc Ores; Gold and Silver Ores; Ferroalloy Ores, Except Vanadium; and Miscellaneous Metal Ores (SIC Codes 1011, 1021, 1031, 1041, 1044, 1061, 1081, 1094, 1099) (Note: when analyzing hardness for a suite of metals, it is more cost effective to add analysis of calcium and magnesium, and have hardness calculated than to require hardness analysis separately)	Total Suspended Solids (TSS)	100 mg/L
	Turbidity	50 NTU
	pH	6.0-9.0 s.u.
	Hardness (as CaCO ₃ ; calc. from Ca, Mg) ²	no benchmark value
	Total Antimony	0.64 mg/L
	Total Arsenic (freshwater)	0.15 mg/L
	Total Arsenic (saltwater) ¹	0.069 mg/L
	Total Beryllium	0.13 mg/L
	Total Cadmium (freshwater) ²	Hardness Dependent
	Total Cadmium (saltwater) ¹	0.04 mg/L
	Total Copper (freshwater) ²	Hardness Dependent
	Total Copper (saltwater) ¹	0.0048 mg/L
	Total Iron	1.0 mg/L
	Total Lead (freshwater) ²	Hardness Dependent
	Total Lead (saltwater) ¹	0.21 mg/L
	Total Mercury (freshwater)	0.0014 mg/L
	Total Mercury (saltwater) ¹	0.0018 mg/L
	Total Nickel (freshwater) ²	Hardness Dependent
Total Nickel (saltwater) ¹	0.074 mg/L	
Total Selenium (freshwater)	0.005 mg/L	
Total Selenium (saltwater) ¹	0.29 mg/L	
Total Silver (freshwater) ²	Hardness Dependent	
Total Silver (saltwater) ¹	0.0019 mg/L	
Total Zinc (freshwater) ²	Hardness Dependent	
Total Zinc (saltwater) ¹	0.09 mg/L	

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	Zinc (mg/L)
0-24.99 mg/L	0.0005	0.0038	0.014	0.15	0.0007	0.04
25-49.99 mg/L	0.0008	0.0056	0.023	0.20	0.0007	0.05
50-74.99 mg/L	0.0013	0.0090	0.045	0.32	0.0017	0.08
75-99.99 mg/L	0.0018	0.0123	0.069	0.42	0.0030	0.11
100-124.99 mg/L	0.0023	0.0156	0.095	0.52	0.0046	0.13
125-149.99 mg/L	0.0029	0.0189	0.122	0.61	0.0065	0.16
150-174.99 mg/L	0.0034	0.0221	0.151	0.71	0.0087	0.18
175-199.99 mg/L	0.0039	0.0253	0.182	0.80	0.0112	0.20
200-224.99 mg/L	0.0045	0.0285	0.213	0.89	0.0138	0.23
225-249.99 mg/L	0.0050	0.0316	0.246	0.98	0.0168	0.25
250+ mg/L	0.0053	0.0332	0.262	1.02	0.0183	0.26

8.G.8.3 Additional Analytic Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Metal Mining Facilities. In addition to the monitoring required in Part 8.G.8.2 for discharges from waste rock and overburden piles, you must also conduct monitoring for additional parameters based on the type of ore you mine at your site. Where a parameter in Table 8.G-3 is the same as a pollutant you are required to monitor for in Table 8.G-2 (i.e., for all of the metals), you must use the corresponding benchmark in Table 8.G-2 and you may use any monitoring results conducted for Part 8.G.8.2 to satisfy the monitoring requirement for that parameter for Part 8.G.8.3. For radium and uranium, which do not have corresponding benchmarks in Table 8.G-2, there are no applicable benchmarks. The frequency and schedule for monitoring for these additional parameters is the same as that specified in Part 6.2.1.2.

Table 8.G-3. Additional Monitoring Requirements for Discharges from Waste Rock and Overburden Piles			
Supplemental Requirements			
Type of Ore Mined	Pollutants of Concern		
	Total Suspended Solids (TSS)	pH	Metals, Total
Tungsten Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Nickel Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Aluminum Ore	X	X	Iron
Mercury Ore	X	X	Nickel (H)
Iron Ore	X	X	Iron (Dissolved)
Platinum Ore			Cadmium (H), Copper (H), Mercury, Lead (H), Zinc (H)
Titanium Ore	X	X	Iron, Nickel (H), Zinc (H)
Vanadium Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Molybdenum	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Mercury, Zinc (H)
Uranium, Radium, and Vanadium Ore	X	X	Chemical Oxygen Demand, Arsenic, Radium (Dissolved and Total), Uranium, Zinc (H)

Note: An "X" indicated for TSS and/or pH means that you are required to monitor for those parameters. (H) indicates that hardness must also be measured when this pollutant is measured.

8.G.8.4 Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirements for Quarterly Visual Assessments and Routine Facility Inspections. As a Sector G facility, if you are seeking to exercise a waiver from the quarterly visual assessment and routine facility inspection requirements for inactive and unstaffed sites (including temporarily inactive sites), you are conditionally exempt from the requirement to certify that "there are no industrial materials or activities exposed to stormwater" in Parts 3.1.1 and 3.2.3. This exemption is conditioned on the following:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the quarterly visual assessment requirements; and
- EPA retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to

cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

Subject to the two conditions above, if your facility is inactive and unstaffed, you are waived from the requirement to conduct quarterly visual assessments and routine facility inspections. You must still do an annual site inspection in accordance with Part 3.1. You are encouraged to inspect your site more frequently where you have reason to believe that severe weather or natural disasters may have damaged control measures or increased discharges.

Table 8.G-4. Applicability of the Multi-Sector General Permit to Stormwater Runoff From Active Mining and Dressing Sites, Temporarily Inactive Sites, and Sites Undergoing Reclamation	
Discharge/Source of Discharge	Note/Comment
Piles	
Waste rock/overburden	Covered under the MSGP if composed entirely of stormwater and not combined with mine drainage. See note below.
Topsoil	--
Roads constructed of waste rock or spent ore	
Onsite haul roads	Covered under the MSGP if composed entirely of stormwater and not combined with mine drainage. See note below.
Offsite haul and access roads	--
Roads not constructed of waste rock or spent ore	
Onsite haul roads	Covered under the MSGP except if mine drainage is used for dust control.
Offsite haul and access roads	--
Milling/concentrating	
Runoff from tailings dams and dikes when constructed of waste rock/tailings	Covered under the MSGP except if process fluids are present and only if composed entirely of stormwater and not combined with mine drainage. See Note below.
Runoff from tailings dams/dikes when not constructed of waste rock and tailings	Covered under the MSGP except if process fluids are present.
Concentration building	Covered under the MSGP If stormwater only and no contact with piles.
Mill site	If stormwater only and no contact with piles.
Ancillary areas	
Office and administrative building and housing	Covered under the MSGP if mixed with stormwater from the industrial area.
Chemical storage area	--
Docking facility	Covered under the MSGP except if excessive contact with waste product that would otherwise constitute mine drainage.
Explosive storage	--
Fuel storage (oil tanks/coal piles)	--
Vehicle and equipment maintenance area/building	--
Parking areas	Covered under the MSGP but coverage unnecessary if only employee and visitor-type parking.

Table 8.G-4. Applicability of the Multi-Sector General Permit to Stormwater Runoff From Active Mining and Dressing Sites, Temporarily Inactive Sites, and Sites Undergoing Reclamation	
Discharge/Source of Discharge	Note/Comment
Power plant	
Truck wash area	Covered under the MSGP except when excessive contact with waste product that would otherwise constitute mine drainage.
Reclamation-related areas	
Any disturbed area (unreclaimed)	Covered under the MSGP only if not in active mining area.
Reclaimed areas released from reclamation requirements prior to Dec. 17, 1990	--
Partially/inadequately reclaimed areas or areas not released from reclamation requirements	--

Note: Stormwater runoff from these sources are subject to the NPDES program for stormwater unless mixed with discharges subject to 40 CFR Part 440 that are regulated by another permit prior to mixing. Non-stormwater discharges from these sources are subject to NPDES permitting and may be subject to the effluent limitation guidelines under 40 CFR Part 440. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless: (1) it drains naturally (or is intentionally diverted) to a point source; and (2) combines with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440, as well as meeting other eligibility criteria contained in Part 1.1 of the permit. Operators bear the initial responsibility for determining the applicable technology-based standard for such discharges. EPA recommends that operators contact the relevant NPDES permit issuance authority for assistance to determine the nature and scope of the "active mining area" on a mine-by-mine basis, as well as to determine the appropriate permitting mechanism for authorizing such discharges.

8.G.9. Termination of Permit Coverage

8.G.9.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed as defined in Part 8.G.3.3.

8.G.9.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater runoff that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to violations of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart H – Sector H – Coal Mines and Coal Mining-Related Facilities.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

Note: Where compliance with a requirement in a separate exploration permit, mining permit, reclamation plan, Surface Mining Control and Reclamation Act (SMCRA) requirements, etc. will result in you fully meeting any requirement in this Subpart, you are considered to have complied with the relevant requirement in this Subpart. You must include documentation in your SWPPP describing your rationale for concluding that any particular action on your part is sufficient to comply with the corresponding requirement in this Subpart.

8.H.1 Covered Stormwater Discharges.

The requirements in Subpart H apply to stormwater discharges associated with industrial activity from Coal Mines and Coal Mining-Related facilities as identified by the SIC Codes specified under Sector H in Table D-1 of Appendix D.

8.H.2 Limitations on Coverage.

8.H.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) Not covered by this permit: discharges from pollutant seeps or underground drainage from inactive coal mines and refuse disposal areas that do not result from precipitation events, and discharges from floor drains in maintenance buildings and other similar drains in mining and preparation plant areas. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3).

8.H.2.2 *Discharges Subject to Stormwater Effluent Guidelines.* (See also Part 1.1.2.4) Not authorized by this permit: stormwater discharges subject to an existing effluent limitation guideline at 40 CFR Part 434.

8.H.3 Definitions

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

8.H.3.1 *Mining operations* - For this permit, mining operations are grouped into two distinct categories, with distinct effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. "Mining operations" can occur at both inactive mining facilities and temporarily inactive mining facilities.

8.H.3.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:

a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and

b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional effluent limits in Part 8.H.4.2.

8.H.3.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and preparation of coal; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in Part 8.H.4 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities."

8.H.3.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of coal is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

Note: Earth-disturbing activities described in the definition in Part 8.H.3.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in Part 8.H.4.

8.H.3.5 *Inactive coal mining facility* – A site or portion of a site where coal mining and/or milling occurred in the past but there are no active mining operations occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive coal mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

8.H.3.6 *Temporarily inactive coal mining facility* – A site or portion of a site where coal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable state or federal agency.

8.H.4 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.

Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in Part 8.H.3.2) are covered under this permit. For such earth-disturbing activities, you must comply with all applicable requirements in Parts 1-9 of the MSGP except for the technology-based effluent limits in Part 8.H.5 and Part 2.1.2, the inspection requirements in Part 8.H.7 and Part 3, and the monitoring requirements in Part 8.H.8 and Part 6.

Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in Part 8.H.4.19 or 8.H.4.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to the Part 8.H.4 requirements. At such time, authorized discharges become subject to all

other applicable requirements in the MSGP, including the effluent limits in Parts 2.1.2 and 8.H.5, the inspection requirements in Parts 3 and 8.H.7, and the monitoring requirements in Parts 6 and 8.H.8.

8.H.4.1 *Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in Part 8.H.3.2(a) and 8.H.3.2(b). These limits supersede the technology-based limits listed in Part 2.1.2 and Part 8.H.5 of the MSGP.

8.H.4.1.1 *Erosion and sediment control installation requirements.*

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible you must install and make such controls operational as soon as practicable or as soon as site conditions permit.
- All other stormwater controls described in the SWPPP must be installed and made operational as soon as conditions on each portion of the site allows.

8.H.4.1.2 *Erosion and sediment control maintenance requirements.* You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater control must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon practicable.

8.H.4.1.3 *Perimeter controls.* You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

8.H.4.1.4 *Sediment track-out.* For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Use appropriate stabilization techniques to minimize sediment track-out from vehicles and equipment prior to exit;
- Use additional controls to remove sediment from vehicle and equipment tires prior to exit, where necessary;
- Remove sediment that is tracked out onto paved roads by end of the work day.

Note: EPA recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of Part 8.H.4.1.4.

8.H.4.1.5 *Soil or sediment stockpiles.* You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.

- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
 - Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).
- 8.H.4.1.6 *Sediment basins.*** If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:
- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
 - Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.
- 8.H.4.1.7 *Minimize dust.*** You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.
- 8.H.4.1.8 *Restrictions on use of treatment chemicals.*** If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:
- Use conventional erosion and sediment controls prior to and after application of chemicals;
 - Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
 - Minimize the discharge risk from stored chemicals;
 - Comply with state/local requirements;
 - Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
 - Ensure proper training;
 - Provide proper SWPPP documentation.

If you plan to use cationic treatment chemicals (as defined in Appendix A), you are ineligible for coverage under this permit, unless you notify your applicable EPA Regional Office in advance and the EPA Regional Office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

- 8.H.4.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in 8.H.3.2(a)*** (i.e., not applicable to construction of staging areas for structures and access roads as defined in 8.H.3.2(b)). You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):
- *Temporary stabilization of disturbed areas.* Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.H.3.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative

stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.

- *Final stabilization of disturbed areas.* Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.H.3.2(a)) have permanently ceased, but in no case more than 14 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

8.H.4.2 *Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads.* The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in Part 8.H.3.2(b). These limits supersede the technology-based limits listed in Part 2.1.2 and Part 8.H.5 of the MSGP. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.H.3.2(a)).

8.H.4.2.1 *Area of disturbance.* You must minimize the amount of soil exposed during construction activities.

8.H.4.2.2 *Erosion and sediment control design requirements.* You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from construction activities. Account for the following factors in designing your erosion and sediment controls:
 - The expected amount, frequency, intensity and duration of precipitation;
 - The nature of stormwater runoff and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
 - The range of soil particle sizes expected to be present on the site.
- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.
- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream

waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

8.H.4.2.3 *Natural Buffers.* For any stormwater discharges from construction activities within 50 feet of a water of the U.S., you must comply with one of the following compliance alternatives:

1. Provide a 50-foot undisturbed natural buffer between construction activities and the water of the U.S.; or
2. Provide an undisturbed natural buffer that is less than 50 feet supplemented by additional erosion and sediment controls, which in combination, achieve a sediment load reduction that is equivalent to a 50-foot undisturbed natural buffer; or
3. If it is infeasible to provide an undisturbed natural buffer of any size, implement erosion and sediment controls that achieve a sediment load reduction that is equivalent to a 50-foot undisturbed natural buffer.

There are exceptions when buffer requirements do not apply:

- There is no stormwater discharge from construction disturbances to a water of the U.S.;
- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for the construction of a water-dependent structure or construction approved under a CWA section 404 permit;
- For linear construction projects, you are not required to comply with the requirements if there are site constraints provided that, to the extent feasible, you limit disturbances within 50 feet of a water of the U.S. and/or you provide supplemental erosion and sediment controls to treat stormwater discharges from any disturbances within 50 feet of a water of the U.S.

See

http://water.epa.gov/polwaste/npdes/stormwater/upload/cgp2012_appendixg.pdf for guidance on complying with these alternatives.

8.H.4.2.4 *Soil or sediment stockpiles.* In addition to the requirements in Part 8.H.4.1.5, you must locate any piles outside of any natural buffers established under Part 8.H.4.2.3.

8.H.4.2.5 *Sediment basins.* In addition to the requirements in Part 8.H.4.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established under Part 8.H.4.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.

8.H.4.2.6 *Native topsoil preservation.* You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.

- 8.H.4.2.7 *Steep slopes.*** You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

- 8.H.4.2.8 *Soil compaction.*** Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.

- 8.H.4.2.9 *Dewatering Practices.*** You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems). Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- Discharge requirements:
 - No discharging visible floating solids or foam;
 - Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);
 - Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the U.S. be considered part of the treatment area;
 - Implement velocity dissipation devices at all points where dewatering water is discharged;
 - Haul backwash water away for disposal or return it to the beginning of the treatment process; and
 - Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.
- Treatment chemical restrictions: If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in Parts 8.H.4.1.8.

- 8.H.4.2.10 *Pollution prevention requirements.***

- *Prohibited discharges* (this non-exhaustive list of prohibited non-stormwater discharges is included here as a reminder that only the only allowable non-stormwater discharges are those enumerated in Part 1.1.3):
 - Wastewater from washout of concrete;
 - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
 - Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;

- Soaps, solvents, or detergents used in vehicle or equipment washing;
- Toxic or hazardous substances from a spill or other release.
- *Design and location requirements:* Minimize the discharge of pollutants from pollutant sources by:
 - Minimizing exposure;
 - Using secondary containment, spill kits, or other equivalent measures;
 - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
 - Cleaning up spills immediately (do not clean by hosing area down).
- *Pollution prevention requirements for wash waters:* Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- *Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes:* Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

8.H.4.2.11 Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in 8.H.3.2(b) (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in 8.H.3.2(a)). You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;
- If using vegetative measures, by no later than 14 days after initiating stabilization:
 - Seed or plant the area, and provide temporary cover to protect the planted area;
 - Once established, vegetation must be uniform, perennial (if final stabilization), and cover at least 70% of stabilized area based on density of native vegetation.
- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:
 - Install or apply all non-vegetative measures;
 - Cover all areas of exposed soil.

Note: For the purposes of this permit, EPA will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting

the exposed area; 4. Starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid (if construction occurs during seasonally dry period), or drought-stricken areas:
 - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
 - Initiate vegetative stabilization as soon as conditions on the site allow;
 - Document the schedule that will be followed for initiating and completing vegetative stabilization;
 - Plant the area so that within 3 years the 70% cover requirement is met.
- Sites affected by severe storm events or other unforeseen circumstances:
 - Initiate vegetative stabilization as soon conditions on the site allow;
 - Document the schedule that will be followed for initiating and completing vegetative stabilization;
 - Plant the area so that so that within 3 years the 70% cover requirement is met.

8.H.4.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in Part 8.H.3.2(a) and 8.H.3.2(b), in addition to the water quality-based limits in Part 2.2 of the MSGP.

Stricter requirements apply if your site will discharge to an impaired water or a water that is identified by your state, tribe, or EPA as a Tier 2 or Tier 2.5 for antidegradation purposes:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping earth-disturbing work.
- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

8.H.4.4 *Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following requirements supersede the inspections requirements in Part 3 and 8.H.7 of the MSGP for earth-disturbing activities conducted prior to active mining activities defined in Part 8.H.3.2(a) and 8.H.3.2(b).

8.H.4.4.1 *Inspection Frequency*

- At least once every 7 calendar days, or
- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Note:

- Inspections only required during working hours;
- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any

day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that.

Note: You are required to specify in your SWPPP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

8.H.4.4.2 *Reductions in Inspection Frequency*

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to Part 8.H.4.1.9 or 8.H.4.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

8.H.4.4.3 *Areas to be Inspected.* You must at a minimum inspect the following areas:

- Disturbed areas;
- Stormwater controls and pollution prevention measures;
- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;
- Areas where stormwater flows;
- Points of discharge.

8.H.4.4.4 *What to Check for During Inspections.* At a minimum you must check:

- Whether all stormwater controls are installed, operational, and working as intended;
- Whether any new or modified stormwater controls are needed;
- For conditions that could lead to a spill or leak;
- For visual signs of erosion/sedimentation at points of discharge.

If a discharge is occurring:

- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

8.H.4.4.5 *Inspection Report.* Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);

- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

8.H.4.5 *Cessation of Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The requirements in 8.H.4 no longer apply for any earth-disturbing activities conducted prior to active mining activities as defined in 8.H.3.2(a) or 8.H.3.2(b) where:

1. Earth-disturbing activities have ceased; and
2. Stabilization has been met consistent with Part 8.H.4.1.9 or 8.H.4.2.11 (not required for areas where active mining activities will occur).

8.H.5 Technology-Based Effluent Limits for Active Mining Activities.

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active mining as defined in 8.H.3.2(a) or 8.H.3.2(b).

8.H.5.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2) As part of your good housekeeping program, in order to minimize discharges of pollutants in stormwater, implement control measures such as the following, where determined to be feasible (list not inclusive): using sweepers and covered storage; watering haul roads to minimize dust generation; and conserving vegetation to minimize erosion. For mines subject to dust control requirements under state or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Part 2.1.2.10.

8.H.5.2 *Preventive Maintenance.* (See also Part 2.1.2.3) Perform inspections or other equivalent measures of storage tanks and pressure lines of fuels, lubricants, hydraulic fluid, and slurry to prevent leaks due to deterioration or faulty connections.

8.H.6 Additional SWPPP Requirements for Mining Operations.

Note: The requirements in Part 8.H.6 are not applicable to inactive coal mining facilities.

8.H.6.1 *Other Applicable Regulations.* Most active coal mining-related areas (SIC Codes 1221-1241) are subject to sediment and erosion control regulations of the U.S. Office of Surface Mining (OSM) that enforces the Surface Mining Control and Reclamation Act (SMCRA). OSM has granted authority to most coal-producing states to implement SMCRA through State SMCRA regulations. All SMCRA requirements regarding control of stormwater-related pollutant discharges must be addressed and then documented with the SWPPP (directly or by reference).

8.H.6.2 *Site Map.* (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: haul and access roads; railroad spurs, sliding, and internal hauling lines; conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; inactive mines and related areas; acidic spoil, refuse, or unreclaimed disturbed areas; and liquid storage tanks containing pollutants such as caustics, hydraulic fluids, and lubricants.

8.H.6.3 *Potential Pollutant Sources.* (See also Part 5.2.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them: truck traffic on haul roads and resulting generation of sediment subject to runoff and dust generation; fuel or other liquid storage; pressure lines containing slurry, hydraulic fluid, or other potential harmful liquids; and loading or temporary storage of acidic refuse or spoil.

8.H.6.4 If you are in compliance with dust control requirements under state or county air quality permits, you must include (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

8.H.7 Additional Inspection Requirements. (See also Part 3.1)

8.H.7.1 *Inspections of Active Mining-Related Areas.* (See also Part 3) Except for earth-disturbing activities conducted prior to active mining activities as defined in Part 8.H.3.2(a) and 8.H.3.2(b), which are subject to Part 8.H.4.4, perform routine inspections of active mining areas covered by this permit, corresponding with the inspections as performed by SMCRA inspectors, of all mining-related areas required by SMCRA. Also maintain the records of the SMCRA authority representative. See Part 8.H.8.1 for inspection requirements for inactive and unstaffed sites.

8.H.7.2 *Sediment and Erosion Control.* (See also Part 2.1.2.5) As indicated in Part 8.H.6.1, SMCRA requirements regarding sediment and erosion control measures must be complied with for those areas subject to SMCRA authority, including inspection requirements.

8.H.7.3 *Routine Site Inspections.* (See also Part 3.1) Your inspection program must include inspections for pollutants entering the drainage system from activities located on or near coal mining-related areas. Among the areas to be inspected are haul and access roads; railroad spurs, sliding, and internal hauling lines; conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; and inactive mines and related areas.

8.H.8 Sector-Specific Benchmarks. (See also Part 6)

Table 8.H-1 identifies benchmarks that apply to the specific subsectors of Sector H. These benchmarks apply to both your primary industrial activity and any co-located industrial activities. Note: There are no Part 8.H. 8 monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector H1. Coal Mines and Related Areas (SIC 1221-1241)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L
	Total Suspended Solids (TSS)	100 mg/L

8.H.8.1 *Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirement for Routine Inspections, Quarterly Visual Assessments, and Benchmark and Impaired Waters Monitoring.* As a Sector H facility, if you are seeking to exercise a waiver from either the quarterly visual assessment or the benchmark and/or impaired waters monitoring requirements for inactive and unstaffed sites (including temporarily inactive sites), you are conditionally exempt from the requirement to certify that “there are no industrial materials or activities exposed to stormwater” in Parts 3.2.3, 6.2.1.3, and 6.2.4.2. Additionally, if you are seeking to reduce your required routine inspection frequency, as is allowed under Part 3.1.1, you are also conditionally exempt from the requirement to certify that “there are no industrial materials or activities exposed to stormwater.” These conditional exemptions are based on the following requirements:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the applicable benchmark monitoring requirements as if you were in your first year of permit coverage, and the quarterly visual assessment requirements; and
- EPA retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to cause or contribute to an instream excursion above an applicable water quality standard, including designated uses.

Subject to the two conditions above, if your facility is inactive and unstaffed, you are waived from the requirement to conduct routine facility inspections, quarterly visual assessments, and benchmark and impaired waters monitoring. You must still conduct an annual site inspection in accordance with Part 3.1. You are encouraged to inspect your site more frequently where you have reason to believe that severe weather or natural disasters may have damaged control measures or increased discharges.

8.H.9 Termination of Permit Coverage

8.H.9.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed as defined in Part 8.H.3.5.

8.H.9.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater runoff that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to violations of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart I – Sector I – Oil and Gas Extraction.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.1.1 Covered Stormwater Discharges.

The requirements in Subpart I apply to stormwater discharges associated with industrial activity from Oil and Gas Extraction facilities as identified by the SIC Codes specified under Sector I in Table D-1 of Appendix D of the permit.

8.1.1.1 *Discharges of stormwater runoff from field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are exempt from NPDES permit coverage unless, in accordance with 40 CFR 122.26(c)(1)(iii), the facility:*

- Has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
- Has had a discharge of stormwater resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- Contributes to a violation of a water quality standard.

Any stormwater discharges that require permit coverage as a result of meeting one of the conditions of 122.26(c)(1)(iii) may be covered under this permit unless otherwise required to obtain coverage under an alternative NPDES general permit or an individual NPDES permit as specified in Part 1.6.1.

8.1.2 Limitations on Coverage.

8.1.2.1 *Stormwater Discharges Subject to Effluent Limitation Guidelines.* (See also Part 1.1.4.5) This permit does not authorize stormwater discharges from petroleum drilling operations that are subject to nationally established effluent limitation guidelines found at 40 CFR Part 435, respectively.

8.1.2.2 *Non-Stormwater Discharges.* Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by this permit. Alternatively, wash water discharges must be authorized under a separate NPDES permit, or be discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements. (EPA includes this prohibited non-stormwater discharge here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3).

8.1.3 Additional Technology-Based Effluent Limits.

8.1.3.1 *Vegetative Controls.* Implement vegetative practices designed to preserve existing vegetation, where attainable, and revegetate open areas as soon as practicable after grade drilling. Implement appropriate vegetative practices, such as the following (list not exclusive): temporary or permanent seeding, mulching, sod stabilization, vegetative buffer strips, and tree protection practices. Begin implementing appropriate vegetative practices on all disturbed areas within 14 days following the last activity in that area.

8.1.4 Additional SWPPP Requirements.

- 8.1.4.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: Reportable Quantity (RQ) releases; locations used for the treatment, storage, or disposal of wastes; processing areas and storage areas; chemical mixing areas; construction and drilling areas; all areas subject to the effluent guidelines requirements for “No Discharge” in accordance with 40 CFR 435.32; and the structural controls to achieve compliance with the “No Discharge” requirements.
- 8.1.4.2 *Potential Pollutant Sources.*** (See also Part 5.2.3) Also document in your SWPPP the following sources and activities that have potential pollutants associated with them: chemical, cement, mud, or gel mixing activities; drilling or mining activities; and equipment cleaning and rehabilitation activities. In addition, include information about the reportable quantity (RQ) release that triggered the permit application requirements: the nature of the release (e.g., spill of oil from a drum storage area), amount of oil or hazardous substance released, amount of substance recovered, date of the release, cause of the release (e.g., poor handling techniques and lack of containment in the area), areas affected by the release (i.e., land and water), procedures to clean up release, actions or procedures implemented to prevent or improve response to a release, and remaining potential contamination of stormwater from release (taking into account human health risks, the control of drinking water intakes, and the designated uses of the receiving water).
- 8.1.4.3 *Erosion and Sediment Controls.*** (See also Part 2.1.2.5) Unless covered by EPA’s Construction General Permit (CGP), the additional documentation requirements for sediment and erosion controls for well drillings and sand/shale mining areas include the following:
- 8.1.4.3.1 *Site Description.*** Also include a description in your SWPPP of the nature of the exploration activity, estimates of the total area of site and area disturbed due to exploration activity, an estimate of runoff coefficient of the site, a site drainage map, including approximate slopes, and the names of all receiving waters.
 - 8.1.4.3.2 *Vegetative Controls.*** Document vegetative practices used consistent with Part 8.1.3.1 in the SWPPP.

8.1.5 Additional Inspection Requirements.

All erosion and sediment controls must be inspected either: 1) every 7 days; or 2) once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart J – Sector J – Non-Metallic Mineral Mining and Dressing.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

Note: Where compliance with a requirement in a separate exploration permit, mining permit, reclamation plan, Surface Mining Control and Reclamation Act (SMCRA) requirements, etc. will result in you fully meeting any requirement in this Subpart, you are considered to have complied with the relevant requirement in this Subpart. You must include documentation in your SWPPP describing your rationale for concluding that any particular action on your part is sufficient to comply with the corresponding requirement in this Subpart.

8.J.1 Covered Stormwater Discharges.

The requirements in Subpart J apply to stormwater discharges associated with industrial activity from Active and Inactive Non-Metallic Mineral Mining and Dressing facilities as identified by the SIC Codes specified under Sector J in Table D-1 of Appendix D of the permit.

8.J.1.1 *Covered Discharges from Inactive Facilities.* All stormwater discharges.

8.J.1.2 *Covered Discharges from Active and Temporarily Inactive Facilities.* All stormwater discharges, except for most stormwater discharges subject to the existing effluent limitation guideline at 40 CFR Part 436. Mine dewatering discharges composed entirely of stormwater or uncontaminated ground water seepage from: construction sand and gravel, industrial sand, and crushed stone mining facilities.

8.J.1.3 *Covered Discharges from Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* All stormwater discharges.

8.J.1.4 *Covered Discharges from Sites Undergoing Reclamation.* All stormwater discharges.

8.J.2 Limitations on Coverage.

Most stormwater discharges subject to an existing effluent limitation guideline at 40 CFR Part 436 are not authorized by this permit. The exceptions to this limitation, which are covered by this permit, are mine dewatering discharges composed entirely of stormwater or uncontaminated ground water seepage from construction sand and gravel, industrial sand, and crushed stone mining facilities.

8.J.3 Definitions.

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

8.J.3.1 *Mining operations* – For this permit, mining operations are grouped into two distinct categories, with distinct effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. "Mining operations" can occur at both inactive mining facilities and temporarily inactive mining facilities.

8.J.3.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:

a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a

mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and

b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional effluent limits in Part 8.J .4.2.

8.J.3.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and beneficiation of *non-metallic minerals* from the earth; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in Part 8.J.4 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities"

8.J.3.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of *non-metallic minerals* is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

Note: Earth-disturbing activities described in the definition in Part 8.J.3.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in Part 8.J.4.

8.J.3.5 *Inactive mineral mining facility* – A site or portion of a site where mineral mining and/or milling occurred in the past but there are no active mining activities occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive mineral mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

8.J.3.6 *Temporarily inactive mineral mining facility* – A site or portion of a site where *non-metallic mineral mining and/or milling* occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable state or federal agency.

8.J.4 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.

Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in Part 8.J.3.2) are covered under this permit. For such earth-disturbing activities, you must comply with all applicable requirements in Parts 1-9 of the MSGP except for

the technology-based effluent limits in Part 8.J.5 and Part 2.1.2, the inspection requirements in Part 8.J.7 and Part 3, and the monitoring requirements in Part 8.J.8 and Part 6.

Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in Part 8.J.4.19 or 8.J.4.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to the Part 8.J.4 requirements. At such time, authorized discharges become subject to all other applicable requirements in the MSGP, including the effluent limits in Parts 2.1.2 and 8.J.5, the inspection requirements in Parts 3 and 8.J.7, and the monitoring requirements in Parts 6 and 8.J.8.

8.J.4.1 Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active mining Activities. The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in Part 8.J.3.2(a) and 8.J.3.2(b). These limits supersede the technology-based limits listed in Part 2.1.2 and Part 8.J.5 of the MSGP.

8.J.4.1.1 Erosion and sediment control installation requirements.

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible you must install and make such controls operational as soon as practicable or as soon as site conditions permit.
- All other stormwater controls described in the SWPPP must be installed and made operational as soon as conditions on each portion of the site allows.

8.J.4.1.2 Erosion and sediment control maintenance requirements. You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater control must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon practicable.

8.J.4.1.3 Perimeter controls. You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

8.J.4.1.4 Sediment track-out. For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Use appropriate stabilization techniques to minimize sediment track-out from vehicles and equipment prior to exit;
- Use additional controls to remove sediment from vehicle and equipment tires prior to exit, where necessary;
- Remove sediment that is tracked out onto paved roads by end of the work day.

Note: EPA recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have

implemented sediment removal practices. Such “staining” is not a violation of Part 8.J.4.1.4.

8.J.4.1.5 *Soil or sediment stockpiles.* You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.
- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
- Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).

8.J.4.1.6 *Sediment basins.* If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:

- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
- Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.

8.J.4.1.7 *Minimize dust.* You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.

8.J.4.1.8 *Restrictions on use of treatment chemicals.* If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:

- Use conventional erosion and sediment controls prior to and after application of chemicals;
- Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
- Minimize the discharge risk from stored chemicals;
- Comply with state/local requirements;
- Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
- Ensure proper training;
- Provide proper SWPPP documentation.

If you plan to use cationic treatment chemicals (as defined in Appendix A), you are ineligible for coverage under this permit, unless you notify your applicable EPA Regional Office in advance and the EPA Regional Office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

8.J.4.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in 8.J.3.2(a)* (i.e., not applicable to construction of staging areas for structures and access roads as defined in 8.J.3.2(b)). You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- *Temporary stabilization of disturbed areas.* Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in

8.J.3.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.

- *Final stabilization of disturbed areas.* Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.J.3.2(a)) have permanently ceased, but in no case more than 14 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

8.J.4.2 Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads. The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in Part 8.J.3.2(b). These limits supersede the technology-based limits listed in Part 2.1.2 and Part 8.J.5 of the MSGP. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in 8.J.3.2(a)).

8.J.4.2.1 Area of disturbance. You must minimize the amount of soil exposed during construction activities.

8.J.4.2.2 Erosion and sediment control design requirements. You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from construction activities. Account for the following factors in designing your erosion and sediment controls:
 - The expected amount, frequency, intensity and duration of precipitation;
 - The nature of stormwater runoff and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
 - The range of soil particle sizes expected to be present on the site.
- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.

- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

8.J.4.2.3 Natural Buffers. For any stormwater discharges from construction activities within 50 feet of a water of the U.S., you must comply with one of the following compliance alternatives:

1. Provide a 50-foot undisturbed natural buffer between construction activities and the water of the U.S.; or
2. Provide an undisturbed natural buffer that is less than 50 feet supplemented by additional erosion and sediment controls, which in combination, achieve a sediment load reduction that is equivalent to a 50-foot undisturbed natural buffer; or
3. If it is infeasible to provide an undisturbed natural buffer of any size, implement erosion and sediment controls that achieve a sediment load reduction that is equivalent to a 50-foot undisturbed natural buffer.

There are exceptions when buffer requirements do not apply:

- There is no stormwater discharge from construction disturbances to a water of the U.S.;
- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for the construction of a water-dependent structure or construction approved under a CWA section 404 permit;
- For linear construction projects, you are not required to comply with the requirements if there are site constraints provided that, to the extent feasible, you limit disturbances within 50 feet of a water of the U.S. and/or you provide supplemental erosion and sediment controls to treat stormwater discharges from any disturbances within 50 feet of a water of the U.S.

See

http://water.epa.gov/polwaste/npdes/stormwater/upload/cgp2012_appendixg.pdf for guidance on complying with these alternatives.

8.J.4.2.4 Soil or sediment stockpiles. In addition to the requirements in Part 8.J.4.1.5, you must locate any piles outside of any natural buffers established under Part 8.J.4.2.3.

8.J.4.2.5 Sediment basins. In addition to the requirements in Part 8.J.4.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established under Part 8.J.4.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.

8.J.4.2.6 Native topsoil preservation. You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.

8.J.4.2.7 Steep slopes. You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

8.J.4.2.8 Soil compaction. Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.

8.J.4.2.9 Dewatering Practices. You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems). Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- **Discharge requirements:**
 - No discharging visible floating solids or foam;
 - Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);
 - Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the U.S. be considered part of the treatment area;
 - Implement velocity dissipation devices at all points where dewatering water is discharged;
 - Haul backwash water away for disposal or return it to the beginning of the treatment process; and
 - Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.
- **Treatment chemical restrictions:** If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in Parts 8.J.4.1.8.

8.J.4.2.10 Pollution prevention requirements.

- *Prohibited discharges* (this non-exhaustive list of prohibited non-stormwater discharges is included here as a reminder that only the only allowable non-stormwater discharges are those enumerated in Part 1.1.3):
 - Wastewater from washout of concrete;
 - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
 - Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;
 - Soaps, solvents, or detergents used in vehicle or equipment washing;
 - Toxic or hazardous substances from a spill or other release.
- *Design and location requirements*: Minimize the discharge of pollutants from pollutant sources by:
 - Minimizing exposure;
 - Using secondary containment, spill kits, or other equivalent measures;
 - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
 - Cleaning up spills immediately (do not clean by hosing area down).
- *Pollution prevention requirements for wash waters*: Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- *Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes*: Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

8.J.4.2.11 Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in 8.J.3.2(b) (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in 8.J.3.2(a)). You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;
- If using vegetative measures, by no later than 14 days after initiating stabilization:
 - Seed or plant the area, and provide temporary cover to protect the planted area;
 - Once established, vegetation must be uniform, perennial (if final stabilization), and cover at least 70% of stabilized area based on density of native vegetation.

- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:
 - Install or apply all non-vegetative measures;
 - Cover all areas of exposed soil.

Note: For the purposes of this permit, EPA will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting the exposed area; 4. Starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid (if construction occurs during seasonally dry period), or drought-stricken areas:
 - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
 - Initiate vegetative stabilization as soon as conditions on the site allow;
 - Document the schedule that will be followed for initiating and completing vegetative stabilization;
 - Plant the area so that within 3 years the 70% cover requirement is met.
- Sites affected by severe storm events or other unforeseen circumstances:
 - Initiate vegetative stabilization as soon conditions on the site allow;
 - Document the schedule that will be followed for initiating and completing vegetative stabilization;
 - Plant the area so that so that within 3 years the 70% cover requirement is met.

8.J.4.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in Part 8.J.3.2(a) and 8.J.3.2(b), in addition to the water quality-based limits in Part 2.2 of the MSGP.

Stricter requirements apply if your site will discharge to an impaired water or a water that is identified by your state, tribe, or EPA as a Tier 2 or Tier 2.5 for antidegradation purposes:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping construction work.
- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

8.J.4.4 *Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following requirements supersede the inspections requirements in Part 3 and 8.J.7 of the MSGP for earth-disturbing activities conducted prior to active mining activities defined in Part 8.J.3.2(a) and 8.J.3.2(b).

8.J.4.4.1 *Inspection Frequency*

- At least once every 7 calendar days, or
- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Note:

- Inspections only required during working hours;
- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day.

Note: You are required to specify in your SWPPP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi- and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

8.J.4.4.2 Reductions in Inspection Frequency

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to Part 8.J.4.1.9 or 8.J.4.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

8.J.4.4.3 Areas to be Inspected. You must at a minimum inspect the all of the following areas:

- Disturbed areas;
- Stormwater controls and pollution prevention measures;
- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;
- Areas where stormwater flows;
- Points of discharge.

8.J.4.4.4 What to Check for During Inspections. At a minimum you must check:

- Whether all stormwater controls are installed, operational and working as intended;
- Whether any new or modified stormwater controls are needed;
- For conditions that could lead to a spill or leak;

- For visual signs of erosion/sedimentation at points of discharge.

If a discharge is occurring:

- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

8.J.4.4.5 Inspection Report. Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);
- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

8.J.4.5 Cessation of Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities. The requirements in 8.J.4 no longer apply for any earth-disturbing activities conducted prior to active mining activities as defined in 8.J.3.2(a) or 8.J.3.2(b) where:

1. Earth-disturbing activities have ceased; and
2. Stabilization has been met consistent with Part 8.J.4.1.9 or 8.J.4.2.11 (not required for areas where active mining activities will occur).

8.J.5 Technology-Based Effluent Limits for Active Mining Activities.

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active-mining as defined in 8.J.3.2(a) or 8.J.3.2(b).

8.J.5.1 Employee Training. Conduct employee training at least annually at active and temporarily inactive sites. (See also Part 2.1.2.8).

8.J.5.2 Stormwater Controls. Apart from the control measures you implement to meet your Part 2 effluent limits, where necessary to minimize pollutant discharges in stormwater, implement the following control measures at your site. The potential pollutants identified in Part 8.J.6.3 shall determine the priority and appropriateness of the control measures selected.

Stormwater Diversions: Divert stormwater away from potential pollutant sources through implementation of control measures such as the following, where determined to be feasible (list not exclusive): interceptor or diversion controls (e.g., dikes, swales, curbs, berms); pipe slope drains; subsurface drains; conveyance systems (e.g., channels or gutters, open-top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector and culverts); or their equivalents. For mines subject to dust control requirements under state or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Part 2.1.2.10.

Capping: When capping is necessary to minimize pollutant discharges in stormwater, identify the source being capped and the material used to construct the cap.

Treatment: If treatment of stormwater (e.g., chemical or physical systems, oil and water separators, artificial wetlands) is necessary to protect water quality, describe the type and location of treatment used. Passive and/or active treatment of stormwater runoff is encouraged. Treated runoff may be discharged as a stormwater source regulated

under this permit provided the discharge is not combined with discharges subject to effluent limitation guidelines for the Mineral Mining and Processing Point Source Category (40 CFR Part 436).

8.J.5.3 Discharge Testing. (See also Part 5.2.3.4) Test or evaluate all outfalls covered under this permit for the presence of specific mining-related but unauthorized non-stormwater discharges such as discharges subject to effluent limitations guidelines (e.g., 40 CFR Part 436). Alternatively (if applicable), you may keep a certification with your SWPPP, per Part 8.J.6.6.

8.J.6 Additional SWPPP Requirements for Mining Operations.

Note: The requirements in Part 8.J.6 are not applicable to inactive mineral mining facilities.

8.J.6.1 Nature of Industrial Activities. (See also Part 5.2.2) Document in your SWPPP the mining and associated activities that can potentially affect the stormwater discharges covered by this permit, including a general description of the location of the site relative to major transportation routes and communities.

8.J.6.2 Site Map. (See also Part 5.2.2) Document in your SWPPP the locations of the following (as appropriate): mining or milling site boundaries; access and haul roads; outline of the drainage areas of each stormwater outfall within the facility with indications of the types of discharges from the drainage areas; location(s) of all permitted discharges covered under an individual NPDES permit; outdoor equipment storage, fueling, and maintenance areas; materials handling areas; outdoor manufacturing, outdoor storage, and material disposal areas; outdoor chemicals and explosives storage areas; overburden, materials, soils, or waste storage areas; location of mine drainage dewatering or other process water; heap leach pads; off-site points of discharge for mine dewatering and process water; surface waters; boundary of tributary areas that are subject to effluent limitations guidelines; and location(s) of reclaimed areas.

8.J.6.3 Potential Pollutant Sources. (See also Part 5.2.3) For each area of the mine or mill site where stormwater discharges associated with industrial activities occur, document in your SWPPP the types of pollutants (e.g., heavy metals, sediment) likely to be present in significant amounts. For example, phosphate mining facilities will likely need to document pollutants such as selenium, which can be present in significant amounts in their discharges. Consider these factors: the mineralogy of the waste rock (e.g., acid forming); toxicity and quantity of chemicals used, produced, or discharged; the likelihood of contact with stormwater; vegetation of site (if any); and history of significant leaks or spills of toxic or hazardous pollutants. Also include a summary of any existing waste rock or overburden characterization data and test results for potential generation of acid rock drainage.

8.J.6.4 Documentation of Control Measures. To the extent that you use any of the control measures in Part 8.J.5.2, document them in your SWPPP per Part 5.2.4. If control measures are implemented or planned but are not listed here (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in your SWPPP. If you are in compliance with dust control requirements under state or county air quality permits, you must state (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

8.J.6.5 Employee Training. All employee training(s) conducted in accordance with Part 8.J.5.1 must be documented with the SWPPP.

8.J.6.6 Certification of Permit Coverage for Commingled Non-Stormwater Discharges. If you determine that you are able to certify, consistent with Part 8.J.5.3, that a particular

discharge composed of commingled stormwater and non-stormwater is covered under a separate NPDES permit, and that permit subjects the non-stormwater portion to effluent limitations prior to any commingling, you must retain such certification with your SWPPP. This certification must identify the non-stormwater discharges, the applicable NPDES permit(s), the effluent limitations placed on the non-stormwater discharge by the permit(s), and the points at which the limitations are applied.

8.J.7 Additional Inspection Requirements. (See also Part 3.1)

Except for earth-disturbing activities conducted prior to active mining activities as defined in Part 8.J.3.2(a) and 8.J.3.2(b), which are subject to Part 8.J.4.4, perform inspections at least quarterly unless adverse weather conditions make the site inaccessible. Sites which discharge to waters which are designated as Tier 2 or 2.5 or waters which are impaired for sediment or nitrogen must be inspected monthly. See Part 8.J.8.1 for inspection requirements for inactive and unstaffed sites.

8.J.8 Sector-Specific Benchmarks. (See also Part 6)

Table 8.J-1 identifies benchmarks that apply to the specific subsectors of Sector J. These benchmarks apply to both your primary industrial activity and any co-located industrial activities. Note: There are no Part 8.J.8 monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector J1. Sand and Gravel Mining (SIC 1442, 1446)	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Total Suspended Solids (TSS)	100 mg/L
Subsector J2. Dimension and Crushed Stone and Nonmetallic Minerals (except fuels) (SIC 1411, 1422-1429, 1481, 1499)	Total Suspended Solids (TSS)	100 mg/L

8.J.8.1 Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirement for Routine Inspections, Quarterly Visual Assessments, and Benchmark and Impaired Waters Monitoring. As a Sector J facility, if you are seeking to exercise a waiver from either the routine inspection, quarterly visual assessment or the benchmark and/or impaired monitoring requirements for inactive and unstaffed sites (including temporarily inactive sites), you are conditionally exempt from the requirement to certify that “there are no industrial materials or activities exposed to stormwater” in Parts 3.1.1, 3.2.3, 6.2.1.3, and 6.2.4.3. This exemption is conditioned on the following:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the applicable benchmark monitoring requirements as if you were in your first year of permit coverage, and the quarterly visual assessment requirements; and
- EPA retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

Subject to the two conditions above, if your facility is inactive and unstaffed, you are waived from the requirement to conduct routine facility inspections, quarterly visual assessments, and benchmark and impaired waters monitoring. You must still conduct an annual site inspection in

accordance with Part 3.1. You are encouraged to inspect your site more frequently where you have reason to believe that severe weather or natural disasters may have damaged control measures or increased discharges.

8.J.9 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1).

Table 8.J-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Industrial Activity	Parameter	Effluent Limitation ¹
Mine dewatering discharges at crushed stone mining facilities (SIC 1422 - 1429)	pH	6.0 - 9.0
Mine dewatering discharges at construction sand and gravel mining facilities (SIC 1442)	pH	6.0 - 9.0
Mine dewatering discharges at industrial sand mining facilities (SIC 1446)	Total Suspended Solids (TSS)	25 mg/L, monthly avg.
		45 mg/L, daily maximum
	pH	6.0 - 9.0

¹Monitor annually.

8.J.10 Termination of Permit Coverage.

8.J.10.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed as defined in Part 8.J.3.5.

8.J.10.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater runoff that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to violations of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart K – Sector K – Hazardous Waste Treatment, Storage, or Disposal Facilities.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.K.1 Covered Stormwater Discharges.

The requirements in Subpart K apply to stormwater discharges associated with industrial activity from Hazardous Waste Treatment, Storage, or Disposal facilities (TSDFs) as identified by the Activity Code specified under Sector K in Table D-1 of Appendix D of the permit.

8.K.2 Industrial Activities Covered by Sector K.

This permit authorizes stormwater discharges associated with industrial activity from facilities that treat, store, or dispose of hazardous wastes and that are operating under interim status or a permit under subtitle C of RCRA.

Disposal facilities that have been properly closed and capped, and have no significant materials exposed to stormwater, are considered inactive and do not require permits.

8.K.3 Limitations on Coverage.

8.K.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) The following are not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory-derived wastewater, and contact wash water from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.K.3.2 *Limitations on Coverage for Facilities Providing Commercial TSDF Services.* For facilities located in Region 6 (see Appendix C) coverage is limited to hazardous waste TSDFs that are self-generating (including occasionally accepting wastes from community household hazardous waste collection events as public service), handle only residential wastes, and/or only store hazardous wastes and do not treat or dispose of them. Coverage under this permit is not available to commercial waste disposal and treatment facilities located in Region 6 that dispose and treat on a commercial basis any produced hazardous wastes (i.e., not their own) as a service to commercial or industrial generators.

8.K.4 Definitions.

8.K.4.1 *Contaminated stormwater* – stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part 8.K.4.4. Some specific areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

8.K.4.2 *Drained free liquids* – aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

8.K.4.3 *Landfill* – an area of land or an excavation in which wastes are placed for permanent disposal, but that is not a land application or land treatment unit, surface

impoundment, underground injection well, waste pile, salt dome formation, salt bed formation, underground mine, or cave as these terms are defined in 40 CFR 257.2, 258.2, and 260.10.

- 8.K.4.4** *Landfill wastewater* – as defined in 40 CFR Part 445 (Landfills Point Source Category), all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated ground water, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated stormwater, and contact wash water from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.
- 8.K.4.5** *Leachate* – liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.
- 8.K.4.6** *Non-contaminated stormwater* – stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in Part 8.K.4.4. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

8.K.5 Sector-Specific Benchmarks. (See also Part 6)

Table 8.K-1 identifies benchmarks that apply to the specific subsectors of Sector K. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.K-1.		
Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector K1. ALL - Industrial Activity Code "HZ" (Note: permit coverage limited in some states). Benchmarks only applicable to discharges not subject to effluent limitations in 40 CFR Part 445 Subpart A (see below).	Ammonia	2.14 mg/L
	Total Magnesium	0.064 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Total Arsenic (freshwater) Total Arsenic (saltwater) ¹	0.15 mg/L 0.069 mg/L
	Total Cadmium (freshwater) ² Total Cadmium (saltwater) ¹	Hardness Dependent 0.04 mg/L
	Total Cyanide (freshwater) Total Cyanide (saltwater) ¹	0.022 mg/L 0.001 mg/L
	Total Lead (freshwater) ² Total Lead (saltwater) ¹	Hardness Dependent 0.21 mg/L
	Total Mercury (freshwater) Total Mercury (saltwater) ¹	0.0014 mg/L 0.0018 mg/L
	Total Selenium (freshwater) Total Selenium (saltwater) ¹	0.005 mg/L 0.29 mg/L
	Total Silver (freshwater) ² Total Silver (saltwater) ¹	Hardness Dependent 0.0019 mg/L

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Cadmium (mg/L)	Lead (mg/L)	Silver (mg/L)
0-24.99 mg/L	0.0005	0.014	0.0007
25-49.99 mg/L	0.0008	0.023	0.0007
50-74.99 mg/L	0.0013	0.045	0.0017
75-99.99 mg/L	0.0018	0.069	0.0030
100-124.99 mg/L	0.0023	0.095	0.0046
125-149.99 mg/L	0.0029	0.122	0.0065
150-174.99 mg/L	0.0034	0.151	0.0087
175-199.99 mg/L	0.0039	0.182	0.0112
200-224.99 mg/L	0.0045	0.213	0.0138
225-249.99 mg/L	0.0050	0.246	0.0168
250+ mg/L	0.0053	0.262	0.0183

8.K.6 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1)

Table 8.K-2 identifies effluent limitations that apply to the industrial activities described below. Compliance with these effluent limitations is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Table 8.K-2¹

Industrial Activity	Parameter	Effluent Limitation
Discharges from hazardous waste landfills subject to effluent limitations in 40 CFR Part 445 Subpart A (see footnote).	Biochemical Oxygen Demand (BOD ₅)	220 mg/L, daily maximum
		56 mg/L, monthly avg. maximum
	Total Suspended Solids (TSS)	88 mg/L, daily maximum
		27 mg/L, monthly avg. maximum
	Ammonia	10 mg/L, daily maximum
		4.9 mg/L, monthly avg. maximum
	Alpha Terpineol	0.042 mg/L, daily maximum
		0.019 mg/L, monthly avg. maximum
	Aniline	0.024 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Benzoic Acid	0.119 mg/L, daily maximum
		0.073 mg/L, monthly avg. maximum
	Naphthalene	0.059 mg/L, daily maximum
		0.022 mg/L, monthly avg. maximum
	p-Cresol	0.024 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Phenol	0.048 mg/L, daily maximum
		0.029 mg/L, monthly avg. maximum
	Pyridine	0.072 mg/L, daily maximum
		0.025 mg/L, monthly avg. maximum
Total Arsenic	1.1 mg/L, daily maximum	
	0.54 mg/L, monthly avg. maximum	
Total Chromium	1.1 mg/L, daily maximum	
	0.46 mg/L, monthly avg. maximum	
Total Zinc	0.535 mg/L, daily maximum	
	0.296 mg/L, monthly avg. maximum	
pH	Within the range of 6-9 standard pH units (s.u.)	

¹ Monitor annually. As set forth at 40 CFR Part 445 Subpart A, these numeric limitations apply to contaminated stormwater discharges from hazardous waste landfills subject to the provisions of RCRA Subtitle C at 40 CFR Parts 264 (Subpart N) and 265 (Subpart N) except for any of the following facilities:

- (a) landfills operated in conjunction with other industrial or commercial operations when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;
- (b) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;
- (c) landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or
- (d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart L – Sector L – Landfills, Land Application Sites, and Open Dumps.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.L.1 Covered Stormwater Discharges.

The requirements in Subpart L apply to stormwater discharges associated with industrial activity from Landfills and Land Application Sites as identified by the Activity Code specified under Sector L in Table D-1 of Appendix D of the permit.

8.L.2 Industrial Activities Covered by Sector L.

This permit may authorize stormwater discharges for Sector L facilities associated with waste disposal at landfills, land application sites that receive or have received industrial waste, including sites subject to regulation under Subtitle D of RCRA. This permit does not cover discharges from landfills that receive only municipal wastes.

8.L.3 Limitations on Coverage.

8.L.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) The following discharges are not authorized by this permit: leachate, gas collection condensate, drained free liquids, contaminated ground water, laboratory wastewater, and contact wash water from washing truck and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.L.3.2 *Prohibition Stormwater Discharges from Open Dumps.* Discharges from open dumps as defined under RCRA are also not authorized under this permit.

8.L.4 Definitions.

8.L.4.1 *Contaminated stormwater* – stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

8.L.4.2 *Drained free liquids* – aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

8.L.4.3 *Landfill wastewater* – as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated ground water, and wastewater from recovery pumping wells. Landfill process wastewater includes, but is not limited to, leachate; gas collection condensate; drained free liquids; laboratory-derived wastewater; contaminated stormwater; and contact wash water from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

8.L.4.4 *Leachate* – liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

- 8.L.4.5 *Non-contaminated stormwater*** – stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.
- 8.L.5 Additional Technology-Based Effluent Limits.**
- 8.L.5.1 *Preventive Maintenance Program.*** (See also Part 2.1.2.3) As part of your preventive maintenance program, maintain the following: all elements of leachate collection and treatment systems, to prevent commingling of leachate with stormwater; the integrity and effectiveness of any intermediate or final cover (including repairing the cover as necessary), to minimize the effects of settlement, sinking, and erosion.
- 8.L.5.2 *Erosion and Sedimentation Control.*** (See also Part 2.1.2.5) Provide temporary stabilization (e.g., temporary seeding, mulching, and placing geotextiles on the inactive portions of stockpiles) for the following in order to minimize discharges of pollutants in stormwater: materials stockpiled for daily, intermediate, and final cover; inactive areas of the landfill or open dump; landfills or open dump areas that have gotten final covers but where vegetation has yet to establish itself; and land application sites where waste application has been completed but final vegetation has not yet been established.
- 8.L.6 Additional SWPPP Requirements.**
- 8.L.5.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: active and closed landfill cells or trenches, active and closed land application areas, locations where open dumping is occurring or has occurred, locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, and leachate collection and handling systems.
- 8.L.5.2 *Summary of Potential Pollutant Sources.*** (See also Part 5.2.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them: fertilizer, herbicide, and pesticide application; earth and soil moving; waste hauling and loading or unloading; outdoor storage of significant materials, including daily, interim, and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; and failure or leaks from leachate collection and treatment systems.
- 8.L.7 Additional Inspection Requirements.** (See also Part 3)
- 8.L.7.1 *Inspections of Active Sites.*** Except in arid and semi-arid climates, inspect operating landfills, open dumps, and land application sites at least once every 7 days. Focus on areas of landfills that have not yet been finally stabilized; active land application areas, areas used for storage of material and wastes that are exposed to precipitation, stabilization, and structural control measures; leachate collection and treatment systems; and locations where equipment and waste trucks enter and exit the site. Ensure that sediment and erosion control measures are operating properly. For stabilized sites and areas where land application has been completed, or where the climate is arid or semi-arid, conduct inspections at least once every month.
- 8.L.7.2 *Inspections of Inactive Sites.*** Inspect inactive landfills, open dumps, and land application sites at least quarterly. Qualified personnel must inspect landfill (or open dump) stabilization and structural erosion control measures, leachate collection and treatment systems, and all closed land application areas.

8.L.8 Additional Post-Authorization Documentation Requirements.

8.L.8.1 Recordkeeping and Internal Reporting. Keep records with your SWPPP of the types of wastes disposed of in each cell or trench of a landfill or open dump. For land application sites, track the types and quantities of wastes applied in specific areas.

8.L.9 Sector-Specific Benchmarks. (See also Part 6)

Table 8.L-1 identifies benchmarks that apply to the specific subsectors of Sector L. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration¹
Subsector L1. All Landfill, Land Application Sites and Open Dumps (Industrial Activity Code "LF")	Total Suspended Solids (TSS)	100 mg/L
Subsector L2. All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60 (Industrial Activity Code "LF")	Total Iron	1.0 mg/L

¹Benchmark monitoring required only for discharges not subject to effluent limitations in 40 CFR Part 445 Subpart B (see Table L-2 below).

8.L.10. Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1)

Table 8.L-2 identifies effluent limitations that apply to the industrial activities described below. Compliance with these effluent limitations is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Industrial Activity	Parameter	Effluent Limitation
Discharges from non-hazardous waste landfills subject to effluent limitations in 40 CFR Part 445 Subpart B.	Biochemical Oxygen Demand (BOD ₅)	140 mg/L, daily maximum
		37 mg/L, monthly avg. maximum
	Total Suspended Solids (TSS)	88 mg/L, daily maximum
		27 mg/L, monthly avg. maximum
	Ammonia	10 mg/L, daily maximum
		4.9 mg/L, monthly avg. maximum
	Alpha Terpineol	0.033 mg/L, daily maximum
		0.016 mg/L monthly avg. maximum
	Benzoic Acid	0.12 mg/L, daily maximum
		0.071 mg/L, monthly avg. maximum
	p-Cresol	0.025 mg/L, daily maximum
		0.014 mg/L, monthly avg. maximum

Industrial Activity	Parameter	Effluent Limitation
	Phenol	0.026 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Total Zinc	0.20 mg/L, daily maximum
		0.11 mg/L, monthly avg. maximum
pH	Within the range of 6-9 standard pH units (s.u.)	

¹ Monitor annually. As set forth at 40 CFR Part 445 Subpart B, these numeric limitations apply to contaminated stormwater discharges from MSWLFs that have not been closed in accordance with 40 CFR 258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR Part 257 except for discharges from any of the following facilities:

- (a) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;
- (b) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;
- (c) landfills operated in conjunction with CWT facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or
- (d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart M – Sector M – Automobile Salvage Yards.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.M.1 Covered Stormwater Discharges.

The requirements in Subpart M apply to stormwater discharges associated with industrial activity from Automobile Salvage Yards as identified by the SIC Code specified under Sector M in Table D-1 of Appendix D of this permit.

8.M.2 Additional Technology-Based Effluent Limits.

8.M.2.1 *Spill and Leak Prevention Procedures.* (See also Part 2.1.2.4) Drain vehicles intended to be dismantled of all fluids upon arrival at the site (or as soon thereafter as practicable), or employ some other equivalent means to prevent spills and leaks.

8.M.2.2 *Employee Training.* (See also Part 2.1.2.8) If applicable to your facility, address the following areas (at a minimum) in your employee training program: proper handling (collection, storage, and disposal) of oil, used mineral spirits, anti-freeze, mercury switches, and solvents.

8.M.2.3 *Management of Runoff.* (See also Part 2.1.2.6) Implement control measures to minimize discharges of pollutants in runoff such as the following, where determined to be feasible (list not exclusive): berms or drainage ditches on the property line (to help prevent run-on from neighboring properties); berms for uncovered outdoor storage of oily parts, engine blocks, and above-ground liquid storage; installation of detention ponds; and installation of filtering devices and oil and water separators.

8.M.3 Additional SWPPP Requirements.

8.M.3.1 *Drainage Area Site Map.* (See also Part 5.2.2) Identify locations used for dismantling, storing, and maintaining used motor vehicle parts. Also identify where any of the following may be exposed to precipitation or surface runoff: dismantling areas, parts (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers) storage areas, and liquid storage tanks and drums for fuel and other fluids.

8.M.3.2 *Potential Pollutant Sources.* (See also Part 5.2.3) Assess the potential for the following to contribute pollutants to stormwater discharges: vehicle storage areas, dismantling areas, parts storage areas (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers), and fueling stations.

8.M.4 Additional Inspection Requirements. (See also Part 3.1)

Immediately (or as soon thereafter as practicable) inspect vehicles arriving at the site for leaks. Inspect quarterly for signs of leakage all equipment containing oily parts, hydraulic fluids, any other types of fluids, or mercury switches. Also, inspect quarterly for signs of leakage all vessels and areas where hazardous materials and general automotive fluids are stored, including, but not limited to, mercury switches, brake fluid, transmission fluid, radiator water, and antifreeze.

8.M.5 Sector-Specific Benchmarks. (See also Part 6)

Table 8.M-1 identifies benchmarks that apply to Sector M. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector M1. Automobile Salvage Yards (SIC 5015)	Total Suspended Solids (TSS)	100 mg/L
	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L
	Total Lead (freshwater) ² Total Lead (saltwater) ¹	Hardness Dependent 0.21 mg/L

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Lead (mg/L)
0-24.99 mg/L	0.014
25-49.99 mg/L	0.023
50-74.99 mg/L	0.045
75-99.99 mg/L	0.069
100-124.99 mg/L	0.095
125-149.99 mg/L	0.122
150-174.99 mg/L	0.151
175-199.99 mg/L	0.182
200-224.99 mg/L	0.213
225-249.99 mg/L	0.246
250+ mg/L	0.262

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart N – Sector N – Scrap Recycling and Waste Recycling Facilities.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.N.1 Covered Stormwater Discharges.

The requirements in Subpart N apply to stormwater discharges associated with industrial activity from Scrap Recycling and Waste Recycling facilities as identified by the SIC Code specified under Sector N in Table D-1 of Appendix D of the permit.

8.N.2 Limitation on Coverage.

Separate permit requirements have been established for recycling facilities that receive, process, and do wholesale distribution of only source-separated recyclable materials primarily from non-industrial and residential sources (i.e., common consumer products including paper, newspaper, glass, cardboard, plastic containers, and aluminum and tin cans). This includes recycling facilities commonly referred to as material recovery facilities (MRF). See Part 8.N.3.3.

8.N.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) Non-stormwater discharges from turnings containment areas are not covered by this permit (see also Part 8.N.3.1.3). Discharges from containment areas in the absence of a storm event are prohibited unless covered by a separate NPDES permit. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.N.3 Additional Technology-Based Effluent Limits.

8.N.3.1 *Scrap and Waste Recycling Facilities (Non-Source Separated, Nonliquid Recyclable Materials).* The following requirements are for facilities that receive, process, and do wholesale distribution of non-source separated, nonliquid recyclable wastes (e.g., ferrous and nonferrous metals, plastics, glass, cardboard, and paper). These facilities may receive both nonrecyclable and recyclable materials. This section is not intended for those facilities that accept recyclables only from primarily non-industrial and residential sources.

8.N.3.1.1 *Inbound Recyclable and Waste Material Control Program.* Minimize the chance of accepting materials that could be significant sources of pollutants by conducting inspections of inbound recyclables and waste materials and through implementation of control measures such as the following, where determined to be feasible (list not exclusive): providing information and education to suppliers of scrap and recyclable waste materials on draining and properly disposing of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles before delivery to your facility; establishing procedures to minimize the potential of any residual fluids from coming into contact with precipitation or runoff; establishing procedures for accepting scrap lead-acid batteries (additional requirements for the handling, storage, and disposal or recycling of batteries are contained in the scrap lead-acid battery program provisions in Part 8.N.3.1.6); providing training targeted for those personnel engaged in the inspection and acceptance of inbound recyclable materials; and

establishing procedures to ensure that liquid wastes, including used oil, are stored in materially compatible and non-leaking containers and are disposed of or recycled in accordance with the Resource Conservation and Recovery Act (RCRA).

- 8.N.3.1.2 *Scrap and Waste Material Stockpiles and Storage (Outdoor)*.** Minimize contact of stormwater runoff with stockpiled materials, processed materials, and nonrecyclable wastes through implementation of control measures such as the following, where determined to be feasible (list not exclusive): permanent or semi-permanent covers; sediment traps, vegetated swales and strips, catch basin filters, and sand filters to facilitate settling or filtering of pollutants; dikes, berms, containment trenches, culverts, and surface grading to divert runoff from storage areas; silt fencing; and oil and water separators, sumps, and dry absorbents for areas where potential sources of residual fluids are stockpiled (e.g., automobile engine storage areas).
- 8.N.3.1.3 *Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage)*.** Minimize contact of surface runoff with residual cutting fluids by storing all turnings exposed to cutting fluids under some form of permanent or semi-permanent cover, or establishing dedicated containment areas for all turnings that have been exposed to cutting fluids. Any containment areas must be constructed of concrete, asphalt, or other equivalent types of impermeable material and include a barrier (e.g., berms, curbing, elevated pads) to prevent contact with stormwater run-on. Stormwater runoff from these areas can be discharged, provided that any runoff is first collected and treated by an oil and water separator or its equivalent. You must regularly maintain the oil and water separator (or its equivalent) and properly dispose of or recycle collected residual fluids.
- 8.N.3.1.4 *Scrap and Waste Material Stockpiles and Storage (Covered or Indoor Storage)*.** Minimize contact of residual liquids and particulate matter from materials stored indoors or under cover with surface runoff through implementation of control measures such as the following, where determined to be feasible (list not exclusive): good housekeeping measures, including the use of dry absorbents or wet vacuuming to contain, dispose of, or recycle residual liquids originating from recyclable containers, and mercury spill kits for spills from storage of mercury switches; not allowing wash water from tipping floors or other processing areas to discharge to the storm sewer system; and disconnecting or sealing off all floor drains connected to the storm sewer system.
- 8.N.3.1.5 *Scrap and Recyclable Waste Processing Areas*.** Minimize surface runoff from coming in contact with scrap processing equipment. Pay attention to operations that generate visible amounts of particulate residue (e.g., shredding) to minimize the contact of accumulated particulate matter and residual fluids with runoff (i.e., through good housekeeping, preventive maintenance). To minimize discharges of pollutants in stormwater from scrap and recyclable waste processing areas, implement control measures such as the following, where determined to be feasible (list not exclusive): at least once per month inspecting equipment for spills or leaks and malfunctioning, worn, or corroded parts or equipment; establishing a preventive maintenance program for processing equipment; using dry-absorbents or other cleanup practices to collect and dispose of or recycle spilled or leaking fluids or use mercury spill kits for spills from storage of mercury switches; on unattended

hydraulic reservoirs over 150 gallons in capacity, installing protection devices such as low-level alarms or equivalent devices, or secondary containment that can hold the entire volume of the reservoir; implementing containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading to minimize contact of stormwater runoff with outdoor processing equipment or stored materials; using oil and water separators or sumps; installing permanent or semi-permanent covers in processing areas where there are residual fluids and grease; and using retention or detention ponds or basins, sediment traps, vegetated swales or strips, and/or catch basin filters or sand filters for pollutant settling and filtration.

- 8.N.3.1.6 *Scrap Lead-Acid Battery Program.*** To minimize the discharge of pollutants in stormwater from lead-acid batteries, properly handle, store, and dispose of scrap lead-acid batteries, and implement control measures such as the following, where determined to be feasible (list not exclusive): segregating scrap lead-acid batteries from other scrap materials; properly handling, storing, and disposing of cracked or broken batteries; collecting and disposing of leaking lead-acid battery fluid; minimizing or eliminating (if possible) exposure of scrap lead-acid batteries to precipitation or runoff; and providing employee training for the management of scrap batteries.
- 8.N.3.1.7 *Spill Prevention and Response Procedures.*** (See also Part 2.1.2.4) Install alarms and/or pump shutoff systems on outdoor equipment with hydraulic reservoirs exceeding 150 gallons in the event of a line break. Alternatively, a secondary containment system capable of holding the entire contents of the reservoir plus room for precipitation can be used. Use a mercury spill kit for any release of mercury from switches, anti-lock brake systems, and switch storage areas.
- 8.N.3.1.8 *Supplier Notification Program.*** As appropriate, notify major suppliers which scrap materials will not be accepted at the facility or will be accepted only under certain conditions.

8.N.3.2 *Waste Recycling Facilities* (Liquid Recyclable Materials).

- 8.N.3.2.1 *Waste Material Storage (Indoor).*** Minimize or eliminate contact between residual liquids from waste materials stored indoors and from surface runoff. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control, and Countermeasure (SPCC) plans required under 40 CFR Part 112. To minimize discharges of pollutants in stormwater from indoor waste material storage areas, implement control measures such as the following, where determined to be feasible (list not exclusive): implementing procedures for material handling (including labeling and marking); cleaning up spills and leaks with dry absorbent materials and/or a wet vacuum system; installing appropriate containment structures (e.g., trenching, curbing, gutters, etc.); and installing a drainage system, including appurtenances (e.g., pumps or ejectors, manually operated valves), to handle discharges from diked or bermed areas. Drainage should be discharged to an appropriate treatment facility or sanitary sewer system, or otherwise disposed of properly. These discharges may require coverage under a separate NPDES wastewater permit or industrial user permit under the pretreatment program.
- 8.N.3.2.2 *Waste Material Storage (Outdoor).*** Minimize contact between stored residual liquids and precipitation or runoff. The plan may refer to applicable portions of other existing plans, such as SPCC plans required under 40 CFR Part 112.

Discharges of stormwater from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112. To minimize discharges of pollutants in stormwater from outdoor waste material storage areas, implement control measures such as the following, where determined to be feasible (list not exclusive): appropriate containment structures (e.g., dikes, berms, curbing, pits) to store the volume of the largest tank, with sufficient extra capacity for precipitation; drainage control and other diversionary structures; corrosion protection and/or leak detection systems for storage tanks; and dry-absorbent materials or a wet vacuum system to collect spills.

- 8.N.3.2.3 Trucks and Rail Car Waste Transfer Areas.** Minimize pollutants in stormwater discharges from truck and rail car loading and unloading areas. Include measures to clean up minor spills and leaks resulting from the transfer of liquid wastes. To minimize discharges of pollutants in stormwater from truck and rail car waste transfer areas, implement control measures such as the following, where determined to be feasible (list not exclusive): containment and diversionary structures to minimize contact with precipitation or runoff; and dry clean-up methods, wet vacuuming, roof coverings, and/or runoff controls.
- 8.N.3.3 Recycling Facilities (Source-Separated Materials).** The following requirements are for facilities that receive only source-separated recyclables, primarily from non-industrial and residential sources.
- 8.N.3.3.1 Inbound Recyclable Material Control.** Minimize the chance of accepting nonrecyclables (e.g., hazardous materials) that could be a significant source of pollutants by conducting inspections of inbound materials and through the implementation of control measures such as the following, where determined to be feasible (list not exclusive): providing information and education measures to inform suppliers of recyclables about acceptable and non-acceptable materials; training drivers responsible for pickup of recycled material; clearly marking public drop-off containers regarding which materials can be accepted; rejecting nonrecyclable wastes or household hazardous wastes at the source; and establishing procedures for handling and disposal of nonrecyclable material.
- 8.N.3.3.2 Outdoor Storage.** Minimize exposure of recyclables to precipitation and runoff by using good housekeeping measures to prevent accumulation of particulate matter and fluids, particularly in high traffic areas and through implementation of control measure such as the following, where determined to be feasible (list not exclusive): providing totally enclosed drop-off containers for the public; installing a sump and pump with each container pit and treat or discharge collected fluids to a sanitary sewer system; providing dikes and curbs for secondary containment (e.g., around bales of recyclable waste paper); diverting surface water runoff away from outside material storage areas; providing covers over containment bins, dumpsters, and roll-off boxes; and storing the equivalent of one day's volume of recyclable material indoors.
- 8.N.3.3.3 Indoor Storage and Material Processing.** Minimize the release of pollutants from indoor storage and processing areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): scheduling routine good housekeeping measures for all storage and processing areas; prohibiting tipping floor wash water from draining to

the storm sewer system; and providing employee training on pollution prevention practices.

- 8.N.3.3.4 *Vehicle and Equipment Maintenance.*** Minimize the discharge of pollutants in stormwater from areas where vehicle and equipment maintenance occur outdoors through implementation of control measures such as the following, where determined to be feasible (list not exclusive): minimizing or eliminating outdoor maintenance areas; establishing spill prevention and clean-up procedures in fueling areas; avoiding topping off fuel tanks; diverting runoff from fueling areas; storing lubricants and hydraulic fluids indoors; and providing employee training on proper handling and storage of hydraulic fluids and lubricants.

8.N.4 Additional SWPPP Requirements.

- 8.N.4.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: scrap and waste material storage; outdoor scrap and waste processing equipment; and containment areas for turnings exposed to cutting fluids.

- 8.N.4.2 *Maintenance Schedules/Procedures for Collection, Handling, and Disposal or Recycling of Residual Fluids at Scrap and Waste Recycling Facilities.*** If you are subject to Part 8.N.3.1.3, your SWPPP must identify any applicable maintenance schedule and the procedures to collect, handle, and dispose of or recycle residual fluids.

8.N.5 Additional Inspection Requirements.

- 8.N.5.1 *Inspections for Waste Recycling Facilities.*** The inspections must be performed quarterly, per Part 3.1, and include, at a minimum, all areas where waste is generated, received, stored, treated, or disposed of and that are exposed to either precipitation or stormwater runoff.

8.N.6 Sector-Specific Benchmarks. (See also Part 6)

Table 8.N-1 identifies benchmarks that apply to Sector N. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector N1. Scrap Recycling and Waste Recycling Facilities except those only receiving source-separate recyclable materials primarily from non-industrial and residential sources (SIC 5093)	Chemical Oxygen Demand (COD)	120 mg/L
	Total Suspended Solids (TSS)	100 mg/L
	Aluminum Total Recoverable	0.75 mg/L
	Total Copper (freshwater) ²	Hardness Dependent
	Total Copper (saltwater) ¹	0.0048 mg/L
	Total Recoverable Iron	1.0 mg/L
	Total Lead (freshwater) ²	Hardness Dependent
	Total Lead (saltwater) ¹	0.21 mg/L
	Total Zinc (freshwater) ²	Hardness Dependent
Total Zinc (saltwater) ¹	0.09 mg/L	

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Copper (mg/L)	Lead (mg/L)	Zinc (mg/L)
0-24.99 mg/L	0.0038	0.014	0.04
25-49.99 mg/L	0.0056	0.023	0.05
50-74.99 mg/L	0.0090	0.045	0.08
75-99.99 mg/L	0.0123	0.069	0.11
100-124.99 mg/L	0.0156	0.095	0.13
125-149.99 mg/L	0.0189	0.122	0.16
150-174.99 mg/L	0.0221	0.151	0.18
175-199.99 mg/L	0.0253	0.182	0.20
200-224.99 mg/L	0.0285	0.213	0.23
225-249.99 mg/L	0.0316	0.246	0.25
250+ mg/L	0.0332	0.262	0.26

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart O – Sector O – Steam Electric Generating Facilities.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.O.1 Covered Stormwater Discharges.

The requirements in Subpart O apply to stormwater discharges associated with industrial activity from Steam Electric Power Generating Facilities as identified by the Activity Code specified under Sector O in Table D-1 of Appendix D.

8.O.2 Industrial Activities Covered by Sector O.

This permit authorizes stormwater discharges from the following industrial activities at Sector O facilities:

8.O.2.1 *Steam electric power generation using coal, natural gas, oil, nuclear energy, etc., to produce a steam source, including coal handling areas (does not include geothermal power);*

8.O.2.2 *Coal pile runoff, including effluent limitations established by 40 CFR Part 423;*

8.O.2.3 *Dual fuel facilities that could employ a steam boiler.*

8.O.3 Limitations on Coverage.

8.O.3.1 *Prohibition of Non-Stormwater Discharges.* Non-stormwater discharges subject to effluent limitations guidelines are not covered by this permit. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.O.3.2 *Prohibition of Stormwater Discharges.* Stormwater discharges from the following are not covered by this permit:

8.O.3.2.1 *Ancillary facilities (e.g., fleet centers and substations) that are not contiguous to a steam electric power generating facility;*

8.O.3.2.2 *Gas turbine facilities (provided the facility is not a dual-fuel facility that includes a steam boiler), and combined-cycle facilities where no supplemental fuel oil is burned (and the facility is not a dual-fuel facility that includes a steam boiler);*

8.O.3.2.3 *Cogeneration (combined heat and power) facilities utilizing a gas turbine.*

8.O.4 **Additional Technology-Based Effluent Limits.** The following good housekeeping measures are required in addition to Part 2.1.2.2:

8.O.4.1 *Fugitive Dust Emissions.* Minimize fugitive dust emissions from coal handling areas to minimize the tracking of coal dust offsite that could be discharged in stormwater through implementation of control measures such as the following, where determined to be feasible, (list not exclusive): installing specially designed tires; and washing vehicles in a designated area before they leave the site and controlling the wash water.

- 8.O.4.2 *Delivery Vehicles.*** Minimize contamination of stormwater runoff from delivery vehicles arriving at the plant site. Implement procedures to inspect delivery vehicles arriving at the plant site as necessary to minimize discharges of pollutants in stormwater. Ensure the overall integrity of the body or container of the delivery vehicle and implement procedures to deal with leakage or spillage from delivery vehicles.
- 8.O.4.3 *Fuel Oil Unloading Areas.*** Minimize contamination of precipitation or surface runoff from fuel oil unloading areas. Use containment curbs in unloading areas where feasible. In addition, ensure personnel familiar with spill prevention and response procedures are available to respond expeditiously in the event of a leak or spill during deliveries. Ensure that any leaks or spills are immediately contained and cleaned up, and use spill and overflow protection devices (e.g., drip pans, drip diapers, or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).
- 8.O.4.4 *Chemical Loading and Unloading.*** Minimize contamination of precipitation or surface runoff from chemical loading and unloading areas. Use containment curbs at chemical loading and unloading areas to contain spills, where practicable. In addition, ensure personnel familiar with spill prevention and response procedures are available to respond expeditiously in the event of a leak or spill during deliveries. Ensure leaks and spills are immediately contained and cleaned up and, where practicable, load and unload in covered areas and store chemicals indoors.
- 8.O.4.5 *Miscellaneous Loading and Unloading Areas.*** Minimize contamination of precipitation or surface runoff from loading and unloading areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering the loading area; grading, curbing, or berming around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.
- 8.O.4.6 *Liquid Storage Tanks.*** Minimize contamination of surface runoff from above-ground liquid storage tanks through implementation of control measures such as the following, where determined to be feasible, the following (list not exclusive): using protective guards around tanks; using containment curbs; installing spill and overflow protection; using dry cleanup methods; or equivalent measures.
- 8.O.4.7 *Large Bulk Fuel Storage Tanks.*** Minimize contamination of surface runoff from large bulk fuel storage tanks. Use containment berms (or their equivalent). You must also comply with applicable state and federal laws, including Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.
- 8.O.4.8 *Spill Reduction Measures.*** Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all above-ground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater, and make any necessary repairs immediately.
- 8.O.4.9 *Oil-Bearing Equipment in Switchyards.*** Minimize contamination of surface runoff from oil-bearing equipment in switchyard areas. Use level grades and gravel surfaces to retard flows and limit the spread of spills, or collect runoff in perimeter ditches.
- 8.O.4.10 *Residue-Hauling Vehicles.*** Inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body. Repair vehicles without load covering or adequate gate sealing, or with leaking containers or beds.

8.O.4.11 *Ash Loading Areas.* Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water as necessary to minimize discharges of pollutants in stormwater.

8.O.4.12 *Areas Adjacent to Disposal Ponds or Landfills.* Minimize contamination of surface runoff from areas adjacent to disposal ponds or landfills. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.

8.O.4.13 *Landfills, Scrap Yards, Surface Impoundments, Open Dumps, General Refuse Sites.* Minimize the potential for contamination of runoff from these areas.

8.O.5 Additional SWPPP Requirements.

8.O.5.1 *Drainage Area Site Map.* (See also Part 5.2.2) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).

8.O.5.2 *Documentation of Good Housekeeping Measures.* You must document in your SWPPP the good housekeeping measures implemented to meet the effluent limits in Part 8.O.4.

8.O.6 Additional Inspection Requirements.

As part of your inspection, inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

8.O.7 Sector-Specific Benchmarks. (See also Part 6)

Table 8.O-1 identifies benchmarks that apply to Sector O. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.O-1.		
Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector O1. Steam Electric Generating Facilities (Industrial Activity Code "SE")	Total Iron	1.0 mg/L

8.O.8 Effluent Limitations Based on Effluent Limitations Guidelines. (See also Part 6.2.2.1)

Table 8.O-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other waste streams that may be covered under this permit.

Table 8.O-2¹

Industrial Activity	Parameter	Effluent Limitation
Discharges from coal storage piles at Steam Electric Generating Facilities	TSS	50 mg/l ²
	pH	6.0 min - 9.0 max

¹ Monitor annually.

² If your facility is designed, constructed, and operated to treat the volume of coal pile runoff that is associated with a 10-year, 24-hour rainfall event, any untreated overflow of coal pile runoff from the treatment unit is not subject to the 50 mg/L limitation for total suspended solids.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart P – Sector P – Land Transportation and Warehousing.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.P.1 Covered Stormwater Discharges.

The requirements in Subpart P apply to stormwater discharges associated with industrial activity from Land Transportation and Warehousing facilities as identified by the SIC Codes specified under Sector P in Table D-1 of Appendix D of the permit.

8.P.2 Limitation on Coverage.

8.P.2.1 *Prohibited Discharges* (see also Parts 1.1.4 and 8.P.3.1.4) This permit does not authorize the discharge of vehicle/equipment/surface wash water, including tank cleaning operations. Such discharges must be authorized under a separate NPDES permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or recycled on-site.

8.P.3 Additional Technology-Based Effluent Limits.

8.P.3.1 *Good Housekeeping Measures*. (See also Part 2.1.2.2) In addition to the Good Housekeeping requirements in Part 2.1.2.2, you must do the following.

8.P.3.1.1 *Vehicle and Equipment Storage Areas*. Minimize the potential for stormwater exposure to leaky or leak-prone vehicles/equipment awaiting maintenance through implementation of control measures such as the following, where determined to be feasible (list not exclusive): using of drip pans under vehicles/equipment; storing vehicles and equipment indoors; installing berms or dikes; using of absorbents; roofing or covering storage areas; and cleaning pavement surfaces to remove oil and grease.

8.P.3.1.2 *Fueling Areas*. Minimize contamination of stormwater runoff from fueling areas through implementation of control measures such as the following, where determined to be feasible: covering the fueling area; using spill/overflow protection and cleanup equipment; minimizing stormwater run-on/runoff to the fueling area; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

8.P.3.1.3 *Material Storage Areas*. Maintain all material storage vessels (e.g., for used oil/oil filters, spent solvents, paint wastes, hydraulic fluids) to prevent contamination of stormwater and plainly label them (e.g., "Used Oil," "Spent Solvents"). To minimize discharges of pollutants in stormwater from material storage areas, implement control measures such as the following, where determined to be feasible (list not exclusive): storing the materials indoors; installing berms/dikes around the areas; minimizing runoff of stormwater to the areas; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

8.P.3.1.4 *Vehicle and Equipment Cleaning Areas*. Minimize contamination of stormwater runoff from all areas used for vehicle/equipment cleaning through implementation of control measures such as the following, where determined to be feasible (list not exclusive): performing all cleaning operations indoors;

covering the cleaning operation, ensuring that all wash water drains to a proper collection system (i.e., not the stormwater drainage system); treating and/or recycling collected wash water; or other equivalent measures. Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by this permit for this sector.

- 8.P.3.1.5 *Vehicle and Equipment Maintenance Areas.*** Minimize contamination of stormwater runoff from all areas used for vehicle/equipment maintenance through implementation of control measures such as the following, where determined to be feasible (list not exclusive): performing maintenance activities indoors; using drip pans; keeping an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting wet clean up practices if these practices would result in the discharge of pollutants to stormwater drainage systems; using dry cleanup methods; treating and/or recycling collected stormwater runoff; and minimizing run on/runoff of stormwater to maintenance areas.
- 8.P.3.1.6 *Locomotive Sanding (Loading Sand for Traction) Areas.*** Minimize discharges of pollutants in stormwater from locomotive sanding areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering sanding areas; minimizing stormwater run on/runoff; or appropriate sediment removal practices to minimize the offsite transport of sanding material by stormwater.
- 8.P.3.2 *Employee Training.*** (See also Part 2.1.2.8) Train personnel at least once a year and address the following activities, as applicable: used oil and spent solvent management; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.
- 8.P.4 Additional SWPPP Requirements.**
- 8.P.4.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Identify in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: fueling stations; vehicle/equipment maintenance or cleaning areas; storage areas for vehicle/equipment with actual or potential fluid leaks; loading/unloading areas; areas where treatment, storage or disposal of wastes occur; liquid storage tanks; processing areas; and storage areas.
- 8.P.4.2 *Potential Pollutant Sources.*** (See also Part 5.2.3) Assess the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: onsite waste storage or disposal; dirt/gravel parking areas for vehicles awaiting maintenance; illicit plumbing connections between shop floor drains and the stormwater conveyance system(s); and fueling areas. Describe these activities in the SWPPP.
- 8.P.4.3 *Description of Good Housekeeping Measures.*** You must document in your SWPPP the good housekeeping measures you implement consistent with Part 8.P.3.
- 8.P.4.4 *Vehicle and Equipment Wash Water Requirements.*** If wash water is handled in a manner that does not involve separate NPDES permitting (e.g., hauled offsite), describe the disposal method and include all pertinent information (e.g., frequency, volume, destination, etc.) in your SWPPP. Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by this permit for this sector.

8.P.5 Additional Inspection Requirements. (See also Part 3.1)

Inspect all the following areas/activities: storage areas for vehicles/equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle/equipment maintenance areas, material storage areas, vehicle/equipment cleaning areas and loading/unloading areas.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart Q – Sector Q – Water Transportation.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.Q.1 Covered Stormwater Discharges.

The requirements in Subpart Q apply to stormwater discharges associated with industrial activity from Water Transportation facilities as identified by the SIC Codes specified under Sector Q in Table D-1 of Appendix D of the permit.

8.Q.2 Limitations on Coverage.

8.Q.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) Not covered by this permit: discharges from vessels including bilge and ballast water, sanitary wastes, pressure wash water, and cooling water. Any discharge of pollutants from a point source to a water of the U.S. requires coverage under an NPDES permit. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.Q.3 Additional Technology-Based Effluent Limits.

8.Q.3.1 *Good Housekeeping Measures.* You must implement the following good housekeeping measures in addition to the requirements of Part 2.1.2.2:

8.Q.3.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by a separate NPDES permit. Collect or contain the discharges from the pressure washing area so that they are not commingled with stormwater discharges authorized by this permit.

8.Q.3.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to be discharged into receiving waters or the storm sewer system. Contain all blasting and painting activities, or use other measures, to minimize the discharge of contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). At least once per month, you must clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

8.Q.3.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. Specify which materials are stored indoors, and contain or enclose or use other measures for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Implement an inventory control plan to limit the presence of potentially hazardous materials onsite.

8.Q.3.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair through implementation of control measures such as the following,

where determined to be feasible (list not exclusive): performing all maintenance activities indoors; maintaining an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting the practice of hosing down the shop floor; using dry cleanup methods; and treating and/or recycling stormwater runoff collected from the maintenance area.

- 8.Q.3.1.5 *Material Handling Area.*** Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels) through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering fueling areas; using spill and overflow protection; mixing paints and solvents in a designated area (preferably indoors or under a shed); and minimizing runoff of stormwater to material handling areas.
- 8.Q.3.1.6 *Drydock Activities.*** Routinely maintain and clean the drydock to minimize discharges of pollutants in stormwater. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, and fuel spills occurring on the drydock. To minimize discharges of pollutants in stormwater from drydock activities, implement control measures such as the following, where determined to be feasible (list not exclusive): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding; and making absorbent materials and oil containment booms readily available to clean up or contain any spills.
- 8.Q.3.2 *Employee Training.*** (See also Part 2.1.2.8) As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management; spent solvent management; disposal of spent abrasives; disposal of vessel wastewaters; spill prevention and control; fueling procedures; general good housekeeping practices; painting and blasting procedures; and used battery management.
- 8.Q.3.3 *Preventive Maintenance.*** (See also Part 2.1.2.3) As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.
- 8.Q.4 Additional SWPPP Requirements.**
- 8.Q.4.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance and repair; vessel maintenance and repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).
- 8.Q.4.2 *Summary of Potential Pollutant Sources.*** (See also Part 5.2.3) Document in the SWPPP the following additional sources and activities that have potential pollutants associated with them: outdoor manufacturing or processing activities (e.g., welding, metal

fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting).

8.Q.5 Additional Inspection Requirements. (See also Part 3.1)

Include the following in all quarterly routine facility inspections: pressure washing areas; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

8.Q.6 Sector-Specific Benchmarks. (See also Part 6)

Table 8.Q-1 identifies benchmarks that apply to Sector Q. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector Q1. Water Transportation Facilities (SIC 4412-4499)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L
	Total Lead (freshwater) ² Total Lead (saltwater) ¹	Hardness Dependent 0.21 mg/L
	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Lead (mg/L)	Zinc (mg/L)
0-24.99 mg/L	0.014	0.04
25-49.99 mg/L	0.023	0.05
50-74.99 mg/L	0.045	0.08
75-99.99 mg/L	0.069	0.11
100-124.99 mg/L	0.095	0.13
125-149.99 mg/L	0.122	0.16
150-174.99 mg/L	0.151	0.18
175-199.99 mg/L	0.182	0.20
200-224.99 mg/L	0.213	0.23
225-249.99 mg/L	0.246	0.25
250+ mg/L	0.262	0.26

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart R – Sector R – Ship and Boat Building and Repair Yards.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.R.1 Covered Stormwater Discharges.

The requirements in Subpart R apply to stormwater discharges associated with industrial activity from Ship and Boat Building and Repair Yards as identified by the SIC Codes specified under Sector R in Table D-1 of Appendix D of the permit.

8.R.2 Limitations on Coverage.

8.R.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) Not covered by this permit: discharges from vessels including bilge and ballast water, sanitary wastes, pressure wash water, and cooling water. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.R.3 Additional Technology-Based Effluent Limits.

8.R.3.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

8.R.3.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharged water must be permitted as a process wastewater by a separate NPDES permit.

8.R.3.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to be discharged into receiving waters or the storm sewer system. Contain all blasting and painting activities, or use other measures, to prevent the discharge of the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

8.R.3.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Implement an inventory control plan to limit the presence of potentially hazardous materials onsite.

8.R.3.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair through implementation of control measures such as the following, where determined to be feasible (list not exclusive): performing all maintenance activities indoors; maintaining an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting the practice of hosing down the shop floor; using dry cleanup methods; and treating and/or recycling stormwater runoff collected from the maintenance area.

- 8.R.3.1.5 *Material Handling Area.*** Minimize the discharge of pollutants in stormwater from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels) through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing stormwater run-on to material handling areas.
- 8.R.3.1.6 *Drydock Activities.*** Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Clean accessible areas of the drydock prior to flooding and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, or fuel spills occurring on the drydock. To minimize discharges of pollutants in stormwater from drydock activities, implement control measures such as the following, where determined to be feasible (list not exclusive): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding; and having absorbent materials and oil containment booms readily available to clean up and contain any spills.
- 8.R.3.2 *Employee Training.*** (See also Part 2.1.2.8) As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.
- 8.R.3.4 *Preventive Maintenance.*** (See also Part 2.1.2.3) As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.
- 8.R.4 Additional SWPPP Requirements.**
- 8.R.4.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance or repair; vessel maintenance or repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; treatment, storage, and waste disposal areas; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).
- 8.R.4.2 *Potential Pollutant Sources.*** (See also Part 5.2.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting).
- 8.R.4.3 *Documentation of Good Housekeeping Measures.*** Document in your SWPPP any good housekeeping measures implemented to meet the effluent limits in Part 8.R.3.

8.R.4.3.1 *Blasting and Painting Areas.* Document in the SWPPP any standard operating practices relating to blasting and painting (e.g., prohibiting uncontained blasting and painting over open water or prohibiting blasting and painting during windy conditions, which can render containment ineffective).

8.R.4.3.2 *Storage Areas.* Specify in your SWPPP which materials are stored indoors, and contain or enclose or use other measures for those stored outdoors.

8.R.5 Additional Inspection Requirements. (See also Part 3.1)

Include the following in all quarterly routine facility inspections: pressure washing areas; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart S – Sector S – Air Transportation.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.S.1 Covered Stormwater Discharges.

The requirements in Subpart S apply to stormwater discharges associated with industrial activity from Air Transportation facilities identified by the SIC Codes specified under Sector S in Table D-1 of Appendix D of the permit.

8.S.2 Limitation on Coverage.

8.S.2.1 *Limitations on Coverage.* This permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

Note: the term "deicing" in this permit will generally be used to mean both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made otherwise.

8.S.2.2 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4 and Part 8.S.5.3) This permit does not authorize the discharge of aircraft, ground vehicle, runway and equipment wash waters; nor the dry weather discharge of deicing chemicals. Such discharges must be covered by separate NPDES permit(s). Note that a discharge resulting from snowmelt is not a dry weather discharge. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.S.3 Multiple Operators at Air Transportation Facilities.

Air transportation facilities often have more than one operator who could discharge stormwater associated with industrial activity. Operators include the airport authority and airport tenants, including air passenger or cargo companies, fixed based operators, and other parties who routinely perform industrial activities on airport property.

8.S.3.1 *Permit Coverage/Submittal of NOIs.* Where an airport transportation facility has multiple industrial operators that discharge stormwater, each individual operator must obtain coverage under an NPDES stormwater permit. To obtain coverage under the MSGP, all such operators must meet the eligibility requirements in Part 1 and must submit an NOI, per Part 1.2.1.1 (or, if appropriate, a no exposure certification per Part 1.4).

8.S.3.2 *MSGP Implementation Responsibilities for Airport Authority and Tenants.* The airport authority, in collaboration with its tenants, may choose to implement certain MSGP requirements on behalf of its tenants in order to increase efficiency and eliminate redundancy or duplication of effort. Options available to the airport authority and its tenants for implementation of MSGP requirements include:

- The airport authority performs certain activities on behalf of itself and its tenants and reports on its activities;
- Tenants provide the airport authority with relevant inputs about tenants' activities, including deicing chemical usage*, and the airport authority compiles and reports on tenants' and its own activities;

- Tenants independently perform, document and submit required information on their activities.

*Tenants who report their deicing chemical usage to the airport authority and rely on the airport authority to perform monitoring should not check the glycol and urea use box on their NOI forms.

8.S.3.3 *SWPPP Requirements.* A single comprehensive SWPPP must be developed for all stormwater discharges associated with industrial activity at the airport before submittal of any NOIs. The comprehensive SWPPP should be developed collaboratively by the airport authority and tenants. If any operator develops a SWPPP for discharges from its own areas of the airport, that SWPPP must be coordinated and integrated with the comprehensive SWPPP. All operators and their separate SWPPP contributions and compliance responsibilities must be clearly identified in the comprehensive SWPPP, which all operators must sign and certify per Part 5.2.7. As applicable, the SWPPP must clearly specify the MSGP requirements to be complied with by:

- The airport authority for itself;
- The airport authority on behalf of its tenants;
- Tenants for themselves.

For each activity that an operator (e.g., the airport authority) conducts on behalf of another operator (e.g., a tenant), the SWPPP must describe a process for reporting results to the latter operator and for ensuring appropriate follow-up, if necessary, by all affected operators. This is to ensure all actions are taken to correct any potential deficiencies or permit violations. For example, where the airport authority is conducting monitoring for itself and its tenants, the SWPPP must identify how the airport authority will share the monitoring results with its tenants, and then follow-up with its tenants where there are any exceedances of benchmarks, effluent limits, or water quality standards. In turn, the SWPPP must describe how the tenants will also follow-up to ensure permit compliance.

8.S.3.4 *Duty to Comply.* All individual operators are responsible for implementing their assigned portion of the comprehensive SWPPP, and operators must ensure that their individual activities do not render another operator's stormwater controls ineffective. In addition, the standard permit conditions found in Appendix B apply to each individual operator, including B.1 Duty to Comply (which states, in part, "You [each individual operator] must comply with all conditions of this permit."). For multiple operators at an airport this means that each individual operator remains responsible for ensuring all requirements of its own MSGP coverage are met regardless of whether the comprehensive SWPPP allocates the actual implementation of any of those responsibilities to another entity. That is, the failure of the entity allocated responsibility in the SWPPP to implement an MSGP requirement on behalf of other operators does not negate the other operators' ultimate liability.

8.S.4 Additional Technology-Based Effluent Limits.

8.S.4.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

8.S.4.1.1 *Aircraft, Ground Vehicle and Equipment Maintenance Areas.* Minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangars) through implementation of control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive):

performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

- 8.S.4.1.2 *Aircraft, Ground Vehicle and Equipment Cleaning Areas.*** (See also Part 8.S.4.6) Clearly demarcate these areas on the ground using signage or other appropriate means. Minimize the contamination of stormwater runoff from cleaning areas.
- 8.S.4.1.3 *Aircraft, Ground Vehicle and Equipment Storage Areas.*** Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and implement control measures to minimize the discharge of pollutants in stormwater from these storage areas such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.
- 8.S.4.1.4 *Material Storage Areas.*** Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., "used oil," "Contaminated Jet A"). To minimize contamination of precipitation/runoff from these areas, implement control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.
- 8.S.4.1.5 *Airport Fuel System and Fueling Areas.*** Minimize the discharge of pollutants in stormwater from airport fuel system and fueling areas through implementation of control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater runoff. If you have implemented a SPCC plan developed in accordance with the 2006 amendments to the SPCC rule, you may cite the relevant aspects from your SPCC plan that comply with the requirements of this section in your SWPPP.
- 8.S.4.1.6 *Source Reduction.*** Consistent with safety considerations, minimize the use of urea and glycol-based deicing chemicals to reduce the aggregate amount of deicing chemicals used that could add pollutants to stormwater discharges. Chemical options to replace pavement deicers (urea or glycol) include (list not exclusive): potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.
- 8.S.4.1.6.1 *Runway Deicing Operations.*** To minimize the discharge of pollutants in stormwater from runway deicing operations, implement source reduction control measures such as the following, where determined to be feasible and that

accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup; heating sand; and product substitution.

8.S.4.1.6.2 Aircraft Deicing Operations. Minimize the discharge of pollutants in stormwater from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. Determine whether alternatives to glycol and whether containment measures for applied chemicals are feasible. Implement control measures for reducing deicing fluid such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems where feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations. The evaluations and determinations required by this Part should be carried out by the personnel most familiar with the particular aircraft and flight operations and related systems in question (versus an outside entity such as the airport authority).

8.S.4.1.7 Management of Runoff. (See also Part 2.1.2.6) Minimize the discharge of pollutants in stormwater from deicing chemicals in runoff. To minimize discharges of pollutants in stormwater from aircraft deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): installing a centralized deicing pad to recover deicing fluid following application; plug-and-pump (PnP); using vacuum/collection trucks (glycol recovery vehicles); storing contaminated stormwater/deicing fluids in tanks; recycling collected deicing fluid where feasible; releasing controlled amounts to a publicly owned treatment works; separation of contaminated snow; conveying contaminated runoff into a stormwater impoundment for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. To minimize discharges of pollutants in stormwater from runway deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): mechanical systems (snow plows, brushes); conveying contaminated runoff into swales and/or a stormwater impoundment; and pollution prevention practices such as ice detection systems, and airfield prewetting.

When applying deicing fluids during non-precipitation events (also referred to as “clear ice deicing”), implement control measures to prevent unauthorized discharge of pollutants (dry-weather discharges of pollutants would need coverage under an NPDES wastewater permit), or to minimize the discharge of pollutants from deicing fluids in later stormwater discharges, implement control measures such as the following, where determined to be feasible and that accommodate considerations safety, space, operational constraints, and flight considerations (list not exclusive): recovering deicing fluids; preventing the fluids from entering storm sewers or other stormwater discharge conveyances (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains); releasing controlled amounts to a publicly owned treatment works Used deicing fluid should be recycled whenever practicable.

8.S.4.2 *Deicing Season.* You must determine the seasonal timeframe (e.g., December-February, October - March) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season. If you meet the deicing chemical usage thresholds of 100,000 gallons glycol and/or 100 tons of urea, the deicing season you identified is the timeframe during which you must obtain the four required benchmark monitoring event results for deicing-related parameters, i.e., BOD, COD, ammonia and pH. See also Part 8.S.7.

8.S.5 Additional SWPPP Requirements.

8.S.5.1 *Drainage Area Site Map.* (See also Part 5.2.2) Document in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; and storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

8.S.5.2 *Potential Pollutant Sources.* (See also Part 5.2.3) In the inventory of exposed materials, describe in the SWPPP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; and aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If deicing chemicals are used, a record of the types (including the Safety Data Sheets [SDS]) used and the monthly quantities, either as measured or, in the absence of metering, using best estimates, must be maintained. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Deicing operators must provide the above information to the airport authority for inclusion with any comprehensive airport SWPPPs.

8.S.5.3 *Vehicle and Equipment Wash Water Requirements.* If wash water is handled in a manner that does not involve separate NPDES permitting or local pretreatment requirements (e.g., hauled offsite, retained onsite), describe the disposal method and include all pertinent information (e.g., frequency, volume, destination) in your SWPPP. Discharges of vehicle and equipment wash water are not authorized by this permit for this sector.

8.S.5.4 *Documentation of Control Measures Used for Management of Runoff.* Document in your SWPPP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

8.S.6 Additional Inspection Requirements.

At a minimum conduct facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. The Director may specifically require you to increase inspection frequencies.

8.S.7 Sector-Specific Benchmarks. (See also Part 6)

Table 8.S-1 identifies benchmarks that apply to Sector S. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
For airports where a single permittee, or a combination of permitted facilities use more than 100,000 gallons of pure glycol in glycol-based deicing fluids and/or 100 tons or more of urea on an average annual basis, monitor the first four parameters in ONLY those outfalls that collect runoff from areas where deicing activities occur (SIC 4512-4581).	Biochemical Oxygen Demand (BOD ₅) ¹	30 mg/L
	Chemical Oxygen Demand (COD) ¹	120 mg/L
	Ammonia ¹	2.14 mg/L
	pH ¹	6.0 - 9.0 s.u.

¹ These are deicing-related parameters. Collect the four benchmark samples, and any required follow-up benchmark samples, during the timeframe defined in Part 8.S.4.2 when deicing activities are occurring.

8.S.8 Effluent Limitations Based on Effluent Limitations Guidelines and New Source Performance Standards. (See also Part 6.2.2.1)

8.S.8.1 *Airfield Pavement Deicing.* For both existing and new "primary airports" (as defined at 40 CFR 449.2) with 1,000 or more annual non-propeller aircraft departures that discharge stormwater from airfield pavement deicing activities, there shall be no discharge of airfield pavement deicers containing urea. To comply with this limitation, such airports must do one of the following: (1) certify annually on the annual report that you do not use pavement deicers containing urea, or (2) meet the effluent limitation in Table 8.S-2.

8.S.8.2 *Aircraft Deicing.* Airports that are both "primary airports" (as defined at 40 CFR 449.2) and new sources ("new airports") with 1,000 or more annual non-propeller aircraft departures must meet the applicable requirements for aircraft deicing at 40 CFR 449.11 (a). Discharges of the collected aircraft deicing fluid directly to waters of the U.S. are not eligible for coverage under this permit.

8.S.8.3 *Monitoring, Reporting and Recordkeeping.* For new and existing airports subject to the effluent limitations in Part 8.S.8.1 or 8.S.8.2 of this permit, you must comply with the applicable monitoring, reporting and recordkeeping requirements outlined in 40 CFR 449.20.

Table 8.S-2		
Industrial Activity	Parameter	Effluent Limitation
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Ammonia as Nitrogen	14.7 mg/L, daily maximum

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart T – Sector T – Treatment Works.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.T.1 Covered Stormwater Discharges.

The requirements in Subpart T apply to stormwater discharges associated with industrial activity from Treatment Works as identified by the Activity Code specified under Sector T in Table D-1 of Appendix D of the permit.

8.T.2 Industrial Activities Covered by Sector T.

The requirements listed under this part apply to all existing point source stormwater discharges associated with the following activities:

8.T.2.1 *Treatment works treating domestic sewage, or any other sewage sludge or wastewater treatment device or system used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge; that are located within the confines of a facility with a design flow of 1.0 million gallons per day (MGD) or more; or are required to have an approved pretreatment program under 40 CFR Part 403.*

8.T.2.2 *The following are not required to have permit coverage: farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located within the facility, or areas that are in compliance with Section 405 of the CWA.*

8.T.3 Limitations on Coverage.

8.T.3.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) Sanitary and industrial wastewater and equipment and vehicle wash water are not authorized by this permit. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.T.4 Additional Technology-Based Effluent Limits.

8.T.4.1 *Control Measures.* (See also Part 2.1.2) To minimize the discharge of pollutants in stormwater, implement control measures such as the following, where determined to be feasible (list not exclusive): routing stormwater to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station).

8.T.4.2 *Employee Training.* (See also Part 2.1.2.8) At a minimum, training must address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; and proper procedures for using fertilizer, herbicides, and pesticides.

8.T.5 Additional SWPPP Requirements.

8.T.5.1 *Site Map.* (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides, and pesticides.

8.T.5.2 *Potential Pollutant Sources.* (See also Part 5.2.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them, as applicable: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads and rail lines.

8.T.5.3 *Wastewater and Wash Water Requirements.* If wastewater and/or vehicle and equipment wash water is not covered by another NPDES permit but is handled in another manner (e.g., hauled offsite, retained onsite), the disposal method must be described and all pertinent information (e.g., frequency, volume, destination) must be included in your SWPPP. Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by this permit for this sector.

8.T.6 Additional Inspection Requirements. (See also Part 3.1)

Include the following areas in all inspections: access roads and rail lines; grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart U – Sector U – Food and Kindred Products.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.U.1 Covered Stormwater Discharges.

The requirements in Subpart U apply to stormwater discharges associated with industrial activity from Food and Kindred Products facilities as identified by the SIC Codes specified in Table D-1 of Appendix D of the permit.

8.U.2 Limitations on Coverage.

8.U.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) The following discharges are not authorized by this permit: discharges containing boiler blowdown, cooling tower overflow and blowdown, ammonia refrigeration purging, and vehicle washing and clean-out operations. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.U.3 Additional Technology-Based Limitations.

8.U.3.1 *Employee Training.* (See also Part 2.1.2.8) Address pest control in your employee training program.

8.U.4 Additional SWPPP Requirements.

8.U.4.1 *Drainage Area Site Map.* (See also Part 5.2.2) Document in your SWPPP the locations of the following activities if they are exposed to precipitation or runoff: vents and stacks from cooking, drying, and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.

8.U.4.2 *Potential Pollutant Sources.* (See also Part 5.2.3) Document in your SWPPP, in addition to food and kindred products processing-related industrial activities, application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides) used on plant grounds.

8.U.5 Additional Inspection Requirements. (See also Part 3.1)

Inspect on a quarterly basis, at a minimum, the following areas where the potential for exposure to stormwater exists: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.

8.U.6 Sector-Specific Benchmarks. (See also Part 6)

Table 8.U-1 identifies benchmarks that apply to the specific subsectors of Sector U. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.U-1.		
Subsector (You may be subject to requirements for more than one Sector / Subsector)	Parameter	Benchmark Monitoring Concentration
Subsector U1. Grain Mill Products (SIC 2041-2048)	Total Suspended Solids (TSS)	100 mg/L
Subsector U2. Fats and Oils Products (SIC 2074-2079)	Biochemical Oxygen Demand (BOD ₅)	30 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Total Suspended Solids (TSS)	100 mg/L

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart V – Sector V – Textile Mills, Apparel, and Other Fabric Products.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.V.1 Covered Stormwater Discharges.

The requirements in Subpart V apply to stormwater discharges associated with industrial activity from Textile Mills, Apparel, and Other Fabric Product manufacturing as identified by the SIC Codes specified under Sector V in Table D-1 of Appendix D of the permit.

8.V.2 Limitations on Coverage.

8.V.2.1 *Prohibition of Non-Stormwater Discharges.* (See also Part 1.1.4) The following are not authorized by this permit: discharges of wastewater (e.g., wastewater resulting from wet processing or from any processes relating to the production process), reused or recycled water, and waters used in cooling towers. If you have these types of discharges from your facility, you must cover them under a separate NPDES permit. (EPA includes these prohibited non-stormwater discharges here solely as a helpful reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.1.3.)

8.V.3 Additional Technology-Based Limitations.

8.V.3.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

8.V.3.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, and dyes) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums or containers, ensure that the drums and containers are clean (consider triple-rinsing) and that there is no contact of residuals with precipitation or runoff. Collect and dispose of wash water from these cleanings properly.

8.V.3.1.2 *Material Handling Areas.* Minimize contamination of stormwater runoff from material handling operations and areas through implementation of control measures such as the following, where determined to be feasible: using spill and overflow protection; covering fueling areas; and covering or enclosing areas where the transfer of material may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals, dyes or wastewater.

8.V.3.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas through implementation of control measures such as the following, where determined to be feasible: covering the fueling area; using spill and overflow protection; minimizing run-on of stormwater to the fueling areas; using dry cleanup methods; and treating and/or recycling stormwater runoff collected from the fueling area.

8.V.3.1.4 *Above-Ground Storage Tank Area.* Minimize contamination of stormwater runoff from above-ground storage tank areas, including the associated piping and valves, through implementation of control measures such as the following, where determined to be feasible (list not exclusive): regular cleanup of these areas; including measures for tanks, piping and valves explicitly in your SPCC program; minimizing runoff of stormwater from adjacent areas; restricting access to the area; inserting filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.

8.V.3.2 *Employee Training.* (See also Part 2.1.2.8) As part of your employee training program, address, at a minimum, the following activities (as applicable): use of reused and recycled waters, solvents management, proper disposal of dyes, proper disposal of petroleum products and spent lubricants, spill prevention and control, fueling procedures, and general good housekeeping practices.

8.V.4 Additional SWPPP Requirements.

8.V.4.1 *Potential Pollutant Sources.* (See also Part 5.2.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them: industry-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing bonding, carbonizing, carding, cut and sew operations, desizing, drawing, dyeing locking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing).

8.V.4.2 *Description of Good Housekeeping Measures for Material Storage Areas.* Document in the SWPPP your containment area or enclosure for materials stored outdoors in connection with Part 8.V.3.1.1 above.

8.V.5 Additional Inspection Requirements.

Inspect, at least monthly, the following activities and areas (at a minimum): transfer and transmission lines, spill prevention, good housekeeping practices, management of process waste products, and all structural and nonstructural management practices.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart W – Sector W – Furniture and Fixtures.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.W.1 Covered Stormwater Discharges.

The requirements in Subpart W apply to stormwater discharges associated with industrial activity from Furniture and Fixtures facilities as identified by the SIC Codes specified under Sector W in Table D-1 of Appendix D of the permit.

8.W.2 Additional SWPPP Requirements.

8.W.2.1 *Drainage Area Site Map.* (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored, or disposed of; access roads; and rail spurs.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart X – Sector X – Printing and Publishing.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.X.1 Covered Stormwater Discharges.

The requirements in Subpart X apply to stormwater discharges associated with industrial activity from Printing and Publishing facilities as identified by the SIC Codes specified under Sector X in Table D-1 of Appendix D of the permit.

8.X.2 Additional Technology-Based Effluent Limits.

8.X.2.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

- 8.X.2.1.1 ***Material Storage Areas.*** Plainly label and store all containerized materials (e.g., skids, pallets, solvents, bulk inks, hazardous waste, empty drums, portable and mobile containers of plant debris, wood crates, steel racks, and fuel oil) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances.
- 8.X.2.1.2 ***Material Handling Area.*** Minimize contamination of stormwater runoff from material handling operations and areas (e.g., blanket wash, mixing solvents, loading and unloading materials) through implementation of control measures such as the following, where determined to be feasible (list not exclusive): using spill and overflow protection; covering fueling areas; and covering or enclosing areas where the transfer of materials may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals or wastewater.
- 8.X.2.1.3 ***Fueling Areas.*** Minimize contamination of stormwater runoff from fueling areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering the fueling area; using spill and overflow protection; minimizing runoff of stormwater to the fueling areas; using dry cleanup methods; and treating and/or recycling stormwater runoff collected from the fueling area.
- 8.X.2.1.4 ***Above Ground Storage Tank Area.*** Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves, through implementation of control measures such as the following, where determined to be feasible (list not exclusive): regularly cleaning these areas; explicitly addressing tanks; piping and valves in the SPCC program; minimizing stormwater runoff from adjacent areas; restricting access to the area; inserting filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.

8.X.2.2 *Employee Training.* (See also Part 2.1.2.8) As part of your employee training program, address, at a minimum, the following activities (as applicable): spent solvent management, spill prevention and control, used oil management, fueling procedures, and general good housekeeping practices.

8.X.3 **Additional SWPPP Requirements.**

8.X.3.1 *Description of Good Housekeeping Measures for Material Storage Areas.* In connection with Part 8.X.2.1.1, describe in the SWPPP the containment area or enclosure for materials stored outdoors.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart Y – Sector Y – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.Y.1 Covered Stormwater Discharges.

The requirements in Subpart Y apply to stormwater discharges associated with industrial activity from Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries facilities as identified by the SIC Codes specified under Sector Y in Table D-1 of Appendix D of the permit.

8.Y.2 Additional Technology-Based Effluent Limits.

8.Y.2.1 Controls for Rubber Manufacturers. (See also Part 2.1.2) Minimize the discharge of zinc in your stormwater discharges. Parts 8.Y.2.1.1 to 8.Y.2.1.5 give possible sources of zinc to be reviewed and list control measures to be implemented where determined to be feasible. Implement additional control measures such as the following, where determined to be feasible (list not exclusive): using chemicals purchased in pre-weighed, sealed polyethylene bags; storing in-use materials in sealable containers, ensuring an airspace between the container and the cover to minimize “puffing” losses when the container is opened; and using automatic dispensing and weighing equipment.

8.Y.2.1.1 Zinc Bags. Ensure proper handling and storage of zinc bags at your facility through implementation of control measures such as the following, where determined to be feasible (list not exclusive): employee training on the handling and storage of zinc bags; indoor storage of zinc bags; cleanup of zinc spills without washing the zinc into the storm drain; and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks.

8.Y.2.1.2 Dumpsters. Minimize discharges of zinc from dumpsters through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering the dumpster; moving the dumpster indoors; and providing a lining for the dumpster.

8.Y.2.1.3 Dust Collectors and Baghouses. Minimize contributions of zinc to stormwater from dust collectors and baghouses. Replace or repair, as appropriate, improperly operating dust collectors and baghouses.

8.Y.2.1.4 Grinding Operations. Minimize contamination of stormwater as a result of dust generation from rubber grinding operations. Where determined to be feasible, install a dust collection system.

8.Y.2.1.5 Zinc Stearate Coating Operations. Minimize the potential for stormwater contamination from drips and spills of zinc stearate slurry that may be released to the storm drain. Where determined to be feasible, use alternative compounds to zinc stearate.

8.Y.2.2 Controls for Plastic Products Manufacturers. Minimize the discharge of plastic resin pellets in your stormwater discharges through implementation of control measures such as the following, where determined to be feasible (list not exclusive): minimizing spills; cleaning up of spills promptly and thoroughly; sweeping thoroughly; pellet capturing; employee education; and disposal precautions.

8.Y.3 Additional SWPPP Requirements.

8.Y.3.1 Potential Pollutant Sources for Rubber Manufacturers. (See also Part 5.2.3) Document in your SWPPP the use of zinc at your facility and the possible pathways through which zinc may be discharged in stormwater runoff.

8.Y.4 Sector-Specific Benchmarks. (See also Part 6)

Table 8.Y-1 identifies benchmarks that apply to Sector Y. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.Y-1.		
Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector Y1. Rubber Products Manufacturing (SIC 3011, 3021, 3052, 3053, 3061, 3069)	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L

¹Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Zinc (mg/L)
0-24.99 mg/L	0.04
25-49.99 mg/L	0.05
50-74.99 mg/L	0.08
75-99.99 mg/L	0.11
100-124.99 mg/L	0.13
125-149.99 mg/L	0.16
150-174.99 mg/L	0.18
175-199.99 mg/L	0.20
200-224.99 mg/L	0.23
225-249.99 mg/L	0.25
250+ mg/L	0.26

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart Z – Sector Z – Leather Tanning and Finishing.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.7.1 Covered Stormwater Discharges.

The requirements in Subpart Z apply to stormwater discharges associated with industrial activity from Leather Tanning and Finishing facilities as identified by the SIC Code specified under Sector Z in Table D-1 of Appendix D of the permit.

8.7.2 Additional Technology-Based Effluent Limits.

8.7.2.3 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

8.7.2.3.1 *Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products.*

Minimize contamination of stormwater runoff from pallets and bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings). Store or protect indoors with polyethylene wrapping, tarpaulins, roofed storage, etc. where practicable. Place materials on an impermeable surface and enclose or put berms (or equivalent measures) around the area to prevent stormwater run-on and runoff where practicable.

8.7.2.3.2 *Material Storage Areas.* Label storage containers of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials) and minimize contact of such materials with stormwater.

8.7.2.3.3 *Buffing and Shaving Areas.* Minimize contamination of stormwater runoff with leather dust from buffing and shaving areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): implementing dust collection enclosures; implementing preventive inspection and maintenance programs; or other appropriate preventive measures.

8.7.2.3.4 *Receiving, Unloading, and Storage Areas.* Minimize contamination of stormwater runoff from receiving, unloading, and storage areas. If these areas are exposed, implement control measures such as the following, where determined to be feasible (list not exclusive): covering all hides and chemical supplies; diverting drainage to the process sewer; or grade berming or curbing the area to prevent stormwater runoff.

8.7.2.3.5 *Outdoor Storage of Contaminated Equipment.* Minimize contact of stormwater with contaminated equipment through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering equipment, diverting drainage to the process sewer, and cleaning thoroughly prior to storage.

8.7.2.3.6 *Waste Management.* Minimize contamination of stormwater runoff from waste storage areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering dumpsters; moving waste management activities indoors; covering waste piles with temporary covering material such as tarpaulins or polyethylene; and

minimizing stormwater runoff by enclosing the area or building berms around the area.

8.Z.3 Additional SWPPP Requirements.

- 8.Z.3.1 *Drainage Area Site Map.*** (See also Part 5.2.2) Identify in your SWPPP where any of the following may be exposed to precipitation or surface runoff: processing and storage areas of the beamhouse, tanyard, and re-tan wet finishing and dry finishing operations.
- 8.Z.3.2 *Potential Pollutant Sources.*** (See also Part 5.2.3) Document in your SWPPP the following sources and activities that have potential pollutants associated with them (as appropriate): temporary or permanent storage of fresh and brine-cured hides; extraneous hide substances and hair; leather dust, scraps, trimmings, and shavings.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart AA – Sector AA – Fabricated Metal Products

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.AA.1 Covered Stormwater Discharges.

The requirements in Subpart AA apply to stormwater discharges associated with industrial activity from Fabricated Metal Products facilities as identified by the SIC Codes specified under Sector AA in Table D-1 of Appendix D of the permit.

8.AA.2 Additional Technology-Based Effluent Limits.

8.AA.2.1 *Good Housekeeping Measures.* (See also Part 2.1.2.2)

8.AA.2.1.1 *Raw Steel Handling Storage.* Minimize the generation of and/or recover and properly manage scrap metals, fines, and iron dust. Include measures for containing materials within storage handling areas.

8.AA.2.1.2 *Paints and Painting Equipment.* Minimize exposure of paint and painting equipment to stormwater.

8.AA.2.2 *Spill Prevention and Response Procedures.* (See also Part 2.1.2.4) Ensure that the necessary equipment to implement a cleanup is available to personnel. The following areas should be addressed:

8.AA.2.2.1 *Metal Fabricating Areas.* Maintain clean, dry, orderly conditions in these areas. Use dry clean-up techniques where practicable.

8.AA.2.2.2 *Storage Areas for Raw Metal.* Keep these areas free of conditions that could cause, or impede appropriate and timely response to, spills or leakage of materials through implementation of control measures such as the following, where determined to be feasible (list not exclusive): maintaining storage areas so that there is easy access in the event of a spill, and labeling stored materials to aid in identifying spill contents.

8.AA.2.2.3 *Metal Working Fluid Storage Areas.* Minimize the potential for stormwater contamination from storage areas for metal working fluids.

8.AA.2.2.4 *Cleaners and Rinse Water.* Control and clean up spills of solvents and other liquid cleaners, control sand buildup and disbursement from sand-blasting operations, and prevent exposure of recyclable wastes. Substitute environmentally benign cleaners when possible.

8.AA.2.2.5 *Lubricating Oil and Hydraulic Fluid Operations.* Minimize the potential for stormwater contamination from lubricating oil and hydraulic fluid operations. Use monitoring equipment or other devices to detect and control leaks and overflows where feasible. Install perimeter controls such as dikes, curbs, grass filter strips, or equivalent measures where feasible.

8.AA.2.2.6 *Chemical Storage Areas.* Minimize stormwater contamination and accidental spillage in chemical storage areas. Include a program to inspect containers and identify proper disposal methods.

8.AA.2.3 Spills and Leaks. (See also Part 5.2.3.3) In your spill prevention and response procedures, required by Part 2.1.2.4, pay attention to the following materials (at a minimum): chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals, and hazardous chemicals and wastes.

8.AA.3 Additional SWPPP Requirements.

8.AA.3.1 Drainage Area Site Map. (See also Part 5.2.2) Document in your SWPPP where any of the following may be exposed to precipitation or surface runoff: raw metal storage areas; finished metal storage areas; scrap disposal collection sites; equipment storage areas; retention and detention basins; temporary and permanent diversion dikes or berms; right-of-way or perimeter diversion devices; sediment traps and barriers; processing areas, including outside painting areas; wood preparation; recycling; and raw material storage.

8.AA.3.2 Potential Pollutant Sources. (See also Part 5.2.3) Document in your SWPPP the following additional sources and activities that have potential pollutants associated with them: loading and unloading operations for paints, chemicals, and raw materials; outdoor storage activities for raw materials, paints, empty containers, corn cobs, chemicals, and scrap metals; outdoor manufacturing or processing activities such as grinding, cutting, degreasing, buffing, and brazing; onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingot pieces, and refuse and waste piles.

8.AA.4 Additional Inspection Requirements.

8.AA.4.1 Inspections. (See also Part 3.1) At a minimum, include the following areas in all inspections: raw metal storage areas, finished product storage areas, material and chemical storage areas, spent solvents and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, drainage from roof and vehicle fueling and maintenance areas. Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel, and related materials.

8.AA.5 Sector-Specific Benchmarks. (See also Part 6)

Table 8.AA-1 identifies benchmarks that apply to the specific subsectors of Sector AA. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector AA1. Fabricated Metal Products, except Coating (SIC 3411-3499; 3911-3915)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L
	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L
Subsector AA2. Fabricated Metal Coating and Engraving (SIC 3479)	Total Zinc (freshwater) ² Total Zinc (saltwater) ¹	Hardness Dependent 0.09 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L

¹ Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.

² The freshwater benchmark values of some metals are dependent on water hardness. For these parameters, permittees must determine the hardness of the receiving water (see Appendix J, "Calculating Hardness in Receiving Waters for Hardness Dependent Metals," for methodology), in accordance with Part 6.2.1.1, to identify the applicable 'hardness range' for determining their benchmark value applicable to their facility. Hardness Dependent Benchmarks follow in the table below:

Freshwater Hardness Range	Zinc (mg/L)
0-24.99 mg/L	0.04
25-49.99 mg/L	0.05
50-74.99 mg/L	0.08
75-99.99 mg/L	0.11
100-124.99 mg/L	0.13
125-149.99 mg/L	0.16
150-174.99 mg/L	0.18
175-199.99 mg/L	0.20
200-224.99 mg/L	0.23
225-249.99 mg/L	0.25
250+ mg/L	0.26

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart AB – Sector AB – Transportation Equipment, Industrial or Commercial Machinery Facilities.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.AB.1 Covered Stormwater Discharges.

The requirements in Subpart AB apply to stormwater discharges associated with industrial activity from Transportation Equipment, Industrial or Commercial Machinery facilities as identified by the SIC Codes specified under Sector AB in Table D-1 of Appendix D of the permit.

8.AB.2 Additional SWPPP Requirements.

8.AB.2.1 *Drainage Area Site Map.* (See also Part 5.2.2) Identify in your SWPPP where any of the following may be exposed to precipitation or surface runoff: vents and stacks from metal processing and similar operations.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart AC– Sector AC – Electronic and Electrical Equipment and Components, Photographic and Optical Goods.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.AC.1 Covered Stormwater Discharges.

The requirements in Subpart AC apply to stormwater discharges associated with industrial activity from facilities that manufacture Electronic and Electrical Equipment and Components, Photographic and Optical goods as identified by the SIC Codes specified in Table D-1 of Appendix D of the permit.

8.AC.2 Additional Requirements.

No additional sector-specific requirements apply.

Part 8 – Sector-Specific Requirements for Industrial Activity

Subpart AD – Sector AD – Stormwater Discharges Designated by the Director as Requiring Permits.

You must comply with Part 8 sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Appendix A. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

8.AD.1 Covered Stormwater Discharges.

Sector AD is used to provide permit coverage for facilities designated by the Director as needing a stormwater permit, and any discharges of stormwater associated with industrial activity that do not meet the description of an industrial activity covered by Sectors A-AC.

8.AD.1.1 Eligibility for Permit Coverage. Because this sector is primarily intended for use by discharges designated by the Director as needing a stormwater permit (which is an atypical circumstance), and your facility may or may not normally be discharging stormwater associated with industrial activity, you must obtain the Director's written permission to use this permit prior to submitting an NOI. If you are authorized to use this permit, you will still be required to ensure that your discharges meet the basic eligibility provisions of this permit at Part 1.1.

8.AD.2 Sector-Specific Benchmarks and Effluent Limits. (See also Part 6)

The Director will establish any additional monitoring and reporting requirements for your facility prior to authorizing you to be covered by this permit. Additional monitoring requirements would be based on the nature of activities at your facility and your stormwater discharges.

9. Permit Conditions Applicable to Specific States, Indian Country Lands, or Territories**9.1 EPA Region 1: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont.****9.1.1 CTR05I000: Indian Country within the State of Connecticut**

No additional requirements.

9.1.2 MAR050000: Commonwealth of Massachusetts, except Indian country

Permittees in the Commonwealth of Massachusetts must meet the following conditions:

9.1.2.1 *Additional conditions required by the Commonwealth of Massachusetts.* Discharges covered by the general permit must comply with the provisions of 314 CMR 3.00; 314 CMR 4.00; 314 CMR 9.00; and 314 CMR 10.00 and any other related policies adopted under the authority of the Massachusetts Clean Waters Act, MGL c.21, ss. 26-53 and Wetlands Protection Act, MGL s. 40.

New facilities or redevelopment of existing facilities subject to this permit must comply with applicable stormwater performance standards prescribed by state regulation or policy. A permit under 314 CMR 3.04 is not required for existing facilities which meet state stormwater performance standards. An application for a permit under 314 CMR 3.00 is required only when required under 314 CMR 3.04(2)(b) {designation of a discharge on a case-by-case basis} or is otherwise identified in 314 CMR 3.00 or any Massachusetts Department of Environmental Protection policy as a discharge requiring a permit application. Department regulations and policies may be obtained through the State House Bookstore or online at www.mass.gov/dep.

9.1.2.2 *SWPPP Availability.* The Department may request a copy of the Stormwater Pollution Prevention Plan (SWPPP) and the permittee is required to submit the SWPPP to the Department within 14 days of such a request.**9.1.2.3 *Authorization to Inspect.*** The Department may conduct an inspection of any facility covered by this permit to ensure compliance with state law requirements, including state water quality standards. The Department may enforce its certification conditions.**9.1.2.4 *Submission of Monitoring Data.*** The results of any monitoring [four samples required in the first year of the permit] required by this permit must be sent to the appropriate Regional Office of the Department [attention: Bureau of Waste Prevention] where the monitoring identifies violations of any effluent limits or benchmarks for any parameter for which monitoring is required under this permit. In addition, any follow-up monitoring and a description of the corrective actions required and undertaken to meet the effluent limits or benchmarks must be sent to the appropriate Department Regional Office.**9.1.2.5 *Sector-Specific Requirements.*** The Massachusetts Coastal Zone Management Program submitted the following conditions to be added to the permit in order to meet the Programs' Consistency Review and which are included in the requirements of this Water Quality Certification:

- In Sector Q [Water Transportation] add copper to the required monitoring parameters with a benchmark monitoring concentration as included in the MSGP 2015 Fact Sheet Part X.B.1, and Appendix J.
- In Sector R [Ship and Boat Building and Repair Yards] add aluminum, iron, lead and copper to the list of required monitoring parameters with a benchmark monitoring concentration as included in the MSGP 2015 Fact Sheet Part X.B.1 and Appendix J.
- Modify the monitoring requirements [Part 6.2.1.2] for Sectors Q and R such that all four of the quarterly monitoring samples must meet the benchmarks rather than the average of the four before no further monitoring is required.

9.1.3 MAR05I000: Indian country within the Commonwealth of Massachusetts

No additional requirements.

9.1.4 NHR050000: State of New Hampshire

Permittees in New Hampshire must also meet the following conditions:

9.1.4.1 *Consider Opportunities for on-site infiltration of stormwater.* In Part 2.1.1 Control Measure Selection and Design Considerations, you are required to consider opportunities for infiltrating runoff onsite. This is encouraged, but it should only be done if consistent with the statutes and rules of the Department of Environmental Services written to protect groundwater, including Env-Wq 1507.04(e). Infiltration best management practices are not recommended at industrial sites except in areas where industrial activities do not occur, such as at office buildings and their associated parking facilities, or in drainage areas at the facility where a certification of no exposure will always be possible [see 40 CFR 122.26(g)].

9.1.4.2 *Maintenance of Infiltration Best Management Practices.* In Part 2.1.2.3 you are required to maintain control measures. In Parts 5.2.2, 5.2.5.1, and 5.5 you are required to document the location of control measures, perform inspections and maintenance, and keep records. Accordingly, the SWPPP must contain the following:

- A description of and the location of each on-site infiltration BMP installed;
- The maintenance procedures that will be followed to ensure proper operation, including the removal of sediment from pretreatment devices;
- The inspection procedures that will be followed at least annually. These should include the procedures for ensuring that the stormwater being infiltrated is not exposed to industrial pollutants and the procedures for ensuring proper drainage to prevent mosquito breeding;
- The employee name (or title of the position) who is a member of the stormwater pollution prevention team (see Part 5.2.1) who will be responsible for the maintenance required in this section, the inspection required in this section, and any necessary corrective action required in Part 4; and
- Records for all maintenance performed, inspections conducted, and corrective actions taken.

9.1.4.3 *Discontinue, Permit or Register On-site Infiltration BMP if Necessary.* If at any time a certification of no exposure can no longer be made for any of the stormwater to be infiltrated, then the infiltration BMP must cease for that portion of the runoff or

the discharge must be permitted or registered as appropriate. The following may be required:

- Infiltration BMP that meets the definition of a Class V well or that infiltrates stormwater via a subsurface structure (i.e. concrete chambers, dry well, leach field, etc.) will need an underground injection control (UIC) registration from NHDES; and
- Permitting as a groundwater discharge as required in Env-Wq 402, if the stormwater will or may contain regulated contaminants.

The SWPPP must be modified immediately if new infiltration BMPs are proposed or if existing infiltration BMPs will cease.

9.1.4.4 Required NHDES notification.

- Notify the NHDES Groundwater Discharge Permit Coordinator immediately if you believe that any infiltration BMP may need to be permitted or registered (See Part 9.1.4.3) during the permit term.
- Notify the NHDES Wastewater Engineering Bureau immediately of any plans to discharge any new non-stormwater discharges during the permit term. This does not include the allowable non-stormwater discharges listed in Part 1.1.3.

9.1.4.5 Information That May Be Requested by NHDES. To ensure compliance with RSA 485-C, RSA 485-A, RSA 485-A:13, I(a), Env-Wq 400 and Env-Wq 401 the following information may be requested by NHDES. This information must be kept on site unless you receive a written request from NHDES that it be sent to the address shown in Part 9.1.4.6.

- The site map required in Part 5.2.2, showing the type and location of all on-site infiltration BMP utilized at the facility or the reason(s) why none were installed.
- A list of all non-stormwater discharges that occur at the facility, including their source locations and the control measures being used (See Sections 1.1.3 and 5.2.3.4).
- A copy of the Annual Reports required in Part 7.5

9.1.4.6 Where to Submit Information. Information submitted to NHDES must be sent to the following address:

NH Department of Environmental Services
Wastewater Engineering Bureau, Permits & Compliance Section
P.O. Box 95
Concord, NH 03302-0095

9.1.4.7 Modification of Clean Water Act Section 401 Water Quality Certification. When NHDES determines that additional water quality certification requirements are necessary to protect water quality, it may require individual dischargers to meet additional conditions to obtain or continue coverage under the MSGP. Any such conditions shall be supplied to the permittee in writing. Any required pollutant loading analyses and any designs for structural best management practices necessary to protect water quality must be prepared by a civil or sanitary engineer registered in New Hampshire.

- 9.1.5 RIR05I000: Indian country within the State of Rhode Island**
No additional requirements.
- 9.1.6 VTR05F000: Areas in the State of Vermont subject to industrial activity by a Federal Operator**
No additional requirements.
- 9.2 EPA Region 2: New Jersey, New York, Puerto Rico, Virgin Islands.**
- 9.2.1 PRR050000: Commonwealth of Puerto Rico**
No additional requirements.
- 9.3 EPA Region 3: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.**
- 9.3.1 DCR050000: District of Columbia**
Permittees in the District of Columbia must also meet the following conditions:
- 9.3.1.1 *Compliance with District of Columbia Laws and Regulations.*** Discharges covered by the MSGP must comply with the District of Columbia Water Pollution Control Act of 1984, as amended, D.C. Official Code § 8-103.01 *et seq.*; and its implementing regulations in Title 21, Chapters 11 and 19 of the District of Columbia Municipal Regulations. Nothing in this permit will be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to District of Columbia laws and regulations.
- 9.3.1.2 *Submission of SWPPP.*** The Stormwater Pollution Prevention Plan (SWPPP) shall be submitted to the District Department of the Environment (DDOE) at the same time the Notice of Intent (NOI) is submitted to EPA.
- 9.3.1.3 *Submission of No Exposure Certification and NOT.*** Copies of the No Exposure Certification and Notice of Termination (NOT) shall be submitted to DDOE at the same time they are submitted to EPA.
- 9.3.1.4 *Authorization to Inspect.*** The permittee shall allow DDOE to inspect any facility, equipment, practices, or operations regulated or required under this permit and to access records maintained under the conditions of this permit.
- 9.3.1.5 *Submission of Reports.*** Signed copies of all reports required under this permit including the reporting requirements of Appendix B.12 shall be submitted to DDOE at the same time they are submitted to EPA.
- 9.3.1.6 *Where to Submit Information.*** All required or requested documents shall be sent to the:
- Attention: Associate Director
Water Quality Division, Natural Resources Administration
District Department of the Environment
1200 First Street, NE, 5th Floor
Washington, D.C. 20002

- 9.3.2 **DER05F000: Areas in the State of Delaware subject to industrial activity by a Federal Operator**
No additional requirements.
- 9.4 **EPA Region 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee**
Coverage not available under this permit.
- 9.5 **EPA Region 5: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.**
- 9.5.1 **MIR05I000: Indian country within the State of Michigan**
No additional requirements.
- 9.5.2 **MNR05I000: Indian country within the State of Minnesota**
- 9.5.2.1 **Fond du Lac Reservation**
The following conditions apply only to discharges on the Fond du Lac Reservation.
- 9.5.2.1.1 **Submission of SWPPP.** A copy of the Stormwater Pollution Plan (SWPPP) must be submitted to the Office of Water Protection at least thirty (30) days in advance of sending the Notice of Intent to EPA. MSGP applicants are encouraged to work with the Fond du Lac Office of Water Protection in the identification of all proposed receiving waters.
- 9.5.2.1.2 **Submission of NOI and NOT.** Copies of the Notice of Intent (NOI) and Notice of Termination (NOT) must be sent to the Fond du Lac Office of Water Protection at the same time they are submitted to EPA.
- 9.5.2.1.3 **Benchmark Monitoring for Turbidity.** The Benchmark Monitoring Concentration (BMC) for Turbidity shall NOT exceed 10% of natural background as determined by Office of Water Protection staff as measured in NTU.
- 9.5.2.1.4 **Effluent Limitations.** The Effluent Limitations for ALL sectors shall NOT exceed more than two times (2x) Fond du Lac's ambient concentrations (based upon 15 years of monitoring data) for the following:
- | | |
|---------------------------|----------------------|
| a) Ammonia | Ambient = <0.3 mg/l |
| b) Arsenic | Ambient = <3.0 µg/l |
| c) Chromium | Ambient = <0.8 µg/l |
| d) Total Phosphorus | Ambient = <0.09 mg/l |
| e) Total Suspended Solids | Ambient = <16.0 mg/l |
| f) Zinc | Ambient = <24.0 mg/l |
- 9.5.2.1.5 **Outstanding Reservation Resource Waters (ORRW).** This Certification does not pertain to any new discharge to Outstanding Reservation Resource Waters (ORRW) as described in § 105 b.3. of the Fond du Lac Water Quality Standards (Ordinance #12/98). Although additional waters may be designated in the future, currently Perch Lake, Rice Portage Lake, Miller Lake, Deadfish Lake, and Jaskari Lake are designated as ORRWs. New dischargers wishing to discharge to an ORRW must obtain an individual permit for storm water discharges.

9.5.2.1.6 *Water Quality Criteria.* All industrial activities shall be carried out in such a manner as will prevent violations of water quality criteria as stated in the Water Quality Standards of the Fond du Lac Reservation, Ordinance 12/98, as amended. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of water of the Fond du Lac Reservation for any of the uses designated in the Water Quality Standards of the Fond du Lac Reservation. These uses include wildlife, aquatic life, warm and cold water fisheries, subsistence farming (netting), primary contact recreation, cultural, wild rice areas, aesthetic waters, agriculture, navigation, and commercial.

9.5.2.1.7 *Impacts to cultural sites.* This certification does not authorize impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for such listing.

9.5.2.1.8 *Where to Submit Information.* All required or requested documents shall be sent to the:

Fond du Lac Reservation
Office of Water Protection
1720 Big Lake Road
Cloquet, Minnesota 55720

9.5.2.2 *Grand Portage Band of the Minnesota Chippewa Tribe*

The following conditions apply to industrial storm water discharges into Waters of the Grand Portage Reservation:

9.5.2.2.1 *Definitions.* The definitions set forth in the Grand Portage Water Resources Ordinance, as amended, ("Water Resources Ordinance") govern these certification conditions.

9.5.2.2.2 *Water Quality Standards.* All industrial storm water discharges authorized by this permit must comply with the Grand Portage Water Quality Standards, Applicable Federal Standards, and the Water Resources Ordinance.

9.5.2.2.3 *Additional Monitoring.* Grand Portage reserves the right to require monitoring of storm water discharges as determined on a case-by-case basis. If the Grand Portage Environmental Resources Board ("Board") determines that a monitoring plan is necessary, the monitoring plan must be prepared and incorporated into the Storm Water Pollution Prevention Plan ("SWPPP") before the SWPPP is submitted to the U.S. EPA. Accordingly, the Board must be contacted, at the address listed below, at the onset of writing the SWPPP.

9.5.2.2.4 *Submission of SWPPP, NOI, and NOT.* In addition, a copy of the SWPPP, Notice of Intent ("NOI"), and Notice of Termination (NOT) (collectively the "application") must be submitted to the Board at least 30 days before submitting the NOI to the U.S. EPA. Applications should be sent to the address below.

9.5.2.2.5 *Additional information.* Upon receipt of the application, the Board shall order the Grand Portage Environmental Department (Department) to conduct a technical review of the application materials. If necessary, Department staff will send a

request for additional information to the applicant within 30 days of receipt of the application.

- 9.5.2.2.6 Preliminary coverage determination.** After considering the application and such other information and data as the Department staff deems relevant, the Department Director will evaluate whether there is a reasonable probability that the proposed activity will violate the Grand Portage Water Quality Standards or any Applicable Federal Standards and recommend one of the following preliminary determinations:
- Unconditionally grant coverage under the MSGP;
 - Grant coverage under the MSGP subject to certain conditions; or
 - Deny coverage under the MSGP.
- 9.5.2.2.7 Final coverage determination.** Within 30 days of the Department Director's recommendation, the Board will provide public notice of the application for coverage under the MSGP and the Department Director's recommendations. Upon request, the Department will schedule a hearing as provided in 40 CFR Part 25. If, after considering the evidence provided at the hearing and the entire record, the Board determines by a preponderance of the evidence that the proposed activity will violate the Grand Portage Water Quality Standards or any Applicable Federal Standards, the Board shall deny eligibility for coverage under the MSGP, unless there is a reasonable certainty that compliance can be achieved by the applicant's adherence to reasonable conditions. If the Board finds insufficient evidence to show that the proposed activity will violate the Grand Portage Water Quality Standards or any Applicable Federal Standards, it shall approve coverage under the MSGP.
- 9.5.2.2.8 Appeals.** Appeals related to water quality certification decisions or permits will be heard by the Grand Portage Tribal Court.
- 9.5.2.2.9 Prohibition of Discharge.** The applicant is prohibited from discharging into the Waters of the Reservation pursuant to the MSGP unless the Board has granted coverage under the MSGP, or until the applicant has adhered to conditions required by the Board's conditional grant of coverage.
- 9.5.2.2.10 Compliance.** The Board retains full authority provided by the Water Resources Ordinance to ensure compliance with and enforce the provisions of the Water Resource Ordinance, the Grand Portage Water Quality Standards, Applicable Federal Standards, and these certification conditions.
- 9.5.2.2.11 Where to Submit Information.** All required or requested information mentioned above shall be sent to:
- Grand Portage Environmental Resources Board
P.O. Box 428
Grand Portage, MN 55605
- 9.5.3 WIR05I000: Indian country within the State of Wisconsin, except those on Bad River Band of Lake Superior Tribe of Chippewa Indians lands and on Sokaogon Chippewa Community lands**
No additional requirements.

Note: Facilities in the Bad River Band of Lake Superior Tribe of Chippewa Indians land Sokaogon Chippewa Community lands and are not eligible for stormwater discharge coverage under this permit. Contact the EPA Region 5 office for an individual permit application.

9.6 EPA Region 6: Arkansas, Louisiana, Oklahoma, Texas, and New Mexico (except see Region 9 for Navajo lands, and see Region 8 for Ute Mountain Reservation lands).

9.6.1 LAR05I000: Indian country within the State of Louisiana

No additional requirements.

9.6.2 NMR050000: The State of New Mexico, except Indian country

Permittees in New Mexico must also meet the following conditions:

9.6.2.1 Benchmark Monitoring Concentrations. The benchmark values for the indicated pollutants in the table below must be modified to reflect New Mexico water quality standards for the facilities in New Mexico, based on benchmark values from the *Standards for Interstate and Intrastate Surface Waters* (as approved on June. 5, 2013), 20.6.4.900 NMAC).

Pollutant	MSGP Benchmark	Lowest New Mexico Water Quality Standard	Hardness dependent value (if appropriate) ¹
Ammonia*	2.14 mg/L	No Standard	
Biochemical Oxygen Demand (BOD 5 day)	30 mg/L	No Standard	
Chemical Oxygen Demand (COD)	120 mg/L	No Standard	
Total Suspended Solids	100 mg/L	Segment specific	
Turbidity	50 NTU	Segment specific	
Nitrate + Nitrite Nitrogen	0.68 mg/L	132 mg/L	
Total Phosphorus	2.0 mg/L	Segment specific	
pH	6.0 – 9.0 SU	Segment specific	
Aluminum (T) (pH 6.5 – 9)*	0.75 mg/L	--	3.4 mg/L (acute) 1.37 mg/L (chronic)
Antimony (T)	0.64 mg/L	0.006 mg/L	
Arsenic (T) (Freshwater)*	0.15 mg/L	0.01 mg/L	
Beryllium (T)	0.13 mg/L	0.004 mg/L	
Cadmium (T) (Freshwater)*	0.0021 mg/L	--	0.00165 mg/L (acute) 0.00045 mg/L (chronic)
Copper (T) (Freshwater)*	0.014 mg/L	--	0.013 mg/L (acute) 0.009 mg/L (chronic)
Cyanide (Freshwater)*	0.022 mg/L	0.0052 (WH)	
Iron (T)	1.0mg/L	No standard	
Lead (Freshwater)*	0.082 mg/L		0.065 mg/L (acute) 0.003 mg/L (chronic)
Magnesium (T)	0.064 mg/L	No standard	
Mercury (Freshwater)*	0.0014 mg/L	0.00077 mg/L	
Nickel (T) (Freshwater)*	0.47 mg/L		0.47 mg/L (acute) 0.052 mg/L (chronic)
Selenium (T) (Freshwater)* ²	0.005 mg/L	0.005 mg/L (WH)	

Pollutant	MSGP Benchmark	Lowest New Mexico Water Quality Standard	Hardness dependent value (if appropriate) ¹
Silver (Freshwater)*	0.0038 mg/L		0.0032 mg/L (acute)
Zinc (T) (Freshwater)*	0.12 mg/L		0.16 mg/L (acute) 0.121 mg/L (chronic)

* EPA's Criteria are based on receiving water hardness of 100 mg/L. The facility will need to test their receiving water these hardness values and use Table 1 in Appendix J of this permit to determine their applicable limit.

¹ New Mexico Environment Department's criteria are listed at a hardness value of 100 mg/L as CaCO₃ for comparison to EPA's benchmark standard.

² SO₄ dependent

EPA defines saline/salt waters as having salinity concentrations greater than or equal to 10 parts per thousand 95 percent or more of the time (as discussed on Page 55 of the permit's proposed fact sheet). Saltwater values may apply to certain areas of New Mexico, such as the Pecos Basin below Santa Rosa and the Rio Grande below Elephant Butte. These values may also apply to waters that are part of the Colorado River Basin.

New Mexico water quality hardness-based values in the table below replace values listed in Appendix J and are the applicable benchmark values for New Mexico in this permit.

All Units mg/L	*	(mg/L, dissolved)						
		Aluminum	Cadmium	Copper	Lead	Nickel	Silver	Zinc
25	Acute	0.512	0.00051	0.004	0.014	0.140	0.0003	0.045
	Chronic	0.205	0.00017	0.003	0.001	0.016		0.034
30	Acute	0.658	0.00059	0.004	0.017	0.170	0.0004	0.054
	Chronic	0.263	0.00019	0.003	0.001	0.019		0.041
40	Acute	0.975	0.00076	0.006	0.024	0.220	0.0007	0.070
	Chronic	0.391	0.00023	0.004	0.001	0.024		0.053
50	Acute	1.324	0.00091	0.007	0.03	0.260	0.0010	0.085
	Chronic	0.530	0.00028	0.005	0.001	0.029		0.065
60	Acute	1.699	0.00107	0.008	0.037	0.300	0.0013	0.101
	Chronic	0.681	0.00031	0.006	0.001	0.034		0.076
70	Acute	2.099	0.00122	0.010	0.044	0.350	0.0017	0.116
	Chronic	0.841	0.00035	0.007	0.002	0.038		0.088
80	Acute	2.520	0.00137	0.011	0.051	0.390	0.0022	0.131
	Chronic	1.010	0.00039	0.007	0.002	0.043		0.099
90	Acute	2.961	0.00151	0.012	0.058	0.430	0.0027	0.145
	Chronic	1.186	0.00042	0.008	0.002	0.048		0.110
100	Acute	3.421	0.00165	0.013	0.065	0.470	0.0032	0.160
	Chronic	1.370	0.00045	0.009	0.003	0.052		0.121
200	Acute	8.838	0.00298	0.026	0.14	0.840	0.011	0.301
	Chronic	3.541	0.00075	0.016	0.005	0.09		0.228
220	Acute	10.071						
	Chronic	4.035						
300	Acute	10.071	0.00421	0.038	0.210	1.190	0.021	0.435
	Chronic	4.035	0.00100	0.023	0.008	0.130		0.329
400+	Acute	10.071	0.00538	0.050	0.280	1.510	0.035	0.564
	Chronic	4.035	122	0.029	0.011	0.170		428

*Acute vs. Chronic applicability: Acute numeric standards shall be attained at the "point of discharge" (end-of-pipe) for any discharge to surface water with a *designated aquatic life use*. TSS values will be important for any criteria differences between total and dissolved measurements.

9.6.2.2 Notice of Termination. Requirements in Part 8 of the this permit, in sectors G (Metal Mining), H (Coal Mines and Coal Mining-Related Facilities), I (Oil and Gas Extraction), and J (Non-Metallic Mineral Mining and Dressing), at the Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities" section were made more stringent as to inspection frequencies and timing of inspections and corrective actions required as a result of a rain event. These certification requirements will apply to these sectors mentioned in this condition, as follows:

Permittees can only use the option to "plant the area so that within 3 years the 70% cover requirement is met" as stated in Part 8.G.4.2.11, Part 8.H.4.2.11, and Part 8.J.4.2.11 of this Permit, in New Mexico as a method for final vegetative stabilization for purposes of filing a Notice of Termination (NOT) under the following conditions:

If this option is selected, you must notify New Mexico Environment Department (NMED) at the address listed below at the time the NOT is submitted to EPA. The information to be submitted includes:

- A copy of the NOT;
- Contact information, including individual name or title, address, and phone number for the party responsible for implementing the final stabilization measures; and
- The date that the permanent vegetative stabilization practice was implemented and the projected timeframe that the 70% native vegetative cover requirements are expected to be met. (Note that if more than three years is required to establish 70 percent of the natural vegetative cover, this technique cannot be used or cited for fulfillment of the final stabilization requirement- you remain responsible for establishment of final stabilization.)

NMED also requires that operators periodically (minimum once/year) inspect and properly maintain the area until the criteria for final stabilization, as specified in Part 2.2 of the Construction General Permit (CGP), have been met. Operators must prepare an inspection report documenting the findings of these inspections and signed in accordance with Appendix B.11. This inspection record must be retained along with the SWPPP for three years after the NOT is submitted for the site and additionally submitted to NMED at the address listed below. The inspections must at a minimum include the following:

- Observations of all areas of the site disturbed by construction activity;
- Best Management Practices (BMPs)/post-construction storm water controls must be observed to ensure they are effective;
- An assessment of the status of vegetative re-establishment; and
- Corrective actions required to ensure vegetative success within three years, and control of pollutants in storm water runoff from the site, including implementation dates.

9.6.2.3 Where to Submit Information. All required or requested information mentioned above shall be sent to:

Program Manager
Point Source Regulation Section
NMED Surface Water Quality Bureau
PO Box 5469
Santa Fe, NM 87502

9.6.3 NMR05I000: Indian country within the State of New Mexico, except Ute Mountain Reservation lands that are covered under Colorado permit COR05I000 and Navajo Reservation lands that are covered under Arizona permit AZR05I000

9.6.3.1 Pueblo of Sandia

The following conditions apply only to discharges on the Pueblo of Sandia:

9.6.3.1.1 Submission of NOI. Copies of all Notices of Intent (NOI) submitted to the EPA must also be sent concurrently to the Pueblo of Sandia Environment Department. Discharges are not authorized by this permit unless an accurate and complete NOI has been submitted to the Pueblo of Sandia.

9.6.3.1.2 SWPPP Availability. The Stormwater Pollution Prevention Plan (SWPPP) must be available to the Pueblo of Sandia Environment Department either electronically or hard copy upon request for review. Failure to provide a SWPPP to the Pueblo of Sandia Environment Department may result in denial of the water quality certification.

9.6.3.1.3 SWPPP Amendments. Any Stormwater Pollution Prevention Plan (SWPPP) modification, update or amendment shall be submitted to the Pueblo of Sandia Environment Department either electronically or hard copy within seven (7) calendar days of its finalization. Failure to provide a SWPPP to the Pueblo of Sandia Environment Department may result in denial of the water quality certification.

9.6.3.1.4 Submission of Monitoring Data. All monitoring and analytical data (e.g., Discharge Monitoring Reports (DMRs), follow-up monitoring reports, Exceedance Reports for Numeric Effluent Limits, etc.) submitted to the EPA must also be sent concurrently to the Pueblo of Sandia Environment Department.

9.6.3.1.5 Submission of Annual Reports. Copies of all Annual Reports submitted to the EPA must also be sent concurrently to the Pueblo of Sandia Environment Department. Discharges are not authorized by this permit unless an accurate and complete Annual Report has been submitted to the Pueblo of Sandia.

9.6.3.1.6 Submission of Quarterly Visual Assessments. Copies of all "Quarterly Visual Assessments" (Part 3.2) must be submitted either electronically or hard copy to the Pueblo of Sandia Environment Department within seven (7) calendar days.

9.6.3.1.7 Submission of Corrective Action Documentation. Copies of all "Corrective Action Documentation" (Part 4.4) must be submitted electronically or hard copy to the Pueblo of Sandia Environment Department within seven (7) calendar days.

9.6.3.1.8 Additional Reporting. Any notice of release of oils or hazardous substances shall be submitted to the Pueblo of Sandia Environment Department within twenty-four (24) hours of becoming aware of the situation or circumstance, followed by the reporting requirements of 40 CFR 110, 40 CFR 300, and 40 CFR 302 relating to spills or other releases of oil or hazardous substances. The permittee must also telephone

the Pueblo of Sandia Environment Department at (505) 867-4533 of any non-emergency spills or unauthorized discharges that may affect drinking water supplies, ceremonial and recreational surface waters, elicit fish kills, harm wildlife or endangered and threatened species, or endanger human health or the environment within eight (8) hours of becoming aware of the situation or circumstance, followed by the written report when it is sent to the EPA.

9.6.3.1.9 Authorization to Inspect. If requested by the Pueblo of Sandia Environment Department, the permittee must allow the Pueblo of Sandia to perform its own routine or compliance inspection to ensure the permittee is in compliance and any discharge is not contributing to a violation of the permit and the Pueblo of Sandia's Water Quality Standards.

9.6.3.1.10 Water Quality Standards. If requested by the Pueblo of Sandia Environment Department, the permittee shall provide additional information necessary for a "case by case" eligibility determination to assure compliance with the Pueblo of Sandia's Water Quality Standards. *Note: Upon receipt of a determination by the Pueblo of Sandia that discharges from a permittee under this general permit have reasonable potential to be causing or contributing to a violation of the Pueblo of Sandia's Water Quality Standards, EPA Region 6 would be notified. EPA Region 6 would then notify the permittee to either improve their Stormwater Pollution Prevention Plan (SWPPP) to achieve compliance with the Pueblo of Sandia's Water Quality Standards or have the permittee apply for and obtain an individual NPDES permit for these discharges per CFR 122.28(B)(3).

9.6.3.1.11 Alternative Permit. Any industry discharging to waters of the United States that has been designated by the EPA or the Pueblo of Sandia as impaired or degraded water shall not be covered under this general permit but will be required to obtain an individual permit.

9.6.3.1.12 Submission of NOT. Before submitting a Notice of Termination (NOT), permittees must clearly demonstrate to the Pueblo of Sandia Environment Department through a site visit or documentation that requirements for site stabilization have been met and any degradation has been mitigated. A short letter stating the stabilization requirements have been met will be sent to the permittee. Upon receipt the permittee may apply for an NOT to the EPA. Copies of the NOT submitted to the EPA must also be sent concurrently to the Pueblo of Sandia Environment Department.

9.6.3.1.13 Where to Submit Information. All required or requested information mentioned above shall be sent to:

- Regular U.S. Delivery Mail:
Pueblo of Sandia Environment Department
Attention: Scott Bulgrin, Water Quality Manager
481 Sandia Loop
Bernalillo, New Mexico 87004
- Or Electronically to: sbulgrin@sandiapueblo.nsn.us

9.6.3.2 Pueblo of Santa Clara.

The following condition applies only to discharges on the Santa Clara Indian Pueblo:

9.6.3.2.1 *Submission of NOI and NOT.* The Notice of Intent (NOI) and Notice of Termination (NOT) must be provided to the Santa Clara Pueblo Governor's Office at the same time it is provided to EPA.

9.6.3.2.2 *SWPPP Availability.* A copy of the Stormwater Pollution Prevention Plan must be made available to the Pueblo of Santa Clara staff upon request.

9.6.3.2.3 *Where to Submit Information.* All required or requested documents shall be sent to the:

Santa Clara Pueblo
Governor's Office
P.O. Box 580
Española, NM 87532

9.6.4 **OKR05I000: Indian country within the State of Oklahoma**

9.6.4.1 *Certification Requirements.* In accordance with Oklahoma's Water Quality Standards (OAC 785:45-5-25) certification is denied for any new or proposed discharges located within the watershed of any part of the Oklahoma Scenic Rivers system, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork Creek, Little Lee Creek, Big Lee Creek or to any water designated as an Outstanding Resource Water (ORW). Existing discharges of stormwater in these watersheds may be permitted under this permit only from point sources existing as of June 25, 1992, whether or not such stormwater discharges were permitted as point sources prior to June 25, 1992. For any such existing discharge, increased load of any pollutant above levels of June 25, 1992 is prohibited.

Note: Operators of facilities within the watershed of any part of the Oklahoma Scenic Rivers system must contact the EPA Region 6 office for an individual permit application.

9.6.5 **OKR05F000: Facilities in the State of Oklahoma not under the jurisdiction of the Oklahoma Department of Environmental Quality or the Oklahoma Department of Agriculture, Food and Forestry, except those on Indian Country. EPA jurisdiction facilities include SIC Codes 1311, 1381, 1382, 1389, and 5171**

9.6.5.1 *Certification Requirements.* In accordance with Oklahoma's Water Quality Standards (OAC 785:45-5-25), Certification is denied for any new or proposed discharges located within the watershed or any part of the Oklahoma Scenic Rivers system, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork River, Little Lee Creek, Big Lee Creek or to any water designated as an Outstanding Resource Water (ORW). Existing discharges of stormwater in these watersheds may be permitted under this permit only from point sources existing as of June 25, 1992, whether or not such stormwater discharges were permitted as point sources prior to June 25, 1992. For any such existing discharge, increased load of any pollutant above levels of June 25, 1992 is prohibited.

Note: Operators of facilities within the watershed of any part of the Oklahoma Scenic Rivers system must contact the EPA Region 6 office for an individual permit application.

9.6.6 **TXR05F000: Facilities in the State of Texas not under the jurisdiction of the Texas Commission on Environmental Quality, except those on Indian Country. EPA-**

jurisdiction facilities include SIC Codes 1311, 1321, 1381, 1382, and 1389 (other than oil field service company “home base” facilities)

No additional requirements.

- 9.6.7 TXR05I000: Indian country within the State of Texas**
No additional requirements.
- 9.7 EPA Region 7: Iowa, Kansas, Missouri, Nebraska (except see Region 8 for Pine Ridge Reservation Lands).**
- 9.7.1 IAR05I000: Indian country within the State of Iowa**
No additional requirements.
- 9.7.2 KSR05I000: Indian country within the State of Kansas**
No additional requirements.
- 9.7.3 NER05I000: Indian country within the State of Nebraska, except Pine Ridge Reservation lands (see Region 8)**
No additional requirements.
- 9.8 EPA Region 8: Colorado, Montana, North Dakota, South Dakota, Wyoming, Utah (except see Region 9 for Goshute Reservation and Navajo Reservation Lands), the Ute Mountain Reservation in NM, and the Pine Ridge Reservation in NE.**
- 9.8.1 COR05F000: Areas in the State of Colorado, except those located on Indian country, subject to industrial activity by a Federal Operator**
No additional requirements.
- 9.8.2 COR05I000: Indian country within the State of Colorado, as well as the portion of the Ute Mountain Reservation located in New Mexico**
No additional requirements
- 9.8.3 MTR05I000: Indian country within the State of Montana**
No additional requirements.
- 9.8.4 NDR05I000: Indian country within the State of North Dakota, as well as that portion of the Standing Rock Reservation located in South Dakota (except for the portion of the lands within the former boundaries of the Lake Traverse Reservation which is covered under South Dakota permit SDR05I000 listed below)**
No additional requirements.
- 9.8.5 SDR05I000: Indian country within the State of South Dakota, as well as the portion of the Pine Ridge Reservation located in Nebraska and the portion of the lands within the former boundaries of the Lake Traverse Reservation located in North Dakota (except for the Standing Rock Reservation which is covered under North Dakota permit NDR05I000 listed above)**
No additional requirements.
- 9.8.6 UTR05I000: Indian country within the State of Utah, except Goshute and Navajo Reservation lands (see Region 9)**
No additional requirements.

- 9.8.7 **WYR05I000: Indian country within the State of Wyoming**
No additional requirements.
- 9.9 **EPA Region 9: California, Hawaii, Nevada, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Confederated Tribes of the Goshute Reservation in Utah and Nevada, Indian Country within the State of Arizona including the Navajo Reservation in Utah and New Mexico and Arizona, the Duck Valley Reservation in Idaho, and the Fort McDermitt Reservation in Oregon.**
- 9.9.1 **ASR050000: American Samoa**
No additional requirements.
- 9.9.2 **AZR05I000: Indian country within the State of Arizona, including Navajo Reservation lands in New Mexico and Utah**
- 9.9.2.1 ***Hualapai Tribe***
The following condition applies only to discharges on the Hualapai Tribe:
- 9.9.2.1.1 ***Submission of NOI and SWPPP.*** All Notices of Intent (NOI) for proposed stormwater discharges under this permit and all Stormwater Pollution Plans (SWPPPs) for stormwater discharges on Hualapai Tribal lands shall be submitted to the Water Resource Program through the Tribal Chairwoman for review and approval.
- 9.9.2.1.2 ***Where to Submit Information.*** All required or requested documents shall be sent to:

Water Resource Program through the Tribal Chairwoman
P.O. Box 179
Peach Springs, AZ 86434
- 9.9.2.2 ***Navajo Nation***
The following conditions apply only to discharges on the Navajo Nation:
- 9.9.2.2.1 ***Submission of NOI and SWPPP.*** Courtesy copies of Notices of Intent (NOI) and Stormwater Water Pollution Plans (SWPPPs) shall be made available to Navajo EPA for facilities located on Navajo lands.
- 9.9.2.2.2 ***Submission of Monitoring Data.*** Copies of all monitoring reports must be provided to Navajo EPA for facilities located on Navajo lands.
- 9.9.2.2.3 ***Authorization to Inspect.*** Facilities located on Navajo lands and covered under this permit will be subject to compliance inspections by Navajo EPA staff with active Federal Inspector Credentials under authority of the Clean Water Act.
- 9.9.2.3 ***White Mountain Apache Tribe***
The following condition applies only to discharges on the White Mountain Apache Tribe:
- 9.9.2.3.1 ***Submission of SWPPP.*** The Storm Water Pollution Prevention Plan (SWPPP) must be available to the White Mountain Apache Water Resources Programs either electronically or hard copy upon request for review before a Notice of Intent (NOI) for comments from the White Mountain Apache Water Resources Programs. Failure

to provide a SWPPP to the White Mountain Apache Water Resources Programs may result in denial of the water quality certification.

- 9.9.2.3.2 Submission of NOI.** Copies of all Notices of Intent (NOI) submitted to the EPA must also be sent concurrently to the White Mountain Apache Water Resources Programs. Discharges are not authorized by this permit unless an accurate and complete NOI has been submitted to the White Mountain Apache Tribe.
- 9.9.2.3.3 SWPPP Modification.** Any Storm Water Pollution Prevention Plan (SWPPP) modification, update or amendment shall be submitted to the White Mountain Apache Water Resources Programs either electronically or hard copy within seven (7) calendar days of its finalization. Failure to provide a SWPPP to the White Mountain Apache Water Resources Programs may result in denial of the water quality certification.
- 9.9.2.3.4 Submission of Monitoring Data.** All monitoring and analytical data (e.g. Discharge Monitoring Reports (DMRs), follow-up monitoring reports, Exceedance Reports for Numerical Effluent Limits, etc.) submitted to EPA must also be sent concurrently to the White Mountain Apache Water Resources Programs.
- 9.9.2.3.5 Submission of Annual Reports.** Copies of all Annual Reports submitted to the EPA must also be sent concurrently to the White Mountain Apache Water Resources Programs. Discharges are not authorized by this permit unless an accurate and complete Annual Report has been submitted to the White Mountain Apache Tribe.
- 9.9.2.3.6 Submission of Quarterly Visual Assessments.** Copies of all "Quarterly Visual Assessments" (Part 3.2) must be submitted either electronically or hard copy to the White Mountain Apache Water Resources Programs within seven (7) calendar days.
- 9.9.2.3.7 Submission of Corrective Action Documentation.** Copies of all "Corrective Action Documentation" (Part 4.4) must be submitted either electronically or hard copy to the White Mountain Apache Water Resources Programs within seven (7) calendar days.
- 9.9.2.3.8 Additional Reporting.** Any notice of release of oils or hazardous substances shall be submitted to the White Mountain Apache Water Resources Programs within twenty-four (24) hours of becoming aware of the situation or circumstance, followed by the reporting requirements of 40 CFR 110, 40 CFR 300, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances. The permittee must also telephone the White Mountain Apache Water Resources Programs at (928) 338-4267 of any non-emergency spills or unauthorized discharge that may affect drinking water, supplies, ceremonial and recreational surface waters, elicit fish kills, harm wildlife or endangered and threaten species, or endanger human health or the environment within eight (8) hours of becoming aware of the situation or circumstance, followed by a written report when it is sent to the EPA.
- 9.9.2.3.9 Authorization to Inspect.** If requested by the White Mountain Apache Water Resources Programs, the permittee must allow the White Mountain Apache Tribe to perform its own routine or compliance inspection to ensure the permittee is in compliance and any discharge is not contributing to a violation of the permit and the White Mountain Apache Tribe's Water Quality Standards.

- 9.9.2.3.10 *Water Quality Standards.*** If requested by the White Mountain Apache Water Resources Programs, the permittee shall provide additional information necessary for a "case by case" eligibility determination to assure compliance with the White Mountain Apache Tribe's Water Quality Standards. *Note: Upon receipt of a determination by the White Mountain Apache Tribe that discharges from a permittee under this general permit have reasonable potential to be causing or contributing to a violation of the White Mountain Apache Tribe's Water Quality Standards, EPA Region 9 would be notified. EPA Region 9 would then notify the permittee to either improve their Stormwater Pollution Prevention Plan (SWPPP) to achieve compliance with the White Mountain Apache Tribe's Water Quality Standards or have the permittee apply for and obtain an individual NPDES permit for those discharges per CFR 122.28 (B)(3).
- 9.9.2.3.11 *Alternative Permit.*** Any industry discharging into waters of the United States that has been designated by the EPA or the White Mountain Apache Tribe as impaired or degraded water shall not be covered under this general permit but will be required to obtain an individual permit.
- 9.9.2.3.12 *Submission of NOT.*** Before submitting a Notice of Termination (NOT), permittees must clearly demonstrate to the White Mountain Apache Water Resources Programs through a site visit or documentation that requirements for site stabilization have been met and any degradation has been mitigated. A short letter stating the stabilization requirements have been met will be sent to the permittee. Upon receipt the permittee may apply for an NOT to the EPA. Copies of the NOT submitted to the EPA must also be sent concurrently to the White Mountain Apache Water Resources Programs.
- 9.9.2.3.13 *Where to Submit Information.*** All required or requested information mentioned above shall be sent to:
- Regular U.S. Delivery Mail:
White Mountain Apache Tribe Water Resources Programs
Attention: Tara Chief, Water Quality Officer
P.O. Box 816
Fort Apache, AZ 85926
 - Or Electronically to: tarachief@wmat.us
- 9.9.3 CAR05I000: Indian country within the State of California**
- 9.9.3.1 *Hoopa Valley Tribe***
The following conditions apply only to discharges on the Hoopa Valley Tribe:
- 9.9.3.1.1 *Submission of NOI.*** All Notices of Intent (NOI) submitted for stormwater discharges under the general permits in Hoopa Valley Indian Reservation (HVIR) shall be submitted to the Tribal Environmental Protection Agency (TEPA).
- 9.9.3.1.2 *Submission of SWPPP.*** All Stormwater Pollution Plans (SWPPPs) for stormwater discharge in HVIR shall be submitted to TEPA for review and approval.
- 9.9.3.2 *Twenty-Nine Palms Band of Mission Indians***
The following conditions apply only to discharges on the Twenty-Nine Palms Band of Mission Indians:

- 9.9.3.2.1** *Submission of Monitoring Data.* The Twenty-Nine Palms Tribal Water Quality Standards require that routine monitoring be performed quarterly at each sampling site. Additional special monitoring requirements include: a) Sampling following a significant storm event; and b) Sampling in the event of an accidental spill. Monitoring results for discharges into Twenty-Nine Palms Tribal waters must be reported to Twenty-Nine Palms Tribal EPA.
- 9.9.3.2.2** *Certification.* Certification does not relieve the applicant of the responsibility to comply with applicable local, state, or federal regulations or statutes, including regulations affecting any discharge into waters of the U.S. Copies of this certification shall be kept on the job site and readily available for reference by tribal members and tribal representatives. If the project is operated in a manner not consistent with the MSGPs, the permittee will be in violation of this certification.
- 9.9.3.2.3** *Pollution Prevention.* All practicable measures and precautions must be taken to prevent pollution affecting public health, fish, shellfish, wildlife, and recreation due to turbidity, pH, temperature, nutrients, suspended solids, floating debris, visible oil and grease, or other pollutants entering tribal waters, including wetlands.
- 9.9.3.2.4** *Spills or Leaks.* All equipment operated within any tribal waters must be cleaned away from the tribal waters and maintained to prevent fuel and oil leaks. These methods include, but are not limited to: offsite/ upland fuel and oil storage and refueling areas, on-site spill containment equipment, a spill contingency plan, and spill prevention/contaminant training for on-site personnel. Should a spill of petroleum products or chemicals occur, immediately call the National Response Center at (800) 424-8802 and the Tribal Environmental Protection Agency at (760) 398-6767.
- 9.9.3.2.5** *Ground Disturbance.* Ground disturbance shall not exceed the minimum necessary.
- 9.9.3.2.6** *Minimizing Adverse Impacts.* All projects using the MSGP must avoid discharges to the maximum extent practicable, and utilize the best available and practicable means of minimizing the adverse impact of discharges that cannot be avoided.
- 9.9.4** **GUR050000: Island of Guam**
No additional requirements.
- 9.9.5** **JAR050000: Johnston Atoll**
No additional requirements.
- 9.9.6** **MWR050000: Midway Island and Wake Island**
No additional requirements.
- 9.9.7** **MPR050000: Commonwealth of the Northern Mariana Islands**
No additional requirements.
- 9.9.8** **NVR051000: Indian country within the State of Nevada, including the Duck Valley Reservation in Idaho, the Fort McDermitt Reservation in Oregon and the Confederated Tribes of the Goshute Reservation in Utah**
No additional requirements.

- 9.10 **Region 10: Alaska, Idaho (except see Region 9 for Duck Valley Reservation lands), Oregon (except see Region 9 for Fort McDermitt Reservation), Washington.**
- 9.10.1 **AKR05F000: Areas in the Denali National Park and Preserve subject to industrial activity by a Federal Operator**
No additional requirements.
- 9.10.2 **AKR05I000: Indian country lands within the State of Alaska**
No additional requirements.
- 9.10.3 **IDR050000: The State of Idaho, except Indian country lands**
Permit coverage not available until Clean Water Act (CWA) 401 certification is received.
- 9.10.4 **IDR05I000: Indian country lands within the State of Idaho, except Duck Valley Reservation lands, which are covered under Nevada permit NVR05I000**
- 9.10.4.1 ***Shoshone-Bannock Tribes***
The following conditions apply only to discharges to waters of the Shoshone-Bannock Tribes:
- 9.10.4.1.1 ***Submission of NOI, Monitoring Data, and Reports.*** Copies of the Notices of Intent (NOI), Monitoring data collected pursuant to section 6.2 of this permit, and Exceedance Reports must be sent to the Shoshone-Bannock Tribes Water Resources Department (SBT-WRD). The monitoring data and exceedance reports must be sent to the SBT-WRD within thirty (30) days of receipt of analytical results.
- 9.10.4.1.2 ***Submission of SWPPP.*** If requested by the SBT-WRD, the permittee must submit a copy of the SWPPP to SBT-WRD within fourteen (14) days of the request.
- 9.10.4.1.3 ***Where to Submit Information.*** All required or requested documents shall be sent to:
Shoshone-Bannock Tribes Water Resources Department
P.O. Box 306 Pima Drive
Fort Hall, ID 83203
Phone: (208) 239-4582
Fax: (208) 239-4592
- 9.10.5 **ORR05I000: Indian country lands within the State of Oregon, except Fort McDermitt Reservation lands, which are covered under Nevada permit NVR05I000**
- 9.10.5.1 ***Confederated Tribes of the Umatilla Indian Reservation***
Projects located within the exterior boundaries of the Umatilla Indian Reservation must meet the following conditions:
- 9.10.5.1.1 ***Water Quality Standards.*** The operator shall be responsible for achieving compliance with Confederated Tribes of the Umatilla Indian Reservation's (CTUIR) Water Quality Standards.
- 9.10.5.1.2 ***Submission of NOI.*** The operator shall submit a copy of the Notice of Intent (NOI) to be covered by this permit to the CTUIR Water Resources Program at the address below, at the same time it is submitted to EPA.

9.10.5.1.3 Submission of SWPPP. The operator shall be responsible for submitting all Stormwater Pollution Prevention Plans (SWPPPs) required under this general permit to the CTUIR Water Resources Program for review and determination that the SWPPP is sufficient to meet Tribal Water Quality Standards, prior to the beginning of any discharge activities taking place.

9.10.5.1.4 Additional Reporting. The operator shall be responsible for reporting an exceedance to Tribal Water Quality Standards to the CTUIR Water Resources Program at the same time it is reported to EPA.

9.10.5.1.5 Additional Requirements for Historic Properties Preservation. The applicant shall submit copies of each NOI to the CTUIR Tribal Historic Preservation Office (THPO). The NOI shall define the undertaking's area of potential effect (APE). This information will be used to determine whether or not the undertaking has the potential to affect historic properties. To be in compliance with the NHPA and be eligible for coverage under this permit, the operator must meet the following criteria:

- The THPO will be provided 30 days to comment on the APE as defined in the permit application.
- If the project is an undertaking, a cultural resource investigation must occur. All fieldwork must be conducted by qualified personnel (as outlined by the [Secretary of Interior's Standards and Guidelines](#)) and documented using [Oregon Reporting Standards](#). The resulting report must be submitted to the THPO and the THPO must concur with the findings and recommendations before any ground disturbing work can occur. The THPO requires 30 days to review all reports.
- The operator must obtain THPO concurrence in writing. If historic properties are present, this written concurrence will outline measures to be taken to prevent or mitigate effects to historic properties.

9.10.5.1.6 Where to Submit Information. The NOI, SWPPP, and reports must be sent to:

Confederated Tribes of the Umatilla Indian Reservation
Water Resources Program
46411 Timine Way
Pendleton, OR 97801
(541) 966-2420

All required Historic Properties Preservation information must be sent to:

Confederated Tribes of the Umatilla Indian Reservation
Cultural Resources Protection Program
Tribal Historic Preservation Office
46411 Timine Way
Pendleton, OR 97801
(541) 429-7234

9.10.5.2 Confederated Tribes of the Warm Springs Indian Reservation

The following conditions apply for projects within the exterior boundaries of the Warm Springs Indian Reservation:

- 9.10.5.2.1 Water Quality Standards.** The operator shall be responsible for achieving compliance with the Confederated Tribes of the Warm Springs Indian Reservation's Water Quality Standards. (Tribal Ordinance 80).
- 9.10.5.2.2 Submission of NOI.** The operator shall submit a copy of the Notice of Intent (NOI) to be covered by this permit to the Tribes' Environmental Office at the address below, at the same time it is submitted to EPA.
- 9.10.5.2.3 Submission of SWPPP.** The operator shall be responsible for filing all Stormwater Pollution Prevention Plans (SWPPP) required under this permit to the Tribes' Environmental Office for review and determination that the SWPPP is sufficient to meet Tribal Water Quality Standards, prior to the beginning of any discharge activities taking place.
- 9.10.5.2.4 Additional Reporting.** The operator shall be responsible for reporting an exceedance to Tribal Water Quality Standards to the Tribes' Environmental Office at the same time it is reported to EPA.
- 9.10.5.2.5 Tribal Cultural Resources.** The applicant shall submit copies of each NOI to the Tribal Historic Preservation Office (THPO). The NOI shall define the undertaking's area of potential effect (APE). This information will be used to determine whether or not the undertaking has the potential to affect historic properties. To be in compliance with the NHPA and be eligible for coverage under this permit, the operator must meet the following criteria:
- The THPO will be provided 30 days to comment on the APE as defined in the permit application.
 - If the project is an undertaking, a cultural resource investigation must occur. All fieldwork must be conducted by qualified personnel (as outlined by the Secretary of Interior's Standards and Guidelines). The resulting report must be submitted to the THPO and the THPO must concur with the findings and recommendations before any ground disturbing work can occur. The THPO requires 30 days to review all reports.
 - The operator must obtain THPO concurrence in writing. If historic properties are present, this written concurrence will outline measures to be taken to prevent or resolve effects to historic properties.

- 9.10.5.2.6 Where to Submit Information.** All required or requested documents shall be sent to:

Confederated Tribes of Warm Springs
Branch of Natural Resources
Tribal Environmental Office
P.O. Box C
Warm Springs
Oregon, 97761
541-553-2002

9.10.6 WAR05I000: Indian country lands within the State of Washington

9.10.6.1 Confederated Tribes of the Colville Reservation

No Additional Requirements.

9.10.6.2 Lummi Nation

The following conditions apply only to discharges within the Lummi Nation:

9.10.6.2.1 Certification. This certification does not exempt and is provisional upon compliance with other applicable statutes and codes administered by federal and Lummi tribal agencies. Pursuant to Lummi Code of Laws (LCL) 17.05.020(a), the operator must also obtain a land use permit from the Lummi Planning Department as provided in Title 15 of the Lummi Code of Laws and regulations adopted thereunder.

9.10.6.2.2 Submission of SWPPP. Pursuant to LCL 17.05.020, each operator shall develop and submit a Storm Water Pollution Prevention Plan to the Lummi Water Resources Division for review and approval by the Water Resources Manager prior to beginning any discharge activities.

9.10.6.2.3 Water Quality Standards. Pursuant to LCL Title 17, each operator shall be responsible for achieving compliance with the Water Quality Standards for Surface Waters of the Lummi Indian Reservation (Lummi Administrative Regulations [LAR] 17 LAR 07.010 through 17 LAR 07.210).

9.10.6.2.4 Submission of NOI, Monitoring Data, Reports and NOT. Each operator shall submit a copy of the Notice of Intent (NOI), analytical monitoring results, any Exceedance Reports, Annual Reports, and Notice of Termination (NOT) to the Lummi Water Resources Division at the same time it is submitted to the Environmental Protection Agency (EPA).

9.10.6.2.5 Where to Submit Information. All required or requested documents shall be sent to:

Lummi Natural Resources Department
ATTN: Water Resources Manager
2665 Kwina Road
Bellingham, WA 98226

Please see the Lummi Nation website (www.lummi-nsn.gov) to review a copy of Title 17 of the Lummi Code of Laws and the references upon which the conditions identified above are based.

9.10.6.3 Puyallup Tribe of Indians

The following conditions apply only to discharges to waters of the Puyallup Tribe of Indians:

9.10.6.3.1 Submission of NOI, NOT and No Exposure. Copies of the Notice of Intent (NOI), Notice of Termination (NOT), and No Exposure Certification shall be submitted to the Tribe's Natural Resources Department.

9.10.6.3.2 Submission of SWPPP. A copy of the Stormwater Pollution Plan (SWPPP) shall be submitted to the Tribe's Natural Resources Department at least thirty (30) days in advance of submitting the NOI to EPA.

9.10.6.3.3 Compliance with Tribe's Water Quality Standards. Each permittee shall be responsible for achieving compliance with the Tribe's Water Quality Standards, including anti-degradation provisions.

9.10.6.3.4 Submission and Approval of Sampling Plan. A sampling plan shall be submitted to the Tribe's Natural Resources Department and approved by the Tribe prior to initiation of monitoring required under Part 6 of this permit.

- 9.10.6.3.5 Submission of Monitoring Data and Reports.** The results of any monitoring required by this permit and reports must be sent to the Tribe's Natural Resources Department, including a description of the corrective actions required and undertaken to meet effluent limits or benchmarks (as applicable).
- 9.10.6.3.6 Authorization to Inspect.** The Natural Resources Department may conduct an inspection of any facility covered by this permit to ensure compliance with tribal water quality standards. The Department may enforce its certification conditions.
- 9.10.6.3.7 Tribal Endangered Species Act Consultation.** Consultation with the Tribe that addresses the effects of your facility's stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities on federally-listed threatened or endangered species and designated critical habitat. Information required as part of the consultation shall include:
- Basis of the determination that your stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities will not adversely affect federally-listed as endangered or threatened ("listed") under the Endangered Species Act (ESA) and will not result in the adverse modification or destruction of designated critical habitat including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects (under Criterion C in Section 1.1.4.5); and
 - Notice of Intent form complete with extent of action area, list of federally-listed threatened or endangered species or designated critical habitat likely to occur in action area, list of potential pollutants (if you are a new discharger) or list of pollutants for which you have ever exceeded an applicable benchmark of effluent limitation guideline, or for which your discharge has ever been found to cause or contribute to an exceedance of an applicable water quality standard (if you are an existing discharger).
- 9.10.6.3.8 Discharges to CERCLA Sites.** This permit does not authorize direct stormwater discharges to certain sites undergoing remedial cleanup actions pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) unless first approved by the appropriate EPA Regional office. In the case of the Commencement Bay, Near Shore/Tide Flats (WAD980726368), the Puyallup Tribe also requests notification by the facility and consultation with EPA prior to discharge. Contaminants at this site include but are not limited to: dioxins, furans, arsenic, copper, lead, zinc, 4-methyl-phenol, Hex-CB, HPAHs, PCBs, PCE, cadmium, mercury, and LPAHs.
- 9.10.6.3.9 Discharge-related Activities that have Potential to Cause an Adverse Effect on Historic Properties.** Installation of stormwater controls that involve subsurface disturbances may potentially have an adverse impact on historic properties. Procedures detailed in Appendix F of the permit shall be completed. Brandon Reynon, the Puyallup Tribe's Cultural Regulatory Specialist, shall be contacted prior to initiating discharge-related activities that may have an impact on historic properties. His contact information is (253) 573-7986 and Brandon.reynon@puyalluptribe.com
- 9.10.6.3.10 Where to Submit Information.** All required or requested documents shall be sent to the:

Puyallup Tribe of Indians
Department of Natural Resources c/o Bill Sullivan and Char Naylor
3009 E. Portland Avenue
Tacoma, Washington 98404

9.10.6.4 Spokane Tribe of Indians

Permit coverage not available until Clean Water Act (CWA) 401 certification is received.

9.10.6.5 Swinomish Indian Tribal Community

The following conditions apply only to discharges to waters of the Swinomish Indian Tribal Community:

9.10.6.5.1 Certification. This certification does not exempt and is provisional upon compliance with other applicable statutes and codes administered by federal and Swinomish Indian Tribal Community (SITC) agencies. Operator must obtain any applicable SITC permits.

9.10.6.5.2 Submission of SWPPP. Each operator shall develop a Storm Water Pollution Prevention Plan (SWPPP) and submit it to the Swinomish Department of Environmental Protection (SDEP) for review and approval by the Director prior to beginning any discharge activities under the permit.

9.10.6.5.3 Water Quality Standards. Each operator shall be responsible for achieving compliance with applicable Water Quality Standards for Surface Waters of the Swinomish Indian Reservation.

9.10.6.5.4 Submission of NOI, Monitoring Data, Reports and NOT. Each operator shall submit a copy of the Notice of Intent (NOI), analytical monitoring results and Exceedance Reports if any, Annual Reports, and Notice of Termination (NOT) to the Swinomish DEP at the same time it is submitted to EPA.

9.10.6.5.5 Alternative Permit. The permit does not allow discharge of any pollutant on EPA's Persistent Bioaccumulative and Toxic pollutant list. Operator must eliminate such discharge or apply for an Individual permit.

9.10.6.5.6 Historic Properties Preservation. If any archeological/cultural resources or human remains are uncovered during the course of operations, all work will cease and operator must contact the Swinomish Tribal Historic Preservation Officer at 466-7352 or (cell) 840-4127.

9.10.6.5.7 Where to Submit Information. All submittals and correspondence required by this certification including but not limited to Storm Water Pollution Prevention Plans (SWPPP), monitoring results, reports of exceedances, and other notices are to be directed to the Environmental Director, Swinomish Department of Environmental Protection, 11430 Moorage Way, LaConner, WA 98257, phone (360) 466-7201, fax (360) 466-1615, and shall reference 401 Certification # 2014-01 and NPDES MSGP WAR-51000.

9.10.6.6 Tulalip Tribes

The following conditions apply only to discharges on waters of the Tulalip Tribes:

- 9.10.6.6.1 Submission of NOI, NOT, and No Exposure.** Copies of the Notice of Intent (NOI), Notice of Termination (NOT), and No Exposure Certification shall be submitted to the Tribe's Natural Resources Department.
- 9.10.6.6.2 Submission of SWPPP.** A copy of the Stormwater Pollution Prevention Plan (SWPPP) shall be submitted to the Tribe's Natural Resources Department at least thirty (30) days in advance of submitting the NOI to EPA.
- 9.10.6.6.3 Compliance with Tribe's Water Quality Standards.** Each permittee shall be responsible for achieving compliance with the Tribe's Water Quality Standards.
- 9.10.6.6.4 Submission and approval of Sampling Plans.** A sampling plan shall be submitted to the Tribe's Natural Resources Department and approved by the Tribe prior to initiation of monitoring required under Part 6 of this permit.
- 9.10.6.6.5 Submission of Monitoring Data and Reports.** The results of any monitoring required by this permit and reports must be sent to the Tribe's Natural Resources Department, including a description of the corrective actions required and undertaken to meet effluent limits or benchmarks (as applicable).
- 9.10.6.6.6 Authorization to Inspect.** The Natural Resources Department may conduct an inspection of any facility covered by this permit to ensure compliance with tribal water quality standards. The Department may enforce its certification conditions.
- 9.10.6.6.7 Incorporation by reference.** This certification does not exempt the applicant from compliance with other statutes and codes administered by the tribes, county, state and federal agencies.
- 9.10.6.6.8 Invalidation.** This certification will cease to be valid if the project is constructed and/or operated in a manner not consistent with the project description contained in the permit. This certification will also cease to be valid and the applicant must reapply with an updated application if information contained in the permit is voided by subsequent submittals.
- 9.10.6.6.9 Modification.** Nothing in this certification waives the Tulalip Tribes of Washington's authority to issue modifications to this certification if additional impacts due to operational changes are identified, or if additional conditions are necessary to protect water quality or further protect the Tribal Communities interest.
- 9.10.6.6.10 Permits on-site.** A copy of the permit shall be kept on the job site and readily available for reference by the construction supervisor, construction managers and foreman, and Tribal inspectors.
- 9.10.6.6.11 Project Management.** The applicant shall ensure that project managers, construction managers and foreman, and other responsible parties have read and understand conditions of the permit, this certification, and other relevant documents, to avoid violations or noncompliance with this certification.
- 9.10.6.6.12 Emergencies/Contingency Measures.** In the event the operator is unable to comply with the permit terms and conditions due to any cause, the contractor shall immediately take action to stop the violation and correct the problem, and immediately report spill events to EPA's 24-hour Spill Response Team at (206) 553-1263 and the Tulalip Tribes Police Department (425) 508-1565. Compliance with this

condition does not relieve the applicant from responsibility to maintain continuous compliance with the terms and conditions of this certification or the resulting liability from failure to comply.

9.10.6.6.13 Tribal Endangered Species Act Consultation. Consultation with the Tribes that addresses the effects of a facility's stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities on federally-listed threatened or endangered species and designated critical habitat. Information required as part of the consultation shall include:

- Basis of the determination that your stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities will not adversely affect federally-listed as endangered or threatened ("listed") under the Endangered Species Act (ESA) and will not result in the adverse modification or destruction of designated critical habitat including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects (under Criterion C in Section 1.1.4.5); and
- Notice of Intent form complete with extent of action area, list of federally-listed threatened or endangered species or designated critical habitat likely to occur in action area, list of potential pollutants (if you are a new discharger) or list of pollutants for which you have ever exceeded an applicable benchmark or effluent limitations guideline, or for which your discharge has ever been found to cause or contribute to an exceedance of an applicable water quality standard (if you are an existing discharger).

9.10.6.6.14 Discharges to CERCLA Sites. This permit does not authorize direct stormwater discharges to certain sites undergoing remedial cleanup actions pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) unless first approved by the appropriate EPA Regional office. In the case of the Tulalip Landfill site (WAD980639256), the Tulalip Tribes also requests notification by the facility and consultation with EPA prior to discharge. Contaminants at this site may include but are not limited to: dioxins, furans, arsenic, copper, lead, zinc, 4-methyl-phenol, Hex-CB, HPAHs, PCBs, PCE, cadmium, mercury, and LPAHs.

9.10.6.6.15 Discharge-related Activities that have Potential to Cause an Adverse Effect on Historic Properties. Installation of stormwater controls that involve subsurface disturbances may potentially have an adverse impact on historic properties. Procedures detailed in Appendix F of the permit shall be completed. Richard Young, of the Tulalip Tribe's Cultural Resources Department shall be contacted prior to initiating discharge-related activities that may have an impact on historic properties. His contact information is (360) 716-2652 and ryoung@tulaliptribesnsn.gov.

9.10.6.6.16 Where to Submit Information: All required or requested documents shall be sent to the:

Tulalip Tribes Natural Resources Environmental Division
c/o Kurt Nelson and Valerie Streeter
6704 Marine Drive, Tulalip, Washington 98271

- 9.10.7 **WAR05F000: Areas in the State of Washington, except those located on Indian Country lands, subject to industrial activity by a Federal Operator**
Permit coverage not available until Clean Water Act (CWA) 401 certification is received.

Appendix A - Definitions, Abbreviations, and Acronyms (for the purposes of this permit).

A.1. DEFINITIONS

Action Area – all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. See 50 CFR 402. For the purposes of this permit and for application of Endangered Species Act requirements, the following areas are included in the definition of action area:

- The areas where stormwater discharges originate and flow from the industrial facility to the point of discharge into receiving waters. (Example: Where stormwater flows into a ditch, swale, or gully that leads to receiving waters and where listed species (such as listed amphibians) are found in the ditch, swale, or gully.)
- The areas where stormwater from industrial activities discharge into receiving waters and the areas in the immediate vicinity of the point of discharge. (Example: Where stormwater from industrial activities discharges into a stream segment that is known to harbor listed aquatic species.)
- The areas where stormwater controls will be constructed and operated, including any areas where stormwater flows to and from the stormwater controls. (Example: Where a stormwater retention pond would be built.)
- The areas upstream and/or downstream from the stormwater discharge into a stream segment that may be affected by these discharges. (Example: Where sediment discharged to a receiving stream settles downstream and impacts a breeding area of a listed aquatic species.)

Antidegradation Policy or Antidegradation Requirements – the water quality standards regulation that requires States and Tribes to establish a three-tiered antidegradation program:

1. Tier 1 maintains and protects existing uses and water quality conditions necessary to support such uses. An existing use can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such uses to occur. Where an existing use is established, it must be protected even if it is not listed in the water quality standards as a designated use. Tier 1 requirements are applicable to all surface waters.
2. Tier 2 maintains and protects "high quality" waters -- water bodies where existing conditions are better than necessary to support CWA § 101(a)(2) "fishable/swimmable" uses. Water quality can be lowered in such waters. However, state and tribal Tier 2 programs identify procedures that must be followed and questions that must be answered before a reduction in water quality can be allowed. In no case may water quality be lowered to a level which would interfere with existing or designated uses.
3. Tier 3 maintains and protects water quality in outstanding national resource waters (ONRWs). Except for certain temporary changes, water quality cannot be lowered in such waters. ONRWs generally include the highest quality waters of the United States. However, the ONRW classification also offers special protection for waters of exceptional ecological significance, i.e., those which are important, unique, or sensitive ecologically. Decisions regarding which water bodies qualify to be ONRWs are made by States and authorized Indian Tribes.

Arid Areas – areas where annual rainfall averages from 0 to 10 inches.

Bypass – the intentional diversion of waste streams from any portion of a treatment facility. See 40 CFR 122.41(m)(1)(i).

CERCLA Site (i.e., Superfund Site) - for the purposes of this permit, a site as defined in Section 101(9) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601(9), that is undergoing a remedial investigation and feasibility study, or for which a Record of Decision for remedial action has been issued in accordance with the National Contingency Plan, 40 CFR Part 300.

Co-located Industrial Activities – any industrial activities, excluding your primary industrial activity(ies), located on-site that are defined by the stormwater regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the stormwater regulations or identified by the SIC code list in Appendix D.

Confidential Business Information (CBI) – see 40 CFR Part 2 for relevant definitions of CBI: <http://www.gpo.gov/fdsys/pkg/CFR-2013-title40-vol1/pdf/CFR-2013-title40-vol1-part2-subpartB.pdf>.

Control Measures – refers to any stormwater control or other method (including narrative effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

Corrective Action – for the purposes of the permit, any action taken, or required to be taken, to (1) repair, modify, or replace any stormwater control used at the site; (2) clean up and dispose of spills, releases, or other deposits found on the site; and (3) remedy a permit violation.

Critical Habitat – as defined in the Endangered Species Act at 16 U.S.C. 1531 for a threatened or endangered species, (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Director – a Regional Administrator of the Environmental Protection Agency or an authorized representative. See 40 CFR 122.2.

Discharge – when used without qualification, means the "discharge of a pollutant." See 40 CFR 122.2.

Discharge of a Pollutant – any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

Discharge Point – for the purposes of this permit, the location where collected and concentrated stormwater flows are discharged from the facility such that the first receiving waterbody into which the discharge flows, either directly or through a separate storm sewer system, is a water of the U.S.

Discharge-Related Activity – activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of stormwater controls to control, reduce, or prevent pollution in the discharges.

Discharge to an Impaired Water – for the purposes of this permit, a discharge to an impaired water occurs if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA as not meeting an applicable water quality standard, and requires development of a total maximum daily load (TMDL) (pursuant to Section 303(d) of the Clean Water Act), or is addressed by an EPA-approved or established TMDL, or is not in either of the above categories but the waterbody is covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1). For discharges that enter a separate storm sewer system prior to discharge, the water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

Drought-Stricken Area – for the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif.

Effective Operating Condition – for the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Effluent Limitations – for the purposes of this permit, any of the Part 2 or Part 3 requirements.

Effluent Limitations Guideline (ELG) – defined in 40 CFR § 122.2 as a regulation published by the Administrator under section 304(b) of CWA to adopt or revise effluent limitations.

Eligible – for the purposes of this permit, refers to stormwater and allowable non-stormwater discharges that are authorized for coverage under this general permit.

Endangered Species – defined in the Endangered Species Act at 16 U.S.C. 1531 as any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man.

Existing Discharger – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

Facility or Activity – any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

Feasible – for the purposes of this permit, feasible means technologically possible and economically practicable and achievable in light of best industry practices. EPA notes that it does not intend for any permit requirement to conflict with state water rights law.

Federal Operator – an entity that meets the definition of “Operator” in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, operating for any such department, agency, or instrumentality.

Hazardous Materials or Hazardous Substances or Toxic Materials – for the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

Historic Property – as defined in the National Historic Preservation Act regulations means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

Impaired Water (or “Water Quality Impaired Water” or “Water Quality Limited Segment”) – for the purposes of this permit, waters identified by a state, tribe, or EPA as not meeting an applicable water quality standard, and require development of a total maximum daily load (TMDL) (pursuant to Section 303(d) of the CWA), or are addressed by an EPA-approved or established TMDL, or are covered by pollution controls requirements that meet the requirements of 40 FR 130.7(b)(1). For discharges that enter a separate storm sewer system prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

Indian Country or Indian Country Lands – defined at 40 CFR 122.2 as:

- a). All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation;
- b). All dependent Indian communities within the borders of the United States, whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State: and
- c). All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe. (18 U.S.C. 1151)

Infeasible – for the purposes of this permit, infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices. EPA notes that it does not intend for any permit requirement to conflict with state water rights law.

Industrial Activity – the 10 categories of industrial activities included in the definition of “stormwater discharges associated with industrial activity” as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Industrial Stormwater – stormwater runoff from industrial activity.

Measurable Storm Event – a precipitation event that results in a measurable amount of precipitation (i.e., a storm event that results in an actual discharge) and that follows the preceding storm event by at least 72 hours (3-days). The 72-hour storm interval does not apply if you document that less than a 72-hour interval is representative for local storm events.

Minimize – for the purposes of this permit, minimize means to reduce and/or eliminate to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) – defined at 40 CFR §122.26(b)(8) as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and
4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. See 40 CFR 122.26(b)(4) and (b)(7).

National Pollutant Discharge Elimination System (NPDES) – defined at 40 CFR §122.2 as the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an ‘approved program.’

New Discharger – a facility from which there is or may be a discharge, that did not commence the discharge of pollutants at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

New Source – any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or
- after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.

New Source Performance Standards (NSPS) – technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

No Exposure – all industrial materials or activities protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).

Non-Stormwater Discharges – discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, pavement wash water, external building washdown, irrigation water, or uncontaminated ground water or spring water.

Notice of Intent (NOI) – the form (electronic or paper) required for authorization of coverage under the Multi-Sector General Permit.

Notice of Termination (NOT) – the form (electronic or paper) required for terminating coverage under the Multi-Sector General Permit.

Operator – any entity with a stormwater discharge associated with industrial activity that meets either of the following two criteria:

1. The entity has operational control over industrial activities, including the ability to make modifications to those activities; or
2. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).

Outfall – see “Discharge Point.”

Permitting Authority – for the purposes of this permit, EPA, a Regional Administrator of EPA, or an authorized representative.

Person – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See 40 CFR 122.2.

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff. See 40 CFR 122.2.

Pollutant – defined at 40 CFR § 122.2. A partial listing from this definition includes: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water. See 40 CFR 122.2.

Pollutant of Concern – a pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a state's 303(d) list.

Primary Industrial Activity – includes any activities performed on-site which are (1) identified by the facility's primary SIC code and included in the descriptions of 122.26(b)(14)(ii), (iii), (vi), or (viii); or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), (vii), or (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.] Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open

dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.

Qualified Personnel – qualified personnel are those who are knowledgeable in the principles and practices of industrial stormwater controls and pollution prevention, and who possess the education and ability to assess conditions at the industrial facility that could impact stormwater quality, and the education and ability to assess the effectiveness of stormwater controls selected and installed to meet the requirements of the permit.

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

Restricted Information – for the purposes of this permit, information that is privileged or that is otherwise protected from disclosure pursuant to applicable statutes, Executive Orders, or regulations. Such information includes, but is not limited to: classified national security information, protected critical infrastructure information, sensitive security information, and proprietary business information.

Runoff Coefficient – the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

Run-On – sources of stormwater that drain from land located upslope or upstream from the regulated facility in question.

Saline Water or Saltwater – for the purposes of this permit, a waterbody with salinity that is equal to or exceeds 10 parts per thousand 95 percent or more of the time, unless otherwise defined as a coastal or marine water by the applicable state or tribal surface water quality standards.

Semi-Arid Areas – areas where annual rainfall averages from 10 to 20 inches.

Significant Materials – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges. See 40 CFR 122.26(b)(12).

Special Aquatic Sites – sites identified in 40 CFR 230 Subpart E. These are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

Spill – for the purpose of this permit, the release of a hazardous or toxic substance from its container or containment.

Stormwater – stormwater runoff, snow melt runoff, and surface runoff and drainage. See 40 CFR 122.26(b)(13).

Stormwater Controls – see “Control Measures.”

Stormwater Discharges Associated with Construction Activity – as used in this permit, a discharge of pollutants in stormwater runoff from areas where land-disturbing activities (e.g., clearing, grading, or excavating) occur, or where construction materials or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located. See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

Stormwater Discharges Associated with Industrial Activity – the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, state, or municipally owned or operated that meet the description of the facilities listed in 40 CFR 122.26(b)(14). The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v). See 40 CFR 122.26(b)(14).

Stormwater Team – the group of individuals responsible for oversight of the development and modifications of the SWPPP, and oversight of compliance with the permit requirements. The individuals on the "Stormwater Team" must be identified in the SWPPP.

Storm Event – a precipitation event that results in a measurable amount of precipitation.

Threatened Species – defined in the Endangered Species Act at 16 U.S.C. 1531 as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Tier 2 Waters – For antidegradation purposes, pursuant to 40 CFR 131.12(a)(2), Tier 2 waters are characterized as having water quality that exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

Tier 2.5 Waters – For antidegradation purposes, Tier 2.5 waters are those waters designated by States or Tribes as requiring a level of protection equal to and above that given to Tier 2 waters, but less than that given Tier 3 waters. States have special requirements for these waters.

Tier 3 Waters – For antidegradation purposes, pursuant to 40 CFR 131.12(a)(3), Tier 3 waters are identified by states as having high quality waters constituting an Outstanding National Resource Water (ONRW), such as waters of National Parks and State Parks, wildlife refuges, and waters of exceptional recreational or ecological significance.

Total Maximum Daily Loads (TMDLs) – The sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. If receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Toxic Waste – see “Hazardous Materials.”

Uncontaminated Discharge – a discharge that does not cause or contribute to an exceedance of applicable water quality standards.

Upset – Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR 122.41 (n)(1).

Water Quality Impaired – See “Impaired Water.”

Water Quality Standards – defined in 40 CFR § 131.3, and are provisions of State or Federal law which consist of a designated use or uses for the waters of the United States, water quality criteria for such waters based upon such uses, and an antidegradation policy to protect high-quality waters. Water quality standards protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

Waters of the United States – See definition at 40 CFR § 122.2.

A.2. ABBREVIATIONS AND ACRONYMS

BAT – Best Available Technology Economically Achievable

BOD5 – Biochemical Oxygen Demand (5-day test)

BMP – Best Management Practice

BPJ – Best Professional Judgment

BPT – Best Practicable Control Technology Currently Available

CERCLA – Comprehensive Environmental Response, Compensation and Liability Act

CGP – Construction General Permit

CFR – Code of Federal Regulations

COD – Chemical Oxygen Demand

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. § 1251 *et seq*)

CWT – Centralized Waste Treatment

DMR – Discharge Monitoring Report

ELG – Effluent Limitations Guideline

EPA – U. S. Environmental Protection Agency

ESA – Endangered Species Act

FWS – U. S. Fish and Wildlife Service

LA – Load Allocations

MGD – Million Gallons per Day

MOS – Margin of Safety

MS4 – Municipal Separate Storm Sewer System

MSGP – Multi-Sector General Permit

NAICS – North American Industry Classification System

NEPA – National Environmental Policy Act

NET – NPDES eReporting Tool

NHPA – National Historic Preservation Act

NMFS – U. S. National Marine Fisheries Service

NOI – Notice of Intent

NOE – No Exposure

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

NRHP – National Register of Historic Places

NSPS – New Source Performance Standard

NTU – Nephelometric Turbidity Unit

OMB – U. S. Office of Management and Budget

ORW – Outstanding Resource Water

OSM – U. S. Office of Surface Mining

POTW – Publicly Owned Treatment Works

RCRA – Resource Conservation and Recovery Act

RQ – Reportable Quantity

SARA – Superfund Amendments and Reauthorization Act

SDS – Safety Data Sheet

SHPO – State Historic Preservation Officer

SIC – Standard Industrial Classification

SMCRA – Surface Mining Control and Reclamation Act

SPCC – Spill Prevention, Control, and Countermeasures

SWPPP – Stormwater Pollution Prevention Plan

THPO – Tribal Historic Preservation Officer

TMDL – Total Maximum Daily Load

TSDF – Treatment, Storage, or Disposal Facility

TSS – Total Suspended Solids

USGS – United States Geological Survey

WLA – Wasteload Allocation

WQS – Water Quality Standard

Appendix B - Standard Permit Conditions.

Standard permit conditions in Appendix B are consistent with the general permit provisions required under 40 CFR 122.41.

B.1 Duty To Comply.

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- A. You must comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards, even if the permit has not yet been modified to incorporate the requirement.
- B. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (61 FR 252, December 31, 1996, pp. 69359-69366, as corrected in 62 FR 54, March 20, 1997, pp.13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every 4 years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties following were adjusted for inflation starting in 1996.

1. Criminal Penalties.

- 1.1 Negligent Violations. The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than \$2,500 nor more than \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation or by imprisonment of not more than two years, or both.
- 1.2. *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
- 1.3. *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than \$250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person

shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- 1.4. *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
2. *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$37,500 per day for each violation).
3. *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows
 - 3.1. *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$37,500).
 - 3.2. *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$177,500).

B.2 Duty to Reapply.

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain authorization as required by the new permit once EPA issues it.

B.3 Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.4 Duty to Mitigate.

You must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

B.5 Proper Operation and Maintenance.

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by you to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by you only when the operation is necessary to achieve compliance with the conditions of this permit.

B.6 Permit Actions.

This permit may be modified, revoked and reissued, or terminated for cause. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B.7 Property Rights.

This permit does not convey any property rights of any sort, or any exclusive privileges.

B.8 Duty to Provide Information.

You must furnish to EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), within a reasonable time, any information which EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. You must also furnish to EPA or an authorized representative upon request, copies of records required to be kept by this permit.

B.9 Inspection and Entry.

You must allow EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), upon presentation of credentials and other documents as may be required by law, to:

- A. Enter upon your premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

- D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B.10 Monitoring and Records.

- A. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.
- B. You must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of EPA at any time.
- C. Records of monitoring information must include:
 - 1. The date, exact place, and time of sampling or measurements;
 - 2. The individual(s) who performed the sampling or measurements;
 - 3. The date(s) analyses were performed
 - 4. The individual(s) who performed the analyses;
 - 5. The analytical techniques or methods used; and
 - 6. The results of such analyses.
- D. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.
- E. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

B.11 Signatory Requirements.

- A. NOIs, NOTs, and NOEs must be signed as follows:
 - 1. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment

- recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
 3. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).
- B. Your SWPPP, including changes to your SWPPP to document any corrective actions taken as required by Part 3.1, and any other compliance documentation required under this permit, including the Annual Report, DMRs, inspection reports, and corrective action reports, must be signed by a person described in Appendix B, Subsection 11.A above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
1. The authorization is made in writing by a person described in Appendix B, Subsection 11.A;
 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 3. The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.
- C. All other changes to your SWPPP, and other compliance documentation required under Part 5.4, must be signed and dated by the person preparing the change or documentation.
- D. Changes to Authorization. If an authorization under Part 1.3.1.3 is no longer accurate because the industrial facility has been purchased by a different entity, a new NOI satisfying the requirements of Part 1.3 must be submitted to EPA. See Table 1-2 in Part 1.3.1.1 of the permit. However, if the only change that is occurring is a change in contact information or a change in the facility's address, the operator need only make a modification to the existing NOI submitted for authorization.
- E. Any person signing documents in accordance with Appendix B, Subsections 11.A or 11.B above must include the following certification:
- "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the

information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- F. For persons signing documents electronically, in addition to meeting other applicable requirements in Appendix I, Subsection B.11, such signatures must be legally dependable with no less evidentiary value than their paper equivalent.
- G. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

B.12 Reporting Requirements.

- A. Planned changes. You must give notice to EPA as soon as possible, but no fewer than 30 days, of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - 1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - 2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).
- B. Anticipated noncompliance. You must give advance notice to EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. Transfers. This permit is not transferable to any person except after notice to EPA. Where a facility wants to change the name of the permittee, the original permittee (the first owner or operators) must submit a Notice of Termination pursuant to Part 1.4. The new owner or operator must submit a Notice of Intent in accordance with Part 1.3.1 and Table 1-2. See also requirements in Appendix B, Subsections 11.B and 11.D.
- D. Monitoring reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.
 - 1. Pursuant to Part 7.1, all monitoring data collected pursuant to Part 6 must be submitted to EPA using EPA's online DMR system (<http://www.epa.gov/netdmr/>).
 - 2. If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or as specified in the permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR.

3. Calculations for all limitations which require averaging of measurements must use an arithmetic mean. For averaging purposes, use a value of zero for any individual sample parameter, which is determined to be less than the method detection limit. For sample values that fall between the method detection level and the quantitation limit (i.e., a confirmed detection but below the level that can be reliably quantified), use a value halfway between zero and the quantitation limit.
- E. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.
- F. Twenty-four hour reporting.
1. You must report any noncompliance which may endanger health or the environment. Any information must be provided orally within 24 hours from the time you become aware of the circumstances. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 2. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - a. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41 (m) (3) (ii))
 - b. Any upset which exceeds any effluent limitation in the permit
 - c. Violation of a maximum daily discharge limit for any numeric effluent limitation. (See 40 CFR 122.44(g).)
 3. EPA may waive the written report on a case-by-case basis for reports under Appendix B, Subsection 12.F.2 if the oral report has been received within 24 hours.
- G. Other noncompliance. You must report all instances of noncompliance not reported under Appendix B, Subsections 12.D, 12.E, and 12.F, at the time monitoring reports are submitted. The reports must contain the information listed in Appendix B, Subsection 12.F.
- H. Other information. Where you become aware that you failed to submit any relevant facts in your NOI, or submitted incorrect information in your NOI or in any report to the Permitting Authority, you must promptly submit such facts or information.

B.13 Bypass.

A. Definitions.

1. Bypass means the intentional diversion of waste streams from any portion of a treatment facility See 40 CFR 122.41 (m) (1) (i).

2. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR 122.41(m)(1)(ii).
- B. Bypass not exceeding limitations. You may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix B, Subsections 13.C and 13.D. See 40 CFR 122.41(m)(2).
- C. Notice.
1. Anticipated bypass. If you know in advance of the need for a bypass, you must submit prior notice, if possible at least ten days before the date of the bypass. See 40 CFR 122.41(m)(3)(i).
 2. Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Appendix B, Subsection 12.F (24-hour notice). See 40 CFR 122.41(m)(3)(ii).
- D. Prohibition of bypass. See 40 CFR 122.41(m)(4).
1. Bypass is prohibited, and EPA may take enforcement action against you for bypass, unless:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. You submitted notices as required under Appendix B, Subsection 13.C.
 2. EPA may approve an anticipated bypass, after considering its adverse effects, if EPA determines that it will meet the three conditions listed above in Appendix B, Subsection 13.D.1.

B.14 Upset.

- A. Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR 122.41(n)(1).
- B. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements

of Appendix B, Subsection 14.C are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. See 40 CFR 122.41(n)(2).

- C. Conditions necessary for a demonstration of upset. See 40 CFR 122.41(n)(3). A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An upset occurred and that you can identify the cause(s) of the upset;
 2. The permitted facility was at the time being properly operated; and
 3. You submitted notice of the upset as required in Appendix B, Subsection 12.F.2.b (24 hour notice).
 4. You complied with any remedial measures required under Appendix B, Subsection 4.
- D. Burden of proof. In any enforcement proceeding, you, as the one seeking to establish the occurrence of an upset, have the burden of proof. See 40 CFR 122.41(n)(4).

B.15 Retention of Records.

Copies of the SWPPP and all documentation required by this permit, including records of all data used to complete the NOI to be covered by this permit, must be retained for at least three years from the date that permit coverage expires or is terminated. This period may be extended by request of EPA at any time.

B.16 Reopener Clause.

- A. Procedures for modification or revocation. Permit modification or revocation will be conducted according to 40 CFR §122.62, §122.63, §122.64 and §124.5.
- B. Water quality protection. If there is evidence indicating that the stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, you may be required to obtain an individual permit in accordance with Part 1.3.3 of this permit, or the permit may be modified to include different limitations and/or requirements.
- C. Timing of permit modification. EPA may elect to modify the permit prior to its expiration (rather than waiting for the new permit cycle) to comply with any new statutory or regulatory requirements, such as for effluent limitation guidelines that may be promulgated in the course of the current permit cycle.

Appendix C - Permit Areas Eligible for Coverage.

EPA can only provide permit coverage in these areas and for classes of discharges that are outside the scope of a state's NPDES program authorization.

C.1 EPA Region 1: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 1:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
CTR05I000	Indian Country within the State of Connecticut
MAR050000	Commonwealth of Massachusetts, except Indian country
MAR05I000	Indian country within the Commonwealth of Massachusetts
NHR050000	State of New Hampshire
RIR05I000	Indian country within the State of Rhode Island
VTR05F000	Areas in the State of Vermont subject to industrial activity by a Federal Operator

For stormwater discharges in EPA Region 1 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.2 EPA Region 2: New Jersey, New York, Puerto Rico, Virgin Islands.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 2:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
PRR050000	Commonwealth of Puerto Rico

For stormwater discharges in EPA Region 2 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.3 EPA Region 3: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 3:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
DCR050000	District of Columbia
DER05F000	Areas in the State of Delaware subject to industrial activity by a Federal Operator

For stormwater discharges in EPA Region 3 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.4 EPA Region 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee (Coverage not available under this permit).

For stormwater discharges in EPA Region 4, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.5 EPA Region 5: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 5:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
MIR05I000	Indian country within the State of Michigan
MNR05I000	Indian country within the State of Minnesota
WIR05I000	Indian country within the State of Wisconsin (except for facilities on Sokaogon Chippewa Community lands and Bad River Band of Lake Superior Tribe of Chippewa Indians lands, see EPA Region 5 for an individual permit application).

For stormwater discharges in EPA Region 5 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.6 EPA Region 6: Arkansas, Louisiana, Oklahoma, Texas, and **New Mexico (except see Region 9 for Navajo lands, and see Region 8 for Ute Mountain Reservation lands).**

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 6:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
LAR05I000	Indian country within the State of Louisiana
NMR050000	The State of New Mexico, except Indian country
NMR05I000	Indian country within the State of New Mexico, except Ute Mountain Reservation lands that are covered under Colorado permit COR05I000 and Navajo Reservation lands that are covered under Arizona permit AZR05I000
OKR05I000	Indian country within the State of Oklahoma
OKR05F000	Facilities in the State of Oklahoma not under the jurisdiction of the Oklahoma Department of Environmental Quality or the Oklahoma Department of Agriculture, Food and Forestry, except those on Indian Country. EPA jurisdiction facilities include SIC Codes 1311, 1381, 1382, 1389, and 5171.

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
TXR05F000	Facilities in the State of Texas not under the jurisdiction of the Texas Commission on Environmental Quality, except those on Indian Country. EPA-jurisdiction facilities include SIC Codes 1311, 1321, 1381, 1382, 1389, and 5171 (other than oil field service company "home base" facilities).
TXR05I000	Indian country within the State of Texas

For stormwater discharges in EPA Region 6 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.7 EPA Region 7: Iowa, Kansas, Missouri, Nebraska (except see Region 8 for Pine Ridge Reservation Lands).

This permit offer NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 7:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
IAR05I000	Indian country within the State of Iowa
KSR05I000	Indian country within the State of Kansas
NER05I000	Indian country within the State of Nebraska, except Pine Ridge Reservation lands (see Region 8)

For stormwater discharges in EPA Region 7 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.8 EPA Region 8: Colorado, Montana, North Dakota, South Dakota, Wyoming, Utah (except see Region 9 for Goshute Reservation and Navajo Reservation Lands), the Ute Mountain Reservation in NM, and the Pine Ridge Reservation in NE.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 8:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
COR05F000	Areas in the State of Colorado, except those located on Indian country, subject to industrial activity by a Federal Operator
COR05I000	Indian country within the State of Colorado, as well as the portion of the Ute Mountain Reservation located in New Mexico
MTR05I000	Indian country within the State of Montana
NDR05I000	Indian country within the State of North Dakota, as well as that portion of the Standing Rock Reservation located in South Dakota (except for the portion of the lands within the former boundaries of the Lake Traverse Reservation, which is covered under South Dakota permit SDR05I000 listed below)

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
SDR051000	Indian country within the State of South Dakota, as well as the portion of the Pine Ridge Reservation located in Nebraska and the portion of the lands within the former boundaries of the Lake Traverse Reservation located in North Dakota (except for the Standing Rock Reservation, which is covered under North Dakota permit NDR051000 listed above)
UTR051000	Indian country within the State of Utah, except Goshute and Navajo Reservation lands (see Region 9)
WYR051000	Indian country within the State of Wyoming

For stormwater discharges in EPA Region 8 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.9 EPA Region 9: California, Hawaii, Nevada, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Confederated Tribes of the Goshute Reservation in Utah and Nevada, Indian Country within the State of Arizona including the Navajo Reservation in Utah and New Mexico and Arizona, the Duck Valley Reservation in Idaho, and the Fort McDermitt Reservation in Oregon.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 9:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
ASR050000	American Samoa
AZR051000	Indian country within the State of Arizona, including Navajo Reservation lands in New Mexico and Utah
CAR051000	Indian country within the State of California
GUR050000	Island of Guam
JAR050000	Johnston Atoll
MWR050000	Midway Island and Wake Island
MPR050000	Commonwealth of the Northern Mariana Islands
NVR051000	Indian country within the State of Nevada, including the Duck Valley Reservation in Idaho, the Fort McDermitt Reservation in Oregon and the Confederated Tribes of the Goshute Reservation in Utah

For stormwater discharges in EPA Region 9 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

C.10 Region 10: Alaska, Idaho (except see Region 9 for Duck Valley Reservation lands), Oregon (except see Region 9 for Fort McDermitt Reservation), Washington.

This permit offers NPDES permit coverage for stormwater discharges associated with industrial activity from the following areas in EPA Region 10:

Master Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
AKR05F000	Denali National Park and Preserve
AKR05I000	Indian country lands as defined in 18 U.S.C. 1151 within the State of Alaska
IDR050000	The State of Idaho, except Indian country lands [PERMIT COVERAGE NOT AVAILABLE UNTIL CWA 401 CERTIFICATION IS RECEIVED]
IDR05I000	Indian country lands within the State of Idaho, except Duck Valley Reservation lands, which are covered under Nevada permit NVR05I000
ORR05I000	Indian country lands within the State of Oregon, except Fort McDermitt Reservation lands, which are covered under Nevada permit NVR05I000
WAR05I000	Indian country lands within the State of Washington [EXCEPT FOR FACILITIES LOCATED ON SPOKANE TRIBE OF INDIANS LANDS (PERMIT COVERAGE NOT AVAILABLE UNTIL CWA 401 CERTIFICATION IS RECEIVED)]
WAR05F000	Areas in the State of Washington, except those located on Indian country lands, subject to industrial activity by a Federal Operator [PERMIT COVERAGE NOT AVAILABLE UNTIL CWA 401 CERTIFICATION IS RECEIVED]

For stormwater discharges in EPA Region 10 outside the areas of coverage identified above, please contact your state NPDES permitting authority to obtain coverage under a state-issued NPDES permit.

Appendix D - Facilities and Activities Covered

Your permit eligibility is limited to discharges from facilities in the “sectors” of industrial activity summarized in Table D-1. These sector descriptions are based on Standard Industrial Classification (SIC) Codes and Industrial Activity Codes. References to “sectors” in this permit (e.g., sector-specific monitoring requirements) refer to these groupings.

Table D-1. Sectors of Industrial Activity Covered by This Permit		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code¹	Activity Represented
SECTOR A: TIMBER PRODUCTS		
A1	2421	General Sawmills and Planing Mills
A2	2491	Wood Preserving
A3	2411	Log Storage and Handling
A4	2426	Hardwood Dimension and Flooring Mills
	2429	Special Product Sawmills, Not Elsewhere Classified
	2431-2439 (except 2434)	Millwork, Veneer, Plywood, and Structural Wood (see Sector W)
	2448	Wood Pallets and Skids
	2449	Wood Containers, Not Elsewhere Classified
	2451, 2452	Wood Buildings and Mobile Homes
	2493	Reconstituted Wood Products
	2499	Wood Products, Not Elsewhere Classified
	2441	Nailed and Lock Corner Wood Boxes and Shook
SECTOR B: PAPER AND ALLIED PRODUCTS		
B1	2631	Paperboard Mills
B2	2611	Pulp Mills
	2621	Paper Mills
	2652-2657	Paperboard Containers and Boxes
	2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
SECTOR C: CHEMICALS AND ALLIED PRODUCTS		
C1	2873-2879	Agricultural Chemicals
C2	2812-2819	Industrial Inorganic Chemicals
C3	2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
C4	2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass

Table D-1. Sectors of Industrial Activity Covered by This Permit

Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code ¹	Activity Represented
C5	2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
	2861-2869	Industrial Organic Chemicals
	2891-2899	Miscellaneous Chemical Products
	3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
2911	Petroleum Refining	
SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS		
D1	2951, 2952	Asphalt Paving and Roofing Materials
D2	2992, 2999	Miscellaneous Products of Petroleum and Coal
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS		
E1	3251-3259	Structural Clay Products
	3261-3269	Pottery and Related Products
E2	3271-3275	Concrete, Gypsum, and Plaster Products
E3	3211	Flat Glass
	3221, 3229	Glass and Glassware, Pressed or Blown
	3231	Glass Products Made of Purchased Glass
	3241	Hydraulic Cement
	3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products	
SECTOR F: PRIMARY METALS		
F1	3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
F2	3321-3325	Iron and Steel Foundries
F3	3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
F4	3363-3369	Nonferrous Foundries (Castings)
F5	3331-3339	Primary Smelting and Refining of Nonferrous Metals
	3341	Secondary Smelting and Refining of Nonferrous Metals
	3398, 3399	Miscellaneous Primary Metal Products

Table D-1. Sectors of Industrial Activity Covered by This Permit		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code¹	Activity Represented
SECTOR G: METAL MINING (ORE MINING AND DRESSING)		
G1	1021	Copper Ore and Mining Dressing Facilities
G2	1011	Iron Ores
	1021	Copper Ores
	1031	Lead and Zinc Ores
	1041, 1044	Gold and Silver Ores
	1061	Ferroalloy Ores, Except Vanadium
	1081	Metal Mining Services
	1094, 1099	Miscellaneous Metal Ores
SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES		
H1	1221-1241	Coal Mines and Coal Mining-Related Facilities
SECTOR I: OIL AND GAS EXTRACTION		
I1	1311	Crude Petroleum and Natural Gas
	1321	Natural Gas Liquids
	1381-1389	Oil and Gas Field Services
SECTOR J: MINERAL MINING AND DRESSING		
J1	1442	Construction Sand and Gravel
	1446	Industrial Sand
J2	1411	Dimension Stone
	1422-1429	Crushed and Broken Stone, Including Rip Rap
	1481	Nonmetallic Minerals Services, Except Fuels
	1499	Miscellaneous Nonmetallic Minerals, Except Fuels
J3	1455, 1459	Clay, Ceramic, and Refractory Materials
	1474-1479	Chemical and Fertilizer Mineral Mining
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES		
K1	HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
SECTOR L: LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS		
L1	LF	All Landfill, Land Application Sites and Open Dumps
L2	LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
SECTOR M: AUTOMOBILE SALVAGE YARDS		
M1	5015	Automobile Salvage Yards

Table D-1. Sectors of Industrial Activity Covered by This Permit		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code¹	Activity Represented
SECTOR N: SCRAP RECYCLING FACILITIES		
N1	5093	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
N2	5093	Source-separated Recycling Facility
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES		
O1	SE	Steam Electric Generating Facilities, including coal handling sites
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING		
P1	4011, 4013	Railroad Transportation
	4111-4173	Local and Highway Passenger Transportation
	4212-4231	Motor Freight Transportation and Warehousing
	4311	United States Postal Service
	5171	Petroleum Bulk Stations and Terminals
SECTOR Q: WATER TRANSPORTATION		
Q1	4412-4499	Water Transportation Facilities
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS		
R1	3731, 3732	Ship and Boat Building or Repairing Yards
SECTOR S: AIR TRANSPORTATION FACILITIES		
S1	4512-4581	Air Transportation Facilities
SECTOR T: TREATMENT WORKS		
T1	TW	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA
SECTOR U: FOOD AND KINDRED PRODUCTS		
U1	2041-2048	Grain Mill Products
U2	2074-2079	Fats and Oils Products
U3	2011-2015	Meat Products
	2021-2026	Dairy Products

Table D-1. Sectors of Industrial Activity Covered by This Permit

Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code ¹	Activity Represented
	2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
	2051-2053	Bakery Products
	2061-2068	Sugar and Confectionery Products
	2082-2087	Beverages
	2091-2099	Miscellaneous Food Preparations and Kindred Products
	2111-2141	Tobacco Products
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS		
V1	2211-2299	Textile Mill Products
	2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
	3131-3199	Leather and Leather Products (note: see Sector Z1 for Leather Tanning and Finishing)
SECTOR W: FURNITURE AND FIXTURES		
W1	2434	Wood Kitchen Cabinets
	2511-2599	Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING		
X1	2711-2796	Printing, Publishing, and Allied Industries
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES		
Y1	3011	Tires and Inner Tubes
	3021	Rubber and Plastics Footwear
	3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
	3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
Y2	3081-3089	Miscellaneous Plastics Products
	3931	Musical Instruments
	3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
	3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
	3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
	3991-3999	Miscellaneous Manufacturing Industries
SECTOR Z: LEATHER TANNING AND FINISHING		
Z1	3111	Leather Tanning and Finishing

Table D-1. Sectors of Industrial Activity Covered by This Permit		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code¹	Activity Represented
SECTOR AA: FABRICATED METAL PRODUCTS		
AA1	3411-3499 (except 3479)	Fabricated Metal Products, Except Machinery and Transportation Equipment, and Coating, Engraving, and Allied Services.
	3911-3915	Jewelry, Silverware, and Plated Ware
AA2	3479	Fabricated Metal Coating and Engraving
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY		
AB1	3511-3599 (except 3571-3579)	Industrial and Commercial Machinery, Except Computer and Office Equipment (see Sector AC)
	3711-3799 (except 3731, 3732)	Transportation Equipment Except Ship and Boat Building and Repairing (see Sector R)
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS		
AC1	3571-3579	Computer and Office Equipment
	3812-3873	Measuring, Analyzing, and Controlling Instruments; Photographic and Optical Goods, Watches, and Clocks
	3612-3699	Electronic and Electrical Equipment and Components, Except Computer Equipment
SECTOR AD: NON-CLASSIFIED FACILITIES		
AD1	Other stormwater discharges designated by the Director as needing a permit (see 40 CFR 122.26(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any of Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.	

¹ A complete list of SIC Codes (and conversions from the newer North American Industry Classification System" (NAICS)) can be obtained from the Internet at www.census.gov/epcd/www/naics.html or in paper form from various locations in the document titled *Handbook of Standard Industrial Classifications*, Office of Management and Budget, 1987.

Appendix E - Procedures Relating to Endangered Species Protection

E.1 Assessing the Effects of Your Discharges and Discharge-Related Activities

You must follow the procedures in this appendix to determine which of the eligibility criteria in Part 1.1.4.5 (i.e., criterion A - E), if any, you qualify under, by assessing the potential effects of applicable stormwater discharges, discharge-related activities, and allowable non-stormwater discharges on listed threatened and endangered species and their designated critical habitat. In accordance with Part 5.2.6.1 of this permit, you must keep any documentation that supports your eligibility determination, including the completed [Criterion Selection Worksheet](#) in Part E.4 of this appendix, with your Stormwater Pollution Prevention Plan (SWPPP). You must complete your eligibility determination prior to submitting your Notice of Intent (NOI) for coverage under the MSGP, and must provide all information as required on your NOI form that supports the Part 1.1.4.5 eligibility criterion you qualify under. **Note that if you have determined that you may be eligible under criterion C, you must submit a completed [Criterion C Eligibility Form](#) to EPA a minimum of 30 days prior to submitting your NOI for permit coverage.**

When evaluating the potential effects of your activities, you must consider effects to listed species or critical habitats within the "action area" of your industrial activity. Action area is defined in Appendix A of the MSGP as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. This includes areas beyond the footprint of the facility that are likely to be affected by stormwater discharges, discharge-related activities, and allowable non-stormwater discharges. For example, discharges of pollutants into downstream areas can increase the "action area" beyond the footprint of the facility.

E.2 Eligibility Criterion

As required by Part 1.1.4.5, you must meet one or more of the following five criteria (A - E) to be eligible for coverage under the permit:

- Criterion A.** No federally listed threatened or endangered species or their designated critical habitat(s) are likely to occur in the "action area" as defined in Appendix A. To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. You must also provide a description of the basis for the criterion you selected on your NOI form and provide documentation supporting your eligibility determination in your SWPPP.
- Criterion B.** Your industrial activity's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under this permit and there is no reason to believe that federally listed species or designated critical habitat not considered in the prior certification may be present or located in the "action area" (e.g., due to a new species listing or critical habitat designation). To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. There must be no lapse of NPDES permit coverage in the other operator's certification. You must also comply with any additional measures that formed the basis of the other operator's valid certification of eligibility to ensure that your discharges and discharge-related activities are protective of listed species and/or critical habitat. You must include in your NOI the NPDES ID (i.e., permit tracking number) assigned to the other operator's authorization under this permit, and a description of the basis for the criterion selected on your NOI form, including the eligibility criterion selected by the

other operator's certification. You must also provide any documentation in your SWPPP that supports the other operator's eligibility determination, including any additional measures that formed the basis of the other operator's eligibility determination.

Criterion C. Federally listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your facility's "action area," and your industrial activity's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E, including completion of the *Criterion C Eligibility Form*, which you must submit to EPA at least 30 days prior to filing your NOI for permit coverage. After evaluation of your *Criterion C Eligibility Form*, EPA may require additional measures that you must implement to avoid or eliminate likely adverse effects on listed species and critical habitat from discharges and discharge-related activities. You may submit your NOI for permit coverage 30 days after submitting to EPA your completed *Criterion C Eligibility Form*. You must also provide a description of the basis for the criterion you selected on your NOI form and provide documentation supporting your eligibility determination in your SWPPP.

Criterion D. Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the Endangered Species Act (ESA) has been concluded. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action (e.g., during application for an individual wastewater discharge permit or the issuance of a wetlands dredge and fill permit), and consultation must have addressed the effects of the industrial activity's discharges and discharge-related activities on all federally listed threatened or endangered species and federally designated critical habitat. The result of this consultation must be one of the following:

- i. A biological opinion that concludes that the action in question (taking into account the effects of your facility's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat;
- ii. A biological opinion that concludes that the action is likely to jeopardize listed species or to result in the destruction or adverse modification of critical habitat, and any recommended reasonable and prudent alternatives or reasonable and prudent measures are being implemented; or
- iii. Written concurrence from the applicable Service(s) with a finding that your facility's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat.

To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. You must verify that the consultation does not warrant reinitiation under 50 CFR §402.16. If reinitiation of consultation is required, in order to be eligible under this criterion you must ensure consultation is reinitiated and the result of the consultation must be consistent with (i), (ii), or (iii) above.

If eligible, you must also provide supporting documentation for your determination in your NOI and SWPPP, including the Biological Opinion (or PCTS tracking number) or concurrence letter.

Criterion E. Your industrial activities are the subject of a permit under section 10 of the ESA, and this authorization addresses the effects of your facility's discharges and discharge-related activities on federally listed species and designated critical habitat. To certify your eligibility under this criterion, you must use the *Criterion Selection Worksheet* in Part E.4 of Appendix E. You must also provide supporting documentation for your determination in your NOI and SWPPP, including a copy of the permit from the Services.

E.3 Eligibility Compliance

You must comply with any measures that formed the basis of your eligibility determination in Part 1.1.4.5 for the duration of your coverage under the MSGP in order to maintain your eligibility for coverage under the permit. These measures become permit requirements per Part 2.3. Documentation of these measures must be kept as part of your SWPPP (see Part 5.2.6.1).

E.4 Criterion Selection Worksheet

Instructions:

You must follow the step-by-step instructions in this worksheet in order to determine your eligibility under the Part 1.1.4.5 criteria. Alternatively, if you prefer to use a Biological Evaluation (or its equivalent) in making a determination of your eligibility, you should ensure all of the information requested below for the criterion you are selecting is fully addressed in such a document. You must attach this completed document or Biological Evaluation (or equivalent) to your SWPPP to support your Part 1.1.4.5 eligibility determination.

You may need the following information in order to determine your eligibility:

- 1) Your facility's draft Stormwater Pollution Prevention Plan (SWPPP), including information on receiving waters.
- 2) Any additional site-specific information related to your facility's discharges and discharge-related activities.
- 3) The list(s) of endangered and threatened species and any designated critical habitat in your action area, as acquired from the Fish and Wildlife Service and/or the National Marine Fisheries Services. Directions on how to acquire species lists is described in a subsequent section below.

Note that much of the information needed to complete this worksheet is also needed in order to prepare your NOI for permit coverage, and is also information that you must develop as part of your SWPPP. You may copy and paste any information that is already required and completed in your SWPPP into this worksheet. (*You may also decide to make minor changes or additions to your SWPPP while filling out the worksheet for clarification purposes or to address any concerns that are identified below.*)

STEP 1: DETERMINE IF THE ELIGIBILITY REQUIREMENTS OF CRITERION B, D, OR E CAN BE MET.

- A. You should first determine whether you are eligible under [criterion B](#) (because another operator has accounted for your action area in their valid certification of eligibility under the 2015 MSGP), [criterion D](#) (because of a previously completed ESA section 7 consultation), or [criterion E](#) (because of a previously issued ESA section 10 permit).

- B. If your facility is likely to be eligible under criterion B, D or E, you may skip ahead to the applicable criterion's requirements to determine if you are eligible. If after completing the relevant section you find that your facility does not in fact meet criteria B, D, or E (e.g., due to difference in action area described, lack of analysis of appropriate effects, new listings or designation of critical habitat), proceed to [Step 2](#) below.
- C. If your facility is not likely to be eligible under criterion B, D or E, you may proceed directly to [Step 2](#).

Criterion B Eligibility Requirements

If your industrial activities were already addressed in another operator's valid certification of eligibility under the current 2015 MSGP, you may be eligible for coverage under criterion B. In order to be eligible for coverage under criterion B, you must confirm that all the following are true:

- You have confirmed that the other operator's certification of eligibility accounted for your action area and that the eligibility determination was valid.
- There has been no lapse of NPDES permit coverage in the other operator's certification.
- You will comply with all measures that formed the basis of the other operator's valid certification of eligibility. List any measures here (or enter "N/A" if none exist):

- **If all of the above are true, you may select criterion B on your NOI.** You must include in your NOI the NPDES ID assigned to the other operator's authorization under this permit, and a description of the basis for the criterion selected on your NOI form, including the eligibility criterion selected by the other operator's certification. You must include this completed worksheet in your SWPPP.
- **If any of the above are not true, you may not select criterion B and must proceed to [Step 2](#).** For example, if there are any listed species in your action area that were not addressed in the other operator's certification, you are not eligible under criterion B.

Criterion D Eligibility Requirements

If consultation under section 7 of the ESA has been concluded, you may be eligible for coverage under criterion D. In order to be eligible for coverage under criterion D, you must confirm that all the following are true:

- A consultation between a federal agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action (e.g., during application for an individual wastewater discharge permit or the issuance of a wetlands dredge and fill permit), and the consultation must have addressed the effects of your industrial activity's discharges and discharge-related activities on all federally listed threatened or endangered species and all designated critical habitat in your action area. The result of this consultation must be either:

- i. A biological opinion that concludes that the action in question (taking into account the effects of your facility's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. The biological opinion must have included the effects of your facility's discharges^a and discharge-related activities on all the listed species and designated critical habitat in your action area;
- ii. A biological opinion that concludes that the action is likely to jeopardize listed species or to result in the destruction or adverse modification of critical habitat, and any recommended reasonable and prudent alternatives or reasonable and prudent measures are being implemented; or
- iii. Written concurrence (e.g., letter of concurrence) from the applicable Service(s) with a finding that concludes that your facility's discharges and discharge-related activities are not likely to adversely affect listed species or designated critical habitat. The concurrence letter must have included the effects of your facility's discharges and discharge-related activities on all the listed species and designated critical habitat on your species list(s) acquired from the Service(s) as part of this worksheet.

The consultation does not warrant reinitiation under 50 CFR §402.16; or, if reinitiation of consultation is required (e.g., due to a new species listing or critical habitat designation; new information), you have reinitiated the consultation and the result of the consultation is consistent with the statements above. Attach a copy of any reinitiation documentation from the Services or other consulting federal agency.

- **If all of the above are true, you may select criterion D on your NOI.** You must also provide a description of the basis for the criterion selected on your NOI form and you must include this completed worksheet in your SWPPP. In both your SWPPP and NOI you must also provide the Biological Opinion (or PCTS tracking number) or concurrence letter and any other documentation supporting your eligibility determination.
- **If any of the above are not true, you may not select criterion D and must proceed to [Step 2](#).** For example, if the biological opinion or written concurrence did not include the effects of the discharge or discharge-related activities as described above (e.g., the previous consultation covered some but not all of the species or critical habitat in your action area as shown on your species list), or if the consultation is no longer valid (e.g., due to new species listings), you are not eligible under criterion D.

Criterion E Eligibility Requirements

If your industrial activities are the subject of a permit under section 10 of the ESA, and this authorization addresses the effects of your facility's discharges and discharge-related activities on federally listed species and designated critical habitat in your action area, you may be eligible for coverage under criterion E. In order to be eligible for coverage under criterion E, you must confirm that the following is true:

A permit has been issued under section 10 of the ESA. The permit authorization specifically addresses the effects of your facility's discharges and discharge-related activities (if applicable) on all federally-listed species and designated critical habitat in your action area.

^a Effects of discharge includes, but is not limited to, the analysis of the hydrological, chemical, and biological effects of the discharge on listed species, their prey, and their habitat, as well as critical habitat, where designated. For example, the effects analysis would have evaluated whether the various pollutants in the discharge (e.g., TSS, metals) would adversely affect listed species through exposure to the pollutants, or to their prey or habitat. Effects that look only at short-term effects unrelated to the stormwater discharge effects to listed species are not sufficient for these purposes.

- **If the above is true, you may select criterion E on your NOI.** You must also provide a description of the basis for the criterion selected on your NOI form and must include this completed worksheet in your SWPPP. In both your SWPPP and your NOI you must provide a copy of the section 10 permit issued by the Services.
- **If the above is not true, you may not select criterion E and must proceed to [Step 2](#).** For example, if a permit has been issued under section 10 of the ESA, but the permit authorization did not address the effects of your facility's discharges and/or discharge-related activities on all federally-listed species and designated critical habitat in your action area, you are not eligible under criterion E, but you should attach a copy of the permit to the SWPPP for reference.

STEP 2: DETERMINE THE EXTENT OF YOUR ACTION AREA

You must determine whether species listed as either threatened or endangered, or their critical habitat(s) (see definitions of these terms in Appendix A), are located in your facility's action area (i.e., all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action, including areas beyond the footprint of the facility that are likely to be affected by stormwater discharges, discharge-related activities, and allowable non-stormwater discharges). Consider the following in determining the action area for your facility:

- Discharges of pollutants into downstream areas can expand the action area well beyond the footprint of your facility and the discharge point(s). Take into account the controls you will be implementing to minimize pollutants and the receiving waterbody characteristics (e.g., perennial, intermittent, ephemeral) in determining the extent of physical, chemical, and/or biotic effects of the discharges. All receiving waterbodies that could receive pollutants from your facility must be included in your action area.
- Discharge-related activities must also be accounted for in determining your action area. Discharge-related activities are any activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction, and operation of stormwater controls to control, reduce, or prevent pollutants from being discharged. For example, any new or modified stormwater controls that will have noise or other similar effects, and any disturbances associated with construction of controls, are part of your action area.

If you have any questions about determining the extent of your action area, you may contact EPA or the Services for assistance.

You must include a map **and a written description** of the action area of your facility in [Attachment 1](#) of this appendix. You may choose to include the map that is generated from the FWS' on-line mapping tool IPaC (the *Information, Planning, and Consultation System*) located at <http://ecos.fws.gov/ipac/> (see [Step 3](#) for information about using this tool).

You must proceed to [Step 3](#) below.

STEP 3: DETERMINE IF LISTED THREATENED OR ENDANGERED SPECIES AND/OR CRITICAL HABITAT ARE PRESENT IN YOUR ACTION AREA.

You must determine whether species listed as either threatened or endangered under the Endangered Species Act (ESA), and/or their designated critical habitat(s)^b, are located in your facility's action area. Federally listed species and designated critical habitat are under the purview of the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) (together, "Services"), and in many cases, species and critical habitat lists will need to be acquired from both Services.

^b See definitions of these terms in Appendix A of the MSGP.

- For NMFS species and critical habitat information, use the following webpages, which provide up-to-date information on listed species (<http://www.nmfs.noaa.gov/pr/species/esa/>) and critical habitat (<http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm>). To determine the field office that corresponds to your facility, go to <http://www.nmfs.noaa.gov/> (under the left tab for "Regions"). For NMFS species in the Greater Atlantic Region, go to <http://www.greateratlantic.fisheries.noaa.gov/protected/section7/guidance/maps/index.html>.
- For FWS species information, use the on-line mapping tool IPaC (the *Information, Planning, and Consultation System*) located at <http://ecos.fws.gov/ipac/>, and follow these steps:
 - *Select Get Started.*
 - Select Enter Project Location
 - Use an address, city name or other location to zoom into your project area
 - Use the zoom feature to see the entire extent of your action area on the screen.
 - Use one of the mapping features (e.g., Polygon or line feature) to draw your action.
 - For the aquatic portion of your action area, trace the waterbody(ies) with the tool to characterize your action area.
 - If your proposal will include any upland activities (i.e., discharge-related activities), or if there is some aspect of your discharge that would potentially result in effects to terrestrial species, include the corresponding upland areas within your action area.
 - When you are done, press *Continue*.
 - Select Request an Official Species List
 - Complete the fields on the Official Species List Request page, and include "(MSGP)" at the end of the project description.
 - For Classification, select "Water Quality Modification".
 - Select the appropriate requesting agency/organization type (for most applicants, this should be "Other").
 - Submit the request to acquire an Official Species List, which should show both listed species as well as any designated critical habitat that are present in the action area in the previous step.
 - Note: *If a link to an Official Species List is not available on the page, follow the web link of the office(s) indicated, or contact the office directly by mail or phone if a web link is not shown.*

The principle authority for critical habitat designations and associated requirements is found at 50 CFR Parts 17 and 226. See <http://www.access.gpo.gov>.

Attach a copy of the species and critical habitat list(s) from the Service(s) to [Attachment 2](#) of this appendix and use the list(s) to complete the rest of this worksheet. For FWS species, include the full printout from your IPaC query/Official Species List in Attachment 2. You can include the map from your IPaC query in Attachment 1.

If after following the steps you have determined that there are no listed species and/or designated critical habitat in your action area, you may be eligible for coverage under [criterion A](#).

If you have determined that there are or may be listed species and/or designated critical habitat in your action area, you are not eligible under criterion A and must proceed to [Step 4](#) below.

Criterion A Eligibility Requirements

In order to be eligible for coverage under criterion A, you must confirm that the following is true:

I have confirmed there to be no listed species and no critical habitat in my action area.

- **If the above is true, you may select criterion A on your NOI form.** You must also provide a description of the basis for the criterion selected on your NOI form. You must include this completed worksheet in your SWPPP. *Note: If your Official Species List from the USFWS indicated no species or critical habitat were present in your action area, include the full consultation tracking code at the top of your Official Species List in your NOI submittal in the question "Provide a brief summary of the basis for the criterion selected in Appendix E." If an Official Species List was not available on IPaC, list the contact date and name of the Service staff with whom you corresponded to verify no USFWS species or critical habitat were present in your action area.*
- If the above is not true, you may not select criterion A and must proceed to [Step 4](#) to determine if you can become eligible under criterion C.

Note: For existing dischargers that have previously obtained coverage under criterion A, you must verify whether listed species and/or critical habitat are expected to exist in your action area, as described above. Please note that if you now find that your action area overlaps with listed species or critical habitat, you must proceed to [Step 4](#).

STEP 4: DETERMINE IF YOUR INDUSTRIAL FACILITY'S DISCHARGES OR DISCHARGE-RELATED ACTIVITIES ARE LIKELY TO ADVERSELY AFFECT LISTED THREATENED OR ENDANGERED SPECIES OR DESIGNATED CRITICAL HABITAT AND ANY MEASURES THAT MUST BE IMPLEMENTED TO AVOID ADVERSE EFFECTS

If in Step 3 you determined that listed species and/or designated critical habitat could exist in your action area, you must next assess whether your discharges and discharge-related activities are likely to adversely affect listed threatened or endangered species or designated critical habitat, and whether any additional measures are necessary to ensure no likely adverse effects. In order to make a determination of your facility's likelihood of adverse effects, you must complete the attached [Criterion C Eligibility Form](#) and must submit this form to EPA a minimum of 30 days prior to filing your NOI for permit coverage. After you submit your [Criterion C Eligibility Form](#), you may be contacted by EPA with additional measures that you must implement in order to ensure your eligibility under criterion C.

Criterion C Eligibility Form

Instructions:

In order to be eligible for coverage under criterion C, you must complete the following form and you must submit it to EPA following the instructions in Section VII a **minimum of 30 days prior to filing your NOI for permit coverage.** After you submit your form, you may be contacted by EPA with additional measures (e.g., additional stormwater controls or modifications to your discharge-related activities) that you must implement in order to ensure your eligibility under criterion C.

If after completing this worksheet you cannot make a determination that your discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or designated critical habitat, you must submit this completed worksheet to EPA, and you may not file your NOI for permit coverage until you receive a determination from EPA that your discharges and/or discharge-related activities are not likely to adversely affect listed species and critical habitat.

Note: Much of the information needed for this form can be obtained from your draft SWPPP which will be needed when you file your NOI.

SECTION I. OPERATOR, FACILITY, AND SITE LOCATION INFORMATION.

1) Operator Information

a) Operator Name: _____

b) Point of Contact

First Name: _____ Last Name: _____

Phone Number: _____

E-mail: _____

2) Facility Information

a) Facility Name: _____

b) Check which of the following applies:

I am seeking coverage under the MSGP as a new discharger or as a new source

I am seeking coverage under the MSGP as an existing discharger and my facility has modifications to its discharge characteristics (e.g., changes in discharge flow or area drained, different pollutants) and/or discharge-related activities (e.g., stormwater controls)

Indicate the number of years the facility has been in operation: _____ years

Provide your NPDES ID (i.e., permit tracking number) from your previous MSGP coverage: _____

I am seeking coverage under the MSGP as an existing discharger and there are no modifications to my facility.

Indicate the number of year the facility has been in operation: _____ years

Provide your NPDES ID (i.e., permit tracking number) from your previous MSGP coverage: _____

c) Facility Address:

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip Code: _____

d) Identify the primary industrial sector to be covered under the 2015 MSGP:

SIC Code _____ or Primary Activity Code _____

Sector _____ and Subsector _____

e) Identify the sectors of any co-located activities to be covered under the 201r MSGP:

Sector _____ Subsector _____

Sector _____ Subsector _____

Sector _____ Subsector _____

Sector _____ Subsector _____

Sector _____ Subsector _____

Sector _____ Subsector _____

f) Estimated area of industrial activity exposed to stormwater: _____ acres

g) Provide a general description of the industrial activities that are taking place at this facility:

3) Receiving Waters Information

List all the stormwater outfalls from your facility.				For each outfall, provide the following receiving water information:	
Outfall ID	Design Capacity (if known)	Latitude (decimal degrees)	Longitude (decimal degrees)	Name of the receiving water that receives stormwater from the outfall and/or from the MS4 that the outfall discharges to	Type of Waterbody (e.g., lake, pond, river/stream/creek, estuarine/marine water)
		---.-----	---.-----		
		---.-----	---.-----		
		---.-----	---.-----		
		---.-----	---.-----		
		---.-----	---.-----		

SECTION II. ACTION AREA

Ensure that your action area is described in [Attachment 1](#), as required in [Step 2](#).

SECTION III. LISTED SPECIES AND CRITICAL HABITAT LIST

Ensure that the listed species and critical habitat list is included in [Attachment 2](#), as required in [Step 3](#).

Review your species list in Attachment 2, choose one of the following three statements, and follow the corresponding instructions:

The species list includes only terrestrial species and/or their designated critical habitat. No aquatic or aquatic-dependent species or their critical habitat are present in the action area. **You may skip to [Section IV](#) of this form. You are not required to fill out [Section V](#).**

The species list includes only aquatic and/or aquatic-dependent species and/or their designated critical habitat. No terrestrial species or their critical habitat are present in the action area. **You may skip to [Section V](#) of this form and are not required to fill out [Section IV](#).**

The species list includes both terrestrial and aquatic or aquatic-dependent species and/or their designated critical habitat. **You must fill out both [Sections IV](#) and [V](#) of this form.**

Note: For the purposes of this permit, "terrestrial species" would not include animal or plant species that 1) spends any portion of its life cycle in a waterbody or wetland, or 2) if an animal, depends on prey or habitat that occurs in a waterbody or wetland. For example, shorebirds, wading birds, amphibians, and certain reptiles would not be considered terrestrial species under this definition. Please also be aware that some terrestrial animals (e.g., certain insects, amphibians) may have an aquatic egg or larval/juvenile phase.

SECTION IV. EVALUATION OF DISCHARGE-RELATED ACTIVITIES EFFECTS

Note: You are only required to fill out this section if your facility's action area contains terrestrial species and/or their designated critical habitat. If your action area only contains aquatic and/or aquatic-dependent species and/or their designated critical habitat, you can skip directly to [Section V](#).

Most of the potential effects related to coverage under the MSGP are assumed to occur to aquatic and/or aquatic-dependent species. However, in some cases, potential effects to terrestrial species and/or their critical habitat should be considered as well from any discharge-related activities that occur during coverage under the MSGP. Examples of discharge-related activities that could have potential effects on listed terrestrial species or their critical habitat include the storage of materials and land disturbances associated with stormwater management-related activities (e.g., the installation or placement of stormwater control measures).

A. Select the applicable statement(s) below and follow the corresponding instructions:

There are no discharge-related activities that are planned to occur during my coverage under the MSGP. You can conclude that your discharge-related activities will have no likely adverse effects, and:

- If there are any aquatic or aquatic-dependent species and/or their critical habitat in your action area, you must skip to [Section V, Evaluation of Discharge Effects](#), below.
- If there are no aquatic or aquatic-dependent species you may skip to [Section VI](#) and verify that your activities will have no likely adverse effects. You must submit this form to EPA as specified in [Section VII](#) of this form. You may select criterion C on your NOI form and may submit your NOI for permit coverage 30 days after you have submitted this *Criterion C Eligibility Form*. You must also provide a description of the basis for the criterion you selected on your NOI form, **including the species and critical habitat list(s) in your action area**, as well as any other documentation supporting your eligibility. You must also include this completed *Criterion C Eligibility Form* in your SWPPP.

There are discharge-related activities planned as part of the proposal. Describe your discharge-related activities in the following box and continue to (b) below.

Describe discharge-related activities:

B. In order to ensure any discharge-related activities will have no likely adverse effects on listed species and/or their designated critical habitat, you must certify that all the following are true:

Discharge-related activities will occur:

- on previously cleared/developed areas of the site where maintenance and operation of the facility are currently occurring or where existing conditions of the area(s) in which the discharge-related activities will occur precludes its use by listed species (e.g., work on existing impervious surfaces, work occurring inside buildings, area is not used by species), and
- if discharge-related activities will include the establishment of structures (including, but not limited to, infiltration ponds and other controls) or any related disturbances, these structures and/or disturbances will be sited in areas that will not result in isolation or degradation of nesting, breeding, or foraging habitat or other habitat functions for listed animal species (or their designated critical habitat), and will avoid the destruction of native vegetation (including listed plant species).

If vegetation removal (e.g., brush clearing) or other similar activities will occur, no terrestrial listed species that use these areas for habitat would be expected to be present during vegetation removal.

If all the above are true, you can conclude that your discharge-related activities will have no likely adverse effects, and:

- If there are any aquatic or aquatic-dependent species and/or critical habitat in your action area, you must skip to [Section V](#), *Evaluation of Discharge Effects*, below.
- If there are no aquatic or aquatic-dependent species you may skip to [Section VI](#) and verify that your activities will have no likely adverse effects. You must submit this form to EPA as specified in [Section VII](#) of this form. You may select criterion C on your NOI and may submit your NOI for permit coverage 30 days after you have submitted this completed form. You must also provide a description of the basis for the criterion you selected on your NOI form, **including the species and critical habitat list(s)**, and any other documentation supporting your eligibility. You must also include this completed *Criterion C Eligibility Form* in your SWPPP.
- **If any of the above are not true**, you cannot conclude that your discharge-related activities will have no likely adverse effects. You must complete the rest of this form (if applicable), and must submit the form to EPA for assistance in determining your eligibility for coverage.

SECTION V. EVALUATION OF DISCHARGE EFFECTS

Note: You are only required to fill out this section if your facility's action area includes aquatic and/or aquatic-dependent species and/or their critical habitat.

In this section, you will evaluate the likelihood of adverse effects from your facility's discharges. The scope of effects to consider will vary with each facility and species/critical habitat characteristics. The following are examples of discharge effects you should consider:

- **Hydrological Effects.** Stormwater discharges may adversely affect receiving waters from pollutant parameters such as turbidity, temperature, salinity, or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a stormwater discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.
- **Toxicity of Pollutants.** Pollutants in stormwater may have toxic effects on listed species and may adversely affect critical habitat. Exceedances of benchmarks, effluent limitation guidelines, or state or tribal water quality requirements may be indicative of potential adverse effects on listed species or critical habitat. However, some listed species may be adversely affected at pollutant concentrations below benchmarks, effluent limitation guidelines, and state or tribal water quality standards. In addition, stormwater pollutants identified in Part 5.2.3.2 of your SWPPP, but not monitored as benchmarks or effluent limitation guidelines, may also adversely affect listed species and critical habitat.

As these effects are difficult to analyze for listed species, their prey, habitat, and designated critical habitat, this form helps you to analyze your discharges and make a determination of whether your discharges will have likely adverse effects and whether there are any additional controls you can implement to ensure no likely adverse effects.

A. Evaluation of Pollutants and Controls to Avoid Adverse Effects. In this section, you must document all of your pollutant sources and pollutants expected to be discharged in stormwater. You must also document the controls you will implement to avoid adverse effects on listed aquatic and aquatic-dependent species. You must include specific details about the expected effectiveness of the controls in avoiding adverse effects to the listed aquatic-and aquatic-dependent species. Attach additional pages if needed.

Potential Pollutant Source	Potential Pollutants	Controls to Avoid Adverse Effects on Listed Aquatic and Aquatic-Dependent Species. Include information supporting why the control(s) will ensure no adverse effects, including any data you have about the effectiveness of the control(s) in reducing pollutant concentrations. You may also attach photos of your controls to this form.
<i>e.g., vehicle and equipment fueling</i>	<i>e.g.,</i> <ul style="list-style-type: none"> • Oil & grease • Diesel • Gasoline • TSS • Antifreeze 	<i>e.g.,</i> <ul style="list-style-type: none"> • Fueling operators (including the transfer of fuel from tank trucks) will be conducted on an impervious or contained pad or under cover • Drip pans will be used where leaks or spills of fuel can occur and where making and breaking hose connections • Spill kit will be kept on-site in close proximity to potential spill areas • Any spills will be cleaned-up immediately using dry clean up methods • Stormwater runoff will be diverted around fueling areas using diversion dikes and curbing

Potential Pollutant Source	Potential Pollutants	Controls to Avoid Adverse Effects on Listed Aquatic and Aquatic-Dependent Species.

Potential Pollutant Source	Potential Pollutants	Controls to Avoid Adverse Effects on Listed Aquatic and Aquatic-Dependent Species.

Check if you are not able to make a preliminary determination that any of your pollutants will be controlled to a level necessary to avoid adverse effects on aquatic and/or aquatic-dependent listed species and their designated critical habitat. You must check in [Section VI](#) that you are unable to make a determination of no likely adverse effects, and must complete the rest of the form. You must submit your completed form to EPA for assistance in determining your eligibility for coverage.

B. Analysis of Effects Based on Past Monitoring Data. Select which of the following applies to your facility:

- I have no previous monitoring data for my facility because there are no applicable monitoring requirements for my facility's sector(s).
- I have no previous monitoring data for my facility because I am a new discharger or a new source, but I am subject to monitoring under the 2015 MSGP. You must provide information to support a conclusion that your facility's discharges are not expected to result in benchmark or numeric effluent limit exceedances that will adversely affect listed species or their critical habitat:
- My facility has not had any exceedances under the 2008 MSGP of any required benchmark(s) or numeric effluent limits.
- My facility has had exceedances of one or more benchmark(s) or numeric effluent limits under the 2008 MSGP, but I have addressed them during my coverage under the 2008 MSGP, or in my evaluation of controls to avoid adverse effects in (A) above. Describe all actions (including specific controls) that you will implement to ensure that the pollutants in your discharge(s) will not result in likely adverse effects from future exceedances.
- Check if your facility has had exceedances of one or more benchmarks or numeric effluent limits under the 2008 MSGP and you have not been able to address them to avoid adverse effects from future exceedances, or if you are a new discharger or a new source but you are not sure if you can avoid adverse effects from possible exceedances. You must check in [Section VI](#) that you are unable to make a determination of no likely adverse effects. You must submit your completed form to EPA for assistance in determining your eligibility for coverage. You may not file your NOI for permit coverage until you are able to make a determination that your discharges will avoid adverse effects on listed species and designated critical habitat.

SECTION VI VERIFICATION OF PRELIMINARY EFFECTS DETERMINATION

Based on Steps I – V of this form, you must verify your preliminary determination of effects on listed species and designated critical habitat from your discharges and/or discharge-related activities :

- Following the applicable Steps in I – V above, I have made a preliminary determination that my discharges and/or discharge-related activities are not likely to adversely affect listed species and designated critical habitats.
- Following the applicable Steps in I – V above, I am **not** able to make a preliminary determination that my discharges and/or discharge-related activities are not likely to adversely affect listed species and designated critical habitats.

Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____ Date: / /

E-mail:

SECTION VII CRITERION C ELIGIBILITY FORM SUBMISSION INSTRUCTIONS

You must submit this completed form to EPA at msgpesa@epa.gov, including any attachments and any additional information that demonstrates how you will avoid or eliminate adverse effects to listed species or critical habitat (e.g., specific controls you will implement to avoid or eliminate adverse effects). **Any missing or incomplete information may result in a delay of your coverage under the permit.**

If you have made a preliminary determination that your discharges and/or discharge-related activities are not likely to adversely affect listed species and critical habitat, this form must be submitted a minimum of 30 days prior to submitting your NOI for permit coverage under criterion C. Please note that during either the 30-day *Criterion C Eligibility Form* review period prior to your NOI submission, or within 30 days after your NOI submission and before you have been authorized for permit coverage, EPA may advise you that additional information is needed, or that there are additional measures you must implement to avoid likely adverse effects.

If you are unable to make a preliminary determination that your discharges and/or discharge-related activities are not likely to adversely affect listed species and critical habitat, this worksheet must be submitted to EPA, but you may not file your NOI for permit coverage until you have received a determination from EPA that your discharges and/or discharge-related activities are not likely to adversely affect listed species and critical habitat.

Attachment 1

Include a map **and a written description** of the action area of your facility, as required in [Step 2](#). You may choose to include the map that is generated from the FWS' on-line mapping tool IPaC (the *Information, Planning, and Consultation System*) located at <http://ecos.fws.gov/ipac/>.

The written description of your action area that accompanies your action area map must explain your rationale for the extent of the action area drawn on your map. For example, your action area written description may look something like this:

The action area for the (name of your facility)'s stormwater discharges extends downstream from the outfall(s) in (name of receiving waterbody) (# of meters/feet/kilometers/miles). The downstream limit of the action area reflects the approximate distance at which the discharge waters and any pollutants would be expected to cause potential adverse effects to listed species and/or critical habitat because (insert rationale). The action area does/does not extend to the (name of receiving waterbody)'s confluence with (name of confluence waterbody) because (insert rationale).

Note that your action area written description will be highly site-specific, depending on the expected effects of your facility's discharges and discharge-related activities, receiving waterbody characteristics, etc.

Attachment 2

List or attach the listed species and critical habitat in your action area on this sheet, as required in [Step 3](#). You must include a list for applicable listed NMFS and FWS species and critical habitat. If there are listed species and/or critical habitat for only one Service, you must include a statement confirming there are no listed species and/or critical habitat for the other Service. For FWS species, include the full printout from your IPaC query. *Note: If your Official Species List from the USFWS indicated no species or critical habitat were present in your action area, include the full consultation tracking code at the top of your Official Species List in your NOI submittal in the question "Provide a brief summary of the basis for the criterion selected in Appendix E." If an Official Species List was not available on IPaC, list the contact date and name of the Service staff with whom you corresponded to identify the existence of any USFWS species or critical habitat present in your action area.*

Appendix F - Procedures Relating to Historic Properties Preservation

F.1 Background

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of Federal “undertakings”, such as the issuance of this permit, on historic properties that are either listed or eligible for listing on the National Register of Historic Places. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has developed the screening process in this appendix that enables facility operators to appropriately consider the potential impacts, if any, from the installation of stormwater controls that involve subsurface disturbance, on historic properties and to determine whether actions can be taken, if applicable, to mitigate any such impacts. Although the coverage of individual industrial facilities under this permit does not constitute separate Federal undertakings, the screening process in this appendix provides an appropriate site-specific means of addressing historic property issues in connection with EPA’s issuance of the permit.

Before an operator is eligible for coverage under the 2015 MSGP (unless otherwise noted, all references to “eligible” or “eligibility” refer only to coverage under the 2015 MSGP), the operator must meet one of the certification criteria related to historic properties included in the permit. In the event an operator cannot meet any of the certification criteria included in the permit relating to historic properties, the operator must apply for an individual permit.

You must meet one or more of the four criteria (A-D), which are also included in Part 1.1.4.6, to be eligible for coverage under this permit.

Activities with No Potential to Have an Effect on Historic Properties

A determination that a Federal undertaking has no potential to have an effect on historic properties fulfills an agency’s obligations under the NHPA. EPA has reason to believe that the vast majority of activities authorized under the MSGP have no potential to have effects on historic properties. The purpose of this permit is to control pollutants that may be transported in stormwater runoff from industrial facilities. EPA does not anticipate effects on historic properties from the pollutants in the stormwater and allowable non-stormwater discharges from these industrial facilities. Thus, to the extent EPA’s issuance of this general permit authorizes discharges of such constituents, confined to existing stormwater channels or natural drainage areas; the permitting action does not have the potential to cause effects on historic properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit coverage. These existing dischargers should have already addressed NHPA issues in the 2008 MSGP as they were required to certify that they

Key Terms

Historic Property – Prehistoric or historic districts, sites, buildings, structures, or objects that are included in or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and remains that are related to and located within such properties.

ACHP – Advisory Council on Historic Preservation; an independent Federal agency.

SHPO – The State Historic Preservation Officer for a particular state.

THPO or Authorized Tribal Representative – The Tribal Historic Preservation Officer for a particular Tribe, or if there is no THPO, the representative designated by such Tribe for NHPA purposes. Historic properties could have significance to more than one Indian tribe; therefore, all Indian tribes that attach religious and cultural significance to a historic property must be identified and included in the historic properties screening process.

Area of Potential Effects (APE) – The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

were either not affecting historic properties or they had obtained written agreement from the applicable State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) regarding methods of mitigating potential impacts. Both existing and new dischargers must follow the historic property screening procedures to determine their eligibility. EPA is not aware of any impacts on historic properties from activities covered under the 2008 MSGP, or, for that matter, any need for a written agreement. Therefore, to the extent this permit authorizes renewal of prior coverage without relevant changes in operations, it has no potential to have an effect on historic properties.

Activities with Potential to Have an Effect on Historic Properties

EPA believes this permit may have some potential to have an effect on historic properties where permittees construct and/or install stormwater control measures that involve subsurface disturbance and impact less than one (1) acre of land to comply with this permit. (Ground disturbances of one (1) acre or more require coverage under a different permit, the Construction General Permit.) Where you have to disturb the land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if you are establishing new or altering existing control measures to manage your stormwater that will involve subsurface ground disturbance of less than one (1) acre, you will need to ensure (1) that historic properties will not be impacted by your activities or (2) that you have consulted with the appropriate SHPO, THPO, or other tribal representative regarding measures that would mitigate or prevent any adverse effects on historic properties.

Examples of Control Measures Which Involve Subsurface Disturbance

EPA reviewed typical control measures currently employed to determine which practices involve some level of earth disturbance. The types of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch Basins
- Ponds
- Ditches
- Trenches
- Culverts
- Land manipulation: contouring, sloping, and grading
- Channels
- Perimeter Drains
- Swales

EPA cautions dischargers that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

Historic Property Screening Process

You should follow the following screening process in order to certify your compliance with historic property eligibility requirements under this permit (see Part 1.1.4.6). The following four steps describe how applicants can meet the permit eligibility criteria for protection of historic properties under this permit:

Step One: *Are you an existing facility that is reapplying for certification under the 2015 MSGP?*

If you are an existing facility you should have already addressed NHPA issues. To gain coverage under the 2008 MSGP you were required to certify that you were either not affecting historic properties or had obtained written agreement from the relevant SHPO or THPO regarding methods of mitigating potential impacts. As long as you are not constructing or installing any new stormwater control measures then you have met eligibility Criterion A of the MSGP. After you submit your NOI, there is a 30-day waiting period during which the SHPO, THPO, or other tribal representative may review your NOI. The SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If you are an existing facility and will construct or install stormwater control measures that require subsurface disturbance of less than one (1) acre then you should proceed to Step Three. (Note: Construction activities disturbing one (1) acre or more are not eligible for coverage under this permit.)

If you are a new facility then you should proceed to Step Two.

Step Two: *Are you constructing or installing any stormwater control measures that require subsurface disturbance of less than one (1) acre?*

If, as part of your coverage under this permit, you are not building or installing control measures on your site that cause less than one (1) acre of subsurface disturbance, then your discharge-related activities do not have the potential to have an effect on historic properties. You have no further obligations relating to historic properties. You have met eligibility Criterion A of the MSGP. After you submit your NOI, there is a 30-day waiting period during which the SHPO, THPO, or other tribal representative may review your NOI. The SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If the answer to the Step Two question is yes, then you should proceed to Step Three.

Step Three: *Have prior earth disturbances determined that historic properties do not exist, or have prior disturbances precluded the existence of historic properties?*

If previous construction either revealed the absence of historic properties or prior disturbances preclude the existence of historic properties, then you have no further obligations relating to historic properties. You have met eligibility Criterion B of the MSGP. After you submit your NOI, there is a 30-day waiting period during which the SHPO, THPO, or other tribal representative may review your NOI. The SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If the answer to the Step Three question is no, then you should proceed to Step Four.

Step Four: *Contact the appropriate historic preservation authorities*

Where you are building and/or installing control measures affecting less than one (1) acre of land to control stormwater or allowable non-stormwater discharges associated with this

permit, and the answer to Step Three is no, then you should contact the relevant SHPO, THPO, or other tribal representative to determine the likelihood that artifacts, records, or remains are potentially present on your site. This may involve examining local records to determine if historic artifacts have been found in nearby areas, as well as limited surface and subsurface examination carried out by qualified professionals.

If through this process it is determined that such historic properties potentially exist and may be impacted by your construction or installation of control measures, you should contact the relevant SHPO, THPO, or tribal representative in writing and request to discuss mitigation or prevention of any adverse effects. The letter should describe your facility, the nature and location of subsurface disturbance activities that are contemplated, any known or suspected historic properties in the area, and any anticipated effects on such properties. The letter should state that if the SHPO, THPO, or tribal representative does not respond within 30 days of receiving your letter, you may submit your NOI without further consultation. EPA encourages applicants to contact the appropriate authorities as soon as possible in the event of a potential adverse effect to an historic property.

If the SHPO, THPO, or tribal representative sent you a response within 30 days of receiving your letter and you enter into, and comply with, a written agreement with the SHPO, THPO, or other tribal representative regarding how to address any adverse impacts on historic properties, you have met eligibility Criterion C. In this case, you should retain a copy of the written agreement consistent with Part 5.1.6.2 of the MSGP. After you submit your NOI, there is a 30-day waiting period during which the SHPO, THPO, or other tribal representative may review your NOI. The SHPO, THPO, or other tribal representative may request that EPA delay authorization based on concerns about potential adverse impacts to historic properties. However, EPA would generally accept any written agreement as fully addressing such concerns unless new information was brought to the Agency's attention that was not considered in your previous discussions with the SHPO, THPO or other tribal representative.

If you receive a response within 30 days after the SHPO, THPO, or tribal representative received your letter and you consult with the SHPO, THPO or tribal representative regarding adverse impacts to historic properties and measures to mitigate them but an agreement cannot be reached between you and the SHPO, THPO, or other tribal representative, you have still met the eligibility for Criterion C. In this case you should include in your SWPPP a brief description of potential effects to historic properties, the consultation process, any measures you will adopt to address the potential adverse impacts, and any significant remaining disagreements between you and the SHPO, THPO or other tribal representative. After you submit your NOI, there is a 30-day waiting period during which the SHPO, THPO, or other tribal representative may review your NOI. The SHPO, THPO, or other tribal representative may request that EPA delay authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If you have contacted the SHPO, THPO, or tribal representative in writing regarding your potential to have an effect on historic properties and the SHPO, THPO, or tribal representative did not respond within 30 days of receiving your letter, you have met eligibility Criterion D. You are advised to get a receipt from the post office or other carrier confirming the date on which your letter was received. In this case, you should submit a copy of your letter notifying the SHPO, THPO or tribal representative of potential impacts with your NOI. After you submit your NOI, there is a 30-day waiting period during which the SHPO, THPO, or other tribal representative may review your NOI. The SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will

evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

Addresses for State Historic Preservation Officers and Tribal Historic Preservation Officers may be found on the Advisory Council on Historic Preservation's website (www.achp.gov/programs.html). In instances where a Tribe does not have a Tribal Historic Preservation Officer, you should contact the appropriate Tribal government office when responding to this permit eligibility condition.

Appendix G - Notice of Intent (NOI) Form

Part 7.1 requires you to use the NPDES eReporting Tool, or “NeT”, to prepare and submit your NOI. However, if you are given a waiver by the EPA Regional Office to use a paper NOI form, and you elect to use it, you must complete and submit the following form.



Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in Section C of this form requests authorization to discharge pursuant to the NPDES Stormwater Multi-Sector General Permit (MSGP) permit number identified in Section B of this form. Submission of this NOI also constitutes notice that the operator identified in Section C of this form meets the eligibility conditions of Part 1.1 of the MSGP for the facility identified in Section D of this form. To obtain authorization, you must submit a complete and accurate NOI form. Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage. Refer to the instructions at the end of this form to complete your NOI.

A. Approval to Use Paper NOI Form

1. Have you been granted a waiver from electronic reporting from the EPA Regional Office*? YES NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

- Waiver granted: The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.
- The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver: _____

Date approval obtained: ____/____/____

* Note: You are required to obtain approval from the applicable EPA Regional Office prior to using this paper NOI form. If you have not obtained a waiver, you must file this form electronically using the NPDES eReporting Tool (NeT) at <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

B. Permit Information

NPDES ID (EPA Use Only): _____

1. Master Permit Number: _____ (see Appendix C of the MSGP for the list of eligible master permit numbers)

2. Are you a new discharger or a new source as defined in Appendix A? YES NO (If yes, skip to Part C of this form).

3. If you are not a new discharger or a new source, have stormwater discharges from your facility been covered previously under an NPDES permit?
 YES NO

If yes, provide the NPDES ID if you had coverage under EPA's 2008 MSGP or the NPDES ID if you had coverage under an EPA individual permit: _____

C. Facility Operator Information

1. Operator Information:

Operator Name: _____

Mailing Address:

Street: _____

City: _____ State: ____ ZIP Code: _____ - _____

County or Similar Government Subdivision: _____

Phone: _____ - _____ - _____ Ext. _____

E-mail: _____

2. Operator Point of Contact Information:

First Name, Middle Initial, Last Name: _____

Title: _____

3. NOI Preparer Information (Complete if NOI was prepared by someone other than the certifier):

First Name, Middle Initial, Last Name: _____

Organization: _____

Phone: _____ - _____ - _____ Ext. _____

E-mail: _____

D. Facility Information

1. Facility Name:

2. Facility Address:
Street/Location:

City: State: ZIP Code: -

County or Similar Government Subdivision:

3. Latitude/Longitude for the facility:
Latitude: _____. ____ ° N (decimal degrees) Longitude: _____. ____ ° W (decimal degrees)
Latitude/Longitude Data Source: Map GPS Other

If you used a USGS topographic map, what was the scale? _____

Horizontal Reference Datum: NAD 27 NAD 83 WGS 84

4. Is your facility located on Indian Country lands? YES NO
If yes, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable):

5. Are you requesting coverage under this NOI as a "federal operator" as defined in Appendix A? YES NO

6. What is the ownership type of the facility?
 Corporation State Government Tribal Government School District
 District Mixed Ownership (e.g. Public/Private) Municipal or Water District

Federal Facility (U.S. Government) Privately Owned Facility Municipality County Government

7. Estimated area of industrial activity at your facility exposed to stormwater: _____ (to the nearest quarter acre)

8. Sector-Specific Information
Identify the 4-digit Standard Industrial Classification (SIC) code or 2-letter Activity Code that best represents the products produced or services rendered for which your facility is primarily engaged, as defined in the MSGP, and the applicable sector and subsector of your primary industrial activity (See Appendix D):
Primary SIC Code: OR Primary Activity Code:
Sector: Subsector:

Identify the applicable sector(s) and subsector(s) of any co-located industrial activity for which you are requesting permit coverage:
Sector: Subsector: Sector: Subsector: Sector: Subsector:
Sector: Subsector: Sector: Subsector: Sector: Subsector:

If you are a Sector S (Air Transportation) facility, do you anticipate using more than 100,000 gallons of pure glycol in glycol-based deicing fluids and/or 100 tons or more of urea on an average annual basis? YES NO

If you are a Sector G (Metal Mining) facility, do you have discharges from waste rock and overburden piles? YES NO

Check the type of ore you mine at your facility: Tungsten Ore Nickel Ore Aluminum Ore
 Mercury Ore Iron Ore Platinum Ore Titanium Ore Vanadium Ore Molybdenum Uranium, Radium, and/or Vanadium Ore

9. Is your facility presently inactive and unstaffed?* YES NO
* Note that if your facility becomes inactive and unstaffed during the permit term, you must submit an NOI modification to reflect the change.

E. Discharge Information

1. By indicating "Yes" below, I confirm that I understand that the MSGP only authorizes the allowable stormwater discharges in Part 1.1.2 and the allowable non-stormwater discharges listed in Part 1.1.3. Any discharges not expressly authorized in this permit cannot become authorized or shielded from liability under CWA section 402(k) by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including the Notice of Intent (NOI) to be covered by the permit, the Stormwater Pollution Prevention Plan (SWPPP), during an inspection, etc. If any discharges requiring NPDES permit coverage other than the allowable stormwater and non-stormwater discharges listed in Parts 1.1.2 and 1.1.3 will be discharged, they must be covered under another NPDES permit. YES

2. Federal Effluent Limitation Guidelines
Are you requesting permit coverage for any stormwater discharges subject to effluent limitation guidelines? YES NO

If yes, which effluent limitation guidelines apply to your stormwater discharges?

40 CFR Part/Subpart	Eligible Discharges	Affected MSGP Sector	New Source Date	Check if Applicable
Part 411, Subpart C	Runoff from material storage piles at cement manufacturing facilities	E	2/20/1974	<input type="checkbox"/>
Part 418 Subpart A	Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	C	4/8/1974	<input type="checkbox"/>
Part 423	Coal pile runoff at steam electric generating facilities	O	11/19/1982 10/8/1974 ¹	<input type="checkbox"/>
Part 429, Subpart I	Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	A	1/26/1981	<input type="checkbox"/>
Part 436, Subpart B, C, or D	Mine dewatering discharges at crushed stone mines, construction sand and gravel mines, or industrial sand mines	J	N/A	<input type="checkbox"/>
Part 443, Subpart A	Runoff from asphalt emulsion facilities	D	7/28/1975	<input type="checkbox"/>
Part 445, Subparts A & B	Runoff from hazardous waste and non-hazardous waste landfills	K, L	2/2/2000	<input type="checkbox"/>
Part 449	Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	S	6/15/2012	<input type="checkbox"/>

¹NSPS promulgated in 1974 were not removed via the 1982 regulation; therefore wastewaters generated by Part 423-applicable sources that were New Sources under the 1974 regulations are subject to the 1974 NSPS.

3. Receiving Waters Information: (Attach a separate list if necessary)

List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002). Also provide the latitude and longitude in degrees decimal for each outfall.		For each outfall, provide the following receiving water information:		
		Provide the name of the first water of the U.S. that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to:	If the receiving water is impaired (on the CWA 303(d) list), list the pollutants that are causing the impairment:	If a TMDL been completed for this receiving waterbody, providing the following information:
Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				
Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				
If substantially identical to other outfall, list identical outfall ID: _____				

Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				

If substantially identical to other outfall, list identical outfall ID: _____

Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				

If substantially identical to other outfall, list identical outfall ID: _____

Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				

If substantially identical to other outfall, list identical outfall ID: _____

Outfall ID				TMDL Name and ID:
Latitude				Pollutant(s) for which there is a TMDL:
Longitude				

If substantially identical to other outfall, list identical outfall ID: _____

**Notice of Intent (NOI) for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

This Form Replaces From 3510-6 (09/08)

Form Approved OMB No. 2040-0004

Who Must File an NOI Form

Under section 402(p) of the Clean Water Act (CWA) and regulations at 40 CFR Part 122, stormwater discharges associated with industrial activity are prohibited to waters of the United States unless authorized under a National Pollutant Discharge Elimination System (NPDES) permit. You can obtain coverage under the MSGP by submitting a completed Notice of Intent (NOI) if you are an operator a facility:

- that is located in a jurisdiction where EPA is the permitting authority, listed in Appendix C of the MSGP,
- that discharges stormwater associated with industrial activities, identified in Appendix D of the MSGP,
- that meets the eligibility requirements in Part 1.1 of the permit,
- that has developed a stormwater pollution prevention plan (SWPPP) in accordance with Part 5 of the MSGP; and
- that installs and implements control measures in accordance with Part 2 and Part 8 to meet numeric and non-numeric effluent limits.

Completing the Form

Obtain and read a copy of the 2015 MSGP, viewable at <http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>. To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. **Please submit original document with signature in ink - do not send a photocopied signature.**

Section A. Approval to Use Paper NOI Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper NOI form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA staff person who granted the waiver, and the date that approval was provided.

See <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Contacts.cfm> for a list of EPA Regional Office contacts.

Section B. Permit Information

Provide the master permit number of the permit under which you are applying for coverage (see Appendix C of the general permit for the list of eligible master permit numbers).

You must indicate whether you are a new discharger or a new source (see Appendix A for the definitions). If you are not a new discharger or a new source, you must indicate whether stormwater discharges from your facility have been previously covered under another NPDES permit. If yes, you must provide the unique NPDES ID (i.e., permit tracking number) for the previous permit your facility was covered under.

Section C. Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility described in this NOI. An operator of a facility is the legal entity that controls the operation of the facility. Refer to Appendix A of the permit for the definition of "operator". Provide the operator's mailing address, phone number,

and e-mail. Correspondence for the NOI will be sent to this address. Also provide the name and title for the operator point of contact (note that the point of contact name may be the same as the operator name).

If the NOI was prepared by someone other than the certifier (for example, if the NOI was prepared by the facility SWPPP contact or a consultant for the certifier's signature), include the full name, organization, phone number, and email address of the NOI preparer.

Section D. Facility Information

Enter the official or legal name and complete address, including city, state, ZIP code, and county or similar government subdivision of the facility. If the facility lacks a street address, indicate the general location of the facility (e.g., Intersection of State Highways 61 and 34). Complete facility information must be provided for permit coverage to be granted.

Provide the latitude and longitude of your facility in decimal degrees format. The latitude and longitude of your facility can be determined in several different ways, including through the use of global positioning system (GPS) receivers, U.S. Geological Survey (U.S.G.S.) topographic or quadrangle maps. Refer to <http://transition.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html/> for assistance in providing the proper latitude/longitude format. For consistency, EPA requests that measurements be taken from the approximate center of the facility. Specify which method you used to determine latitude and longitude. If a U.S.G.S. topographic map is used, specify the scale of the map used. Enter the horizontal reference datum for your latitude and longitude. The horizontal reference datum used on USGS topographic maps is shown on the bottom left corner of USGS topographic maps; it is also available for GPS receivers.

Indicate whether the facility is on Indian country lands, and if so, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable).

Indicate whether you are seeking coverage under this permit as a "federal operator" as defined in Appendix A. Also check the ownership type for the facility (e.g., Federal Facility, Privately Owned Facility, Municipality, County Government, Corporation, State Government, Tribal Government, School District, District, Mixed Ownership [e.g., public/private], Municipal or Water District).

Enter the estimated area of industrial activity at your facility exposed to stormwater to the nearest quarter acre.

List the four-digit Standard Industrial Classification (SIC) code or two character activity code that best describes the primary industrial activities performed by your facility under which you are required to obtain permit coverage. Your primary industrial activity includes any activities performed on-site which are (1) identified by the facility's primary SIC code and included in the descriptions of 40 CFR 122.26(b)(14)(ii), (iii), (vi), or (viii); or (2) included in the narrative descriptions of 40 CFR 122.26(b)(14)(i), (iv), (v), (vii), or (ix). See Appendix D of the MSGP for a complete list of SIC codes and activities codes covered under the MSGP. Also provide the applicable sector and subsector associated with the SIC code or activity code for your primary industrial activities. For a complete list of sector and subsector codes, see Appendix D of the MSGP.

If your facility has co-located industrial activities that are not identified as your primary industrial activity, identify the sector and subsector codes that describe these other industrial activities.

**Notice of Intent (NOI) for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

This Form Replaces From 3510-6 (09/08)

Form Approved OMB No. 2040-0004

For Sector S facilities (Air Transportation), indicate whether you anticipate that the entire airport facility will use more than 100,000 gallons of pure glycol in glycol-based deicing fluids and/or 100 tons or more of urea on an average annual basis. If so, additional effluent limits and monitoring conditions apply to your discharge (see Part 8.5 of the permit).

For Sector G facilities (Metal Mining), check the type of ore(s) mined at the facility.

Indicate whether your facility is currently inactive and unstaffed. Note that if your facility becomes inactive and unstaffed during the permit term, you must submit an NOI modification to reflect the change.

Section E. Discharge Information

You must confirm that you understand that the MSGP only authorizes the allowable stormwater discharges listed in Part 1.1.2 and the allowable non-stormwater discharges listed in Part 1.1.3. Any discharges not expressly authorized under the MSGP are not covered by the MSGP or the permit shield provision of the CWA Section 402(k) and they cannot become authorized or shielded by disclosure to EPA, state, or local authorities via the NOI to be covered by the permit or by any other means (e.g., in the SWPPP or during an inspection). If any discharges requiring NPDES permit coverage other than the allowable stormwater and non-stormwater discharges listed in Parts 1.1.2 and 1.1.3 will be discharged, they must either be eliminated or covered under another NPDES permit.

Depending on your industrial activities, your facility may be subject to federal effluent limitation guidelines which include additional effluent limits and monitoring requirements for your facility. Please review these requirements, described in Part 2.1.3 of the MSGP, and check any appropriate boxes on the NOI form.

You must identify all the outfalls from your facility that discharge stormwater. Each outfall must be assigned a unique 3-digit ID (e.g., 001, 002, 003). You must also provide the latitude and longitude for each outfall from your facility. Indicate whether any outfalls are substantially identical to an outfall already listed, and identify the outfall it is identical to. For each unique outfall you list, you must specify the name of the first water of the U.S. that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. You must specify whether any receiving waters that you discharge to are listed as "impaired" as defined in Appendix A, and the pollutants for which the water is impaired. You must also check identify any Total Maximum Daily Loads (TMDL) that have been completed for any of the waters of the U.S. that you discharge to. You must also provide information about the outfall latitude/longitude, including data source, the scale (if applicable), and the horizontal reference datum. See the instructions in Section D for more information about determining the latitude and longitude.

Identify whether your facility discharges into a Municipal Separate Storm Sewer System (MS4). If yes, provide the name of the MS4 operator. If you are uncertain of the MS4 operator, contact your local government for that information.

Indicate whether discharges from the facility will enter into a water of the U.S that is designated as a Tier 2, Tier 2.5, or Tier 3 water. A list of Tier 2, 2.5, and 3 waters is provided as Appendix L. If the answer is "yes", name all waters designated as Tier 2, Tier 2.5, or Tier 3 to which the facility will discharge. Note that you are ineligible for coverage if you are a new discharger or a new source to waters designated as Tier 3 (outstanding national resource waters) for antidegradation purposes under 40 CFR 131.13(a)(3).

If you are subject to any benchmark monitoring requirements for metals (see the requirements applicable to your Sector(s) in Part 8 of the permit), indicate the hardness for your receiving water(s). See Appendix J of the permit for information about determining waterbody hardness.

If you are subject to benchmark monitoring requirements for hardness-dependent metals you must also answer whether your facility discharges into any saltwater receiving waters.

Indicate whether your facility will discharge to a federal CERCLA site listed in Appendix P. Note that if your facility will discharge into a federal CERCLA site listed in Appendix P, you are not eligible for coverage under this permit unless you notify the EPA Regional Office in advance and the EPA Regional Office authorizes coverage under this permit after you have included adequate controls and/or procedures designed to ensure that discharges will not lead to recontamination of aquatic media at the CERCLA site such that your discharge will cause or contribute to an exceedance of a water quality standard.

Section F. Stormwater Pollution Prevention Plan (SWPPP) Information

All facilities eligible for coverage under this permit are required to prepare a SWPPP in advance of filing the NOI, in accordance with Part 5. Indicate whether the SWPPP has been prepared in advance of filing the NOI.

Indicate the contact information (name, phone, and email) for the person who developed the SWPPP for this facility.

You identify how your SWPPP information will be made available, consistent with Part 5.4 and 7.3 of the permit. If you are making your SWPPP publicly available on a web site, check Option 1 and provide the appropriate Internet URL address. If you are not providing a URL, check Option 2 and provide the selected SWPPP information on this NOI form. You may copy and paste this information directly from your SWPPP.

Section G. Endangered Species Protection

Using the instructions in Appendix E, indicate the Part 1.1.4.5 criterion (i.e., A, B, C, D, or E) you are eligible under with regard to the protection of federally listed endangered and threatened species and designated critical habitat. A description of the basis for the criterion selected must also be provided.

If criterion B is selected, provide the NPDES ID (i.e., permit tracking number) for the other operator who has certified their eligibility under this permit. The NPDES ID was assigned when the operator received coverage under this permit.

If criterion C is selected, you must specify the federally-listed species or designated critical habitat that are located in the "action area" of the facility. You must also indicate under which scenario you determined you were eligible to submit your NOI under criterion C using Appendix E, and answer any corresponding questions.

If criterion D or E is selected, attach copies of any communications between you and the U.S. Fish and Wildlife Service and National Marine Fisheries Service to this NOI.

Section H. Historic Preservation

If the project is not located in Indian country lands, indicate whether the project is located on a property of religious or cultural significance to an Indian tribe, and if so, provide the name of the Indian tribe associated with the property. Use the instructions in Appendix F to complete the questions on the NOI form regarding historic preservation.

**Notice of Intent (NOI) for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

This Form Replaces From 3510-6 (09/08)

Form Approved OMB No. 2040-0004

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing.

An unsigned or undated NOI form will not be considered eligible for permit coverage.

Modifying Your NOI

If you have been granted a waiver from your Regional Office from electronic reporting, and if after submitting your NOI you need to correct or update any fields on this NOI form, you may do so by indicating changes on this same form.

Paperwork Reduction Act Notice

Public reporting burden for this NOI is estimated to average 3.7 hours, plus an additional 2 hours for certain respondents required to gather hardness data. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number on any correspondence. Do not send the completed form to this address.

Submitting Your Form

If you have been granted a waiver from your Regional Office to submit a paper NOI form, you must send your NOI by mail to one of the following addresses:

For Regular U.S. Mail Delivery:

Stormwater Notice Processing Center
Mail Code 4203M, ATTN: 2015 MSGP Reports
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:

Stormwater Notice Processing Center
William Jefferson Clinton East Building - Room 7420
ATTN: 2015 MSGP Reports
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically:

<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

Appendix H - Notice of Termination (NOT) Form

Part 7.1 requires you to use the NPDES eReporting Tool, or “NeT”, to prepare and submit your Notice of Termination (NOT). However, if you are given a waiver by the EPA Regional Office to use a paper NOT form, and you elect to use it, you must complete and submit the following form.

Submission of this Notice of Termination constitutes notice that the operator identified in Section C of this form is no longer authorized to discharge pursuant to the NPDES Multi-Sector General Permit (MSGP) from the facility identified in Section D of this form. All necessary information must be included on this form. Refer to the instructions at the end of this form.

A. Approval to use Paper NOT Form

1. Have you been granted a waiver from electronic reporting from the Regional Office*? YES NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

Waiver granted: The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.

The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver:

Date approval obtained:

* Note: You are required to obtain approval from the applicable Regional Office prior to using this paper NOT form. If you have not obtained a waiver, you must file this form electronically using the NPDES eReporting Tool (NeT) at <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

B. Permit Information

1. NPDES ID:

2. Reason for Termination (check one only):

A new owner or operator has taken over responsibility for the facility.

You have ceased operations at the facility, there are not or no longer will be discharges of stormwater associated with industrial activity from the facility, and you have already implemented necessary sediment and erosion controls as required by Part 2.1.2.5.

You are a Sector G, H, or J facility and you have met the applicable termination requirements.

You obtained coverage under an individual or alternative general permit for all discharges required to be covered by an NPDES permit.

C. Facility Operator Information

1. Operator Name:

2. Mailing Address:

Street:

City: State: ZIP Code: -

3. Phone: - - Ext.

4. E-mail:

D. Facility Information

1. Facility Name:

2. Facility Address:

Street:

City: State: ZIP Code: -

County or similar government subdivision:

E. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____

Date: / /

E-mail:

**Notice of Termination for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15) This Form Replaces Form 3510-7 (09/08) Form Approved OMB No. 2040-0004

Who May File Notice of Termination (NOT) Form

Permittees currently covered by EPA's NPDES Stormwater Multi-Sector General must submit a Notice of Termination (NOT) within 30 days after one or more of the following conditions have been met:

- A new owner or operator has assumed responsibility for the facility;
- You have ceased operations at the facility and there are not or no longer will be discharges of stormwater associated with industrial activity from the facility and you have already implemented necessary sediment and erosion controls per Part 2.1.2.5;
- You are a Sector G, H, or J facility and you have met the applicable termination requirements; or
- You obtained coverage under an individual or alternative general permit for all discharges required to be covered by an NPDES permit.

See the MSGP Part 1.3.3 for more information.

Completing the Form

To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. Please submit original document with signature in ink - do not send a photocopied signature.

Section A. Approval to Use Paper NOT Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper NOT form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date that approval was provided. See

<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Contacts.cfm> for a list of EPA Regional Office contacts.

Section B. Permit Information

Enter the existing NPDES ID (i.e., NOI tracking number) assigned to your permit authorization.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box. Check only one box (see MSGP Part 1.3.3 for more information).

Section C. Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility described in this NOT. An operator of a facility is the legal entity that controls the operation of the facility. Refer to Appendix A of the permit for the definition of "operator". Provide the operator's mailing address, phone number, and e-mail.

Section D. Facility Information

Enter the official or legal name and complete street address, including city, state, ZIP code, and county or similar government subdivision of the facility. If the facility lacks a street address, indicate the general location of the facility (e.g., Intersection of State Highways 61 and 34). Complete facility information must be provided for termination of permit coverage to be valid.

Section E. Certification Information

All NOTs must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing.

Include the name, title, and email address of the person signing the form and the date of signing. An unsigned or undated NOT form will not be considered valid termination of permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this Notice of Termination is estimated to average 0.5 hours, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed NOT form to this address.

Instructions for Completing EPA Form 3510-7

**Notice of Termination for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

This Form Replaces Form 3510-7 (09/08)

Form Approved OMB No. 2040-0004

Submitting Your Form

If you have been granted a waiver from your Regional Office to submit a paper NOT form, you must send your NOT by mail to one of the following addresses:

For Regular U.S. Mail Delivery:

Stormwater Notice Processing Center
Mail Code 4203M, ATTN: 2015 MSGP Reports
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:

Stormwater Notice Processing Center
William Jefferson Clinton East Building - Room 7420
ATTN: 2015 MSGP Reports
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically:
<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

Appendix I - Annual Report Form

Part 7.1 requires you to use the NPDES eReporting Tool, or "NeT", to prepare and submit your Annual Report. However, if you are given a waiver by the EPA Regional Office to use a paper annual report form, and you elect to use it, you must complete and submit the following form.



A. Approval to Use Paper Annual Report Form

1. Have you been granted a waiver from electronic reporting from the EPA Regional Office*? YES NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

- Waiver granted: The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.
- The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver:

Date approval obtained:

* Note: You are required to obtain approval from the applicable EPA Regional Office prior to using this paper annual report form. If you have not obtained a waiver, you must file this form electronically using the NPDES eReporting Tool (NeT) at <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPA's-MultiSector-General-Permit.cfm>

B. Permit Information

1. NPDES ID:

C. Facility Information

1. Facility Name:

2. Facility Phone: - - Ext.

3. Facility Mailing Address:

Street:

City: State: ZIP Code: -

County or Similar Government Subdivision:

4. Point of Contact:

First Name, Middle Initial, Last Name:

D. General Findings

1. Provide a summary of your past year's routine facility inspection documentation (see Part 3.1.2 of the permit). In addition, if you are an operator of an airport facility (Sector S) that is subject to the airport effluent limitations guidelines, and are complying with the MSGP Part 8.S.8.1 effluent limitation through the use of non-urea-containing deicers, provide a statement certifying that you do not use pavement deicers containing urea (e.g., "Urea was not used at [name of airport] for pavement deicing in the past year and will also not be used in 2015." (Note: Operators of airport facilities that are complying with Part 8.S.8.1 by meeting the numeric effluent limitation for ammonia do not need to include this statement.)

2. Provide a summary of your past year's quarterly visual assessment documentation (see Part 3.2.2 of the permit).

3. For any four-sample (minimum) average benchmark monitoring exceedance, if after reviewing the selection, design, installation, and implementation of your control measures and considering whether any modifications are necessary to meet the effluent limits in the permit, you determine that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice, provide your rationale for why you believe no further reductions are achievable (see Part 6.2.1.2 of the permit). Enter "NA" if not applicable.

4. Provide a summary of your past year's corrective action documentation (See Part 4.4 of the permit). (Note: If corrective action is not yet completed at the time of submission of this annual report, you must describe the status of any outstanding corrective action(s).) Also describe any incidents of noncompliance in the past year or currently ongoing, or if none, provide a statement that you are in compliance with the permit.

E. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____ Date: / /

E-mail:

**Annual Report for Stormwater Discharges
Associated with Industrial Activity Under an NPDES General Permit**

Who Must File an Annual Report

Operators must submit an Annual Report to EPA electronically, per Part 7.5, by January 30th for each year of permit coverage containing information generated from the past calendar year.

Completing the Form

To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. Please submit original document with signature in ink - do not send a photocopied signature.

Section A. Approval to Use Paper Annual Report Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA staff person who granted the waiver, and the date that approval was provided. See <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Contacts.cfm> for a list of EPA Regional Office contacts.

Section B. Permit Information

Provide the NPDES ID (i.e., NOI tracking number) assigned to your facility.

Section C. Facility Information

Enter the official or legal name, phone number, and complete street address, including city, state, ZIP code, and county or similar government subdivision, for the facility that is covered by the NPDES ID identified in Section B. If the facility lacks a street address, indicate the general location of the facility (e.g., Intersection of State Highways 61 and 34). Also provide a point of contact name for the facility.

Section D. General Findings

To complete this section you must provide the following information in your annual report:

1. A summary of your past year's routine facility inspection documentation required by Part 3.1.2 of the permit.
2. A summary of your past year's quarterly visual assessment documentation required by Part 3.2.2 of the permit.
3. If, after finding the average of your four monitoring values for any pollutant exceeds the benchmark, you decide no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice, your rationale for why you believe no further reductions are achievable.
4. Information copied or summarized from the corrective action documentation required per Part 4.4 (if applicable). If corrective action is not yet completed at the time of submission of this Annual Report, you must describe the status of any outstanding corrective action(s). You must also describe any incidents of noncompliance in the past year or currently ongoing, or if none, provide a statement that you are in compliance with the permit.

Section E. Certification Information

The Annual Report must be signed by a person described below, or by a duly authorized representative of that person.

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing.

A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above;
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and
3. The written authorization is submitted to the Director.

An unsigned or undated Annual Report form be considered incomplete.

Paperwork Reduction Act Notice

Public reporting burden for this form is estimated to average 2.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed Annual Report form to this address.

Instructions for Completing the Annual Report Form

**Annual Report for Stormwater Discharges
Associated with Industrial Activity Under an NPDES General Permit**

Submitting Your Form

If you have been granted a waiver from your Regional Office to submit a paper Annual Report form, you must send your Annual Report form by mail to one of the following addresses:

For Regular U.S. Mail Delivery:

Stormwater Notice Processing Center
Mail Code 4203M, ATTN: 2015 MSGP Reports
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:

Stormwater Notice Processing Center
William Jefferson Clinton East Building - Room 7420
ATTN: 2015 MSGP Reports
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically:
<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

Appendix J - Calculating Hardness in Freshwater Receiving Waters for Hardness Dependent Metals

Overview

For any sectors required to conduct benchmark samples for a hardness-dependent metal, EPA includes 'hardness ranges' from which benchmark values are determined. To determine which hardness range to use, you must collect data on the hardness of your receiving water(s). Once the site-specific hardness data have been collected, the corresponding benchmark value for each metal is determined by comparing where the hardness data fall within hardness ranges, as shown in Table 1. You only need to determine hardness for your discharges into freshwater as the benchmark values for metals do not vary for discharges to saline waters.

Table 1. Hardness Ranges to Be Used to Determine Benchmark Values for Cadmium, Copper, Lead, Nickel, Silver, and Zinc.

All Units mg/L	Benchmark Values (mg/L, total)					
	Cadmium	Copper	Lead	Nickel	Silver	Zinc
0-24.99 mg/L	0.0005	0.0038	0.014	0.15	0.0007	0.04
25-49.99 mg/L	0.0008	0.0056	0.023	0.20	0.0007	0.05
50-74.99 mg/L	0.0013	0.0090	0.045	0.32	0.0017	0.08
75-99.99 mg/L	0.0018	0.0123	0.069	0.42	0.0030	0.11
100-124.99 mg/L	0.0023	0.0156	0.095	0.52	0.0046	0.13
125-149.99 mg/L	0.0029	0.0189	0.122	0.61	0.0065	0.16
150-174.99 mg/L	0.0034	0.0221	0.151	0.71	0.0087	0.18
175-199.99 mg/L	0.0039	0.0253	0.182	0.80	0.0112	0.20
200-224.99 mg/L	0.0045	0.0285	0.213	0.89	0.0138	0.23
225-249.99 mg/L	0.0050	0.0316	0.246	0.98	0.0168	0.25
250+ mg/L	0.0053	0.0332	0.262	1.02	0.0183	0.26

How to Determine Hardness for Hardness-Dependent Parameters in Freshwater.

You may select one of three methods to determine hardness, including: individual grab sampling, grab sampling by a group of operators which discharge to the same receiving water, or using third-party data. Regardless of the method used, you are responsible for documenting the procedures used for determining hardness values. The hardness value is required to be submitted to EPA with your Notice of Intent (NOI) so that your electronic Discharge Monitoring Report (DMR) which you will submit through NetDMR will include the appropriate limits. You must retain all report and monitoring data in accordance with Part 7.5 of the permit. The three method options for determining hardness are detailed in the following sections.

(1) Permittee Samples for Receiving Stream Hardness

This method involves collecting samples in the receiving water and submitting these to a laboratory for analysis. If you elect to sample your receiving water(s) and submit samples for analysis, hardness must be determined from the closest intermittent or perennial stream downstream of your point of discharge. The sample can be collected during either dry or wet weather. Collection of the sample during wet weather is more representative of conditions

during stormwater discharges; however, collection of in-stream samples during wet weather events may be impracticable or present safety issues.

Hardness must be sampled and analyzed using approved methods as described in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants).

(2) Group Monitoring for Receiving Stream Hardness

You can be part of a group of permittees discharging to the same receiving waters and collect samples that are representative of the hardness values for all members of the group. In this scenario, hardness of the receiving water must be determined using 40 CFR Part 136 procedures and the results shared by group members. To use the same results, hardness measurements must be taken on a stream reach within a reasonable distance of the discharge points of each of the group members.

(3) Collection of Third-Party Hardness Data

You can submit receiving stream hardness data collected by a third party provided the results are collected consistent with the approved 40 CFR Part 136 methods. These data may come from a local water utility, previously conducted stream reports, TMDLs, peer reviewed literature, other government publications, or data previously collected by the permittee. Data should be less than 10 years old.

Water quality data for many of the nation's surface waters are available on-line or by contacting EPA or a state environmental agency. EPA's data system STORET, short for STORage and RETrieval, is a repository for receiving water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. Similarly, state environmental agencies and the U.S. Geological Service (USGS) also have water quality data available that, in some instances, can be accessed online. "Legacy STORET" codes for hardness include: 259 hardness, carbonate; 260 hardness, noncarbonated; and 261 calcium + magnesium, while more recent, "Modern STORET" data codes include: 00900 hardness, 00901 carbonate hardness, and 00902 noncarbonate hardness; or the discrete measurements of calcium (00915) and magnesium (00925) can be used to calculate hardness. Hardness data historically has been reported as "carbonate," "noncarbonate," or "Ca + Mg." If these are unavailable, then individual results for calcium (Ca) and magnesium (Mg) may be used to calculate hardness using the following equation:

$$\text{mg/L CaCO}_3 = 2.497 (\text{Ca mg/L}) + 4.118 (\text{Mg mg/L})$$

When interpreting the data for carbonate and non-carbonate hardness, note that total hardness is equivalent to the sum of carbonate and noncarbonate hardness if both forms are reported. If only carbonate hardness is reported, it is more than likely that noncarbonate hardness is absent and the total hardness is equivalent to the available carbonate hardness.

Appendix K - No Exposure Certification Form

Part 7.1 requires you to use the NPDES eReporting Tool, or "NeT", to prepare and submit your No Exposure Certification (NOE) form. However, if you are given a waiver by the EPA Regional Office to use a paper NOE form, and you elect to use it, you must complete and submit the following form.

Submission of this No Exposure Certification constitutes notice that the operator identified in Section C does not require permit authorization under EPA's Stormwater Multi Sector General Permit for its stormwater discharges associated with industrial activity from the facility identified in Section D of this form due to the existence of a condition of no exposure.

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in stormwater discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the no exposure exclusion. In addition, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion.

By signing and submitting this No Exposure Certification form, the operator in Section C is certifying that a condition of no exposure exists at its facility or site, and is obligated to comply with the terms and conditions of 40 CFR 122.26(g).

A. Approval to Use Paper NOE Form

1. Have you been granted a waiver from electronic reporting from the EPA Regional Office*? YES NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

- Waiver granted: The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.
- The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver:

Date approval obtained:

*** Note: You are required to obtain approval from the applicable EPA Regional Office prior to using this paper NOE form. If you have not obtained a waiver, you must file this form electronically using the NPDES eReporting Tool (NeT) at <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>**

B. Reason for Submission

Select the purpose for filling out this form (check only 1).

- To obtain a new No Exposure Certification.** Fill in Sections C, D, E and F.
- To discontinue an existing No Exposure Certification.** Select this option if you would like to discontinue an existing No Exposure Certification because your facility is no longer subject to regulation under 40 CFR 122.26 (e.g., the facility has ceased the industrial activity that necessitated the No Exposure Certification)*. Provide the following information and fill out Section G.

Provide the existing NPDES ID for the No Exposure Certification that you would like to discontinue:

*** Note that if your facility no longer qualifies for the No Exposure Certification because permit coverage is required for exposed industrial materials or activities, you should not check this box, and must instead file for coverage under the Multi-Sector General Permit or an individual permit. Your No Exposure Certification will be automatically discontinued after you obtain coverage under the MSGP or an individual permit.**

C. Facility Operator Information

1. Operator Name:

2. Mailing Address

Street:

City: State: ZIP Code: -

3. Phone: - - Ext.

4. E-mail:

E. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future?

(Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions, you are not eligible for the no exposure exclusion.**

	Yes	No
Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to stormwater	<input type="checkbox"/>	<input type="checkbox"/>
Materials or residuals on the ground or in stormwater inlets from spills/leaks	<input type="checkbox"/>	<input type="checkbox"/>
Materials or products from past industrial activity	<input type="checkbox"/>	<input type="checkbox"/>
Material handling equipment (except adequately maintained vehicles)	<input type="checkbox"/>	<input type="checkbox"/>
Materials or products during loading/unloading or transporting activities	<input type="checkbox"/>	<input type="checkbox"/>
Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants)	<input type="checkbox"/>	<input type="checkbox"/>
Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	<input type="checkbox"/>	<input type="checkbox"/>
Materials or products handled/stored on roads or railways owned or maintained by the discharger	<input type="checkbox"/>	<input type="checkbox"/>
Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	<input type="checkbox"/>	<input type="checkbox"/>
Application or disposal of process wastewater (unless otherwise permitted)	<input type="checkbox"/>	<input type="checkbox"/>
Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the stormwater outflow	<input type="checkbox"/>	<input type="checkbox"/>

F. Certification Information

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES stormwater permitting.

I certify under penalty of law that there are no discharges of stormwater contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)).

I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of stormwater from the facility.

Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____

Date: / /

E-mail:

G. Discontinuation of No Exposure Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____

Date: / /

E-mail:

**No Exposure Certification (NOE) for Exclusion from Stormwater Discharges
Associated with Industrial Activity Under an NPDES General Permit**

NPDES Form Date (06/15)

This Form Replaces Form 3510-11 (09/08)

Form Approved OMB No. 2040-0004

Who May File a No Exposure Certification

Federal law at 40 CFR Part 122.26 prohibits point source discharges of stormwater associated with industrial activity to waters of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is not required for discharges of stormwater associated with industrial activities identified at 40 CFR 122.26(b)(14)(i)-(ix) and (xi) if the discharger can certify that a condition of "no exposure" exists at the industrial facility or site.

Stormwater discharges from construction activities identified in 40 CFR 122.26(b)(14)(x) and (b)(15) are not eligible for the no exposure exclusion.

Obtaining and Maintaining the No Exposure Exclusion

This form is used to certify that a condition of no exposure exists at the industrial facility or site described herein. This certification is only applicable in jurisdictions where EPA is the NPDES permitting authority and must be re-submitted at least once every five years.

The industrial facility operator must maintain a condition of no exposure at its facility or site in order for the no exposure exclusion to remain applicable. If conditions change resulting in the exposure of materials and activities to stormwater, the facility operator must obtain coverage under an NPDES stormwater permit immediately.

Completing the Form

You must type or print, using uppercase letters, in appropriate areas only. Enter only one character per space (i.e., between the marks). Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words. One form must be completed for each facility or site for which you are seeking to certify a condition of no exposure. Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the above address.

Section A. Approval to Use Paper NOE Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper No Exposure Certification (NOE) form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date that approval was provided. See <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Contacts.cfm> for a list of EPA Regional Office contacts.

Section B. Reason for Submission

You must check your reason for submitting this form. You may submit this form for obtaining a new No Exposure Certification, for renewing a previous No Exposure Certification, or for discontinuing an existing No Exposure Certification (for facilities that no longer need the exclusion from permit coverage for industrial stormwater discharges).

Section C. Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility described in this certification form. An operator of a facility is the legal entity that controls the operation of the facility. Refer to Appendix A of the

MSGP for the definition of "operator". Provide the operator's mailing address, phone number, and e-mail. Correspondence for the NOE will be sent to this address. Also provide the name and title for the operator point of contact (note that the point of contact name may be the same as the operator name).

Section D. Facility Information

Enter the official or legal name and complete street address, including city, state, ZIP code, and county or similar government subdivision of the facility. If the facility lacks a street address, indicate the general location of the facility (e.g., Intersection of State Highways 61 and 34). Complete facility information must be provided for permit coverage to be granted.

Provide the latitude and longitude of your facility in decimal degrees format. The latitude and longitude of your facility can be determined in several different ways, including through the use of global positioning system (GPS) receivers and U.S. Geological Survey (U.S.G.S.) topographic or quadrangle maps. Refer to <http://transition.fcc.gov/mb/audio/bickel/DDMMSS-decimal.html/> for assistance in providing the proper latitude/longitude format. For consistency, EPA requests that measurements be taken from the approximate center of the facility. Specify which method you used to determine latitude and longitude. If a U.S.G.S. topographic map is used, specify the scale of the map used. Enter the horizontal reference datum for your latitude and longitude. The horizontal reference datum used on USGS topographic maps is shown on the bottom left corner of USGS topographic maps; it is also available for GPS receivers.

Indicate whether the facility is on Indian country lands, and if so, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable).

Indicate whether you are a "federal operator" as defined in Appendix A of the MSGP. Also check the facility's ownership type.

Indicate whether the facility was previously covered under an NPDES stormwater permit. If so, include the NPDES ID (i.e., NOI tracking number).

List the four-digit Standard Industrial Classification (SIC) code or two character activity code that best describes the primary industrial activities performed by your facility.

Enter the total size of the site associated with industrial activity in acres.

Check "Yes" or "No" as appropriate to indicate whether you have paved or roofed over a formerly exposed, pervious area (i.e., lawn, meadow, dirt or gravel road/parking lot) in order to qualify for no exposure. If yes, also indicate approximately how much area was paved or roofed over and is now impervious area.

**No Exposure Certification (NOE) for Exclusion from Stormwater Discharges
Associated with Industrial Activity Under an NPDES General Permit**

NPDES Form Date (06/15)

This Form Replaces Form 3510-11 (09/08)

Form Approved OMB No. 2040-0004

Section E. Exposure Checklist

Check "Yes" or "No" as appropriate to describe the exposure condition at your facility. If you answer "Yes" to **ANY** of the questions in this section, a potential for exposure exists at your site and you cannot certify to a condition of no exposure. You must obtain (or already have) coverage under an NPDES stormwater permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of stormwater exposed to industrial activity, and then certify to a condition of no exposure.

Section F and G. Certification Information

The NOE form must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing.

Include the name, title, and email address of the person signing the form and the date of signing.

An unsigned or undated NOE certification will not be considered valid.

Paperwork Reduction Act Notice

Public reporting burden for this certification is estimated to average 1.0 hour per certification, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose to provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and

disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed No Exposure Certification form to this address.

Submitting Your Form

If you have been granted a waiver from your Regional Office to submit a paper No Exposure Certification form, you must send your No Exposure Certification form by mail to one of the following addresses:

For Regular U.S. Mail Delivery:

Stormwater Notice Processing Center
Mail Code 4203M, ATTN: MSGP No Exposure
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:

Stormwater Notice Processing Center
William Jefferson Clinton East Building - Room 7420
ATTN: MSGP No Exposure
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically:
<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

Appendix L - List of Tier 3, Tier 2, and Tier 2.5 Waters

EPA's MSGP has special requirements for discharges to waters designated by a state or tribe as Tier 2/2.5 or Tier 3 for antidegradation purposes under 40 CFR 131.12(a). See Parts 1.1.4.8 and 1.1.4.10

The list below is provided as a resource for operators who must determine whether they discharge to a Tier 2/2.5 or Tier 3 water. Only Tier 2/2.5 or Tier 3 waters specifically identified by a water quality standard authority (e.g., a state, territory, or tribe) are identified in the table below. Many authorities evaluate the existing and protected quality of the receiving water on a pollutant-by-pollutant basis and determine whether water quality is better than the applicable criteria that would be affected by a new discharger or a new source or an increase in an existing discharge of the pollutant. In instances where water quality is better, the authority may choose to allow lower water quality, where lower water quality is determined to be necessary to support important social and economic development. Permittees are not required to identify those waters which are evaluated on an individual basis.

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
MAR050000	Commonwealth of Massachusetts, except Indian Country lands	
	Tier 2, Tier 2.5, and 3 waters are identified and listed in the Massachusetts Water Quality Standards 314 CMR 4.00. Surface water qualifiers that correspond with Tier classifications are defined at 314 CMR 4.06(1)(d)m and listed in tables and figures at the end of 314 CMR 4.06. See MassDEP's web page at http://www.mass.gov/eea/agencies/massdep/water/regulations/314-cmr-4-00-mass-surface-water-quality-standards.html .	
	Tier 2	Listed as "High Quality Waters", and all wetlands that are not designated as an Outstanding Resource Water
	Tier 2.5	Listed as "Outstanding Resource Water", "Public Water Supply", "Tributary to Public Water Supply", all wetlands bordering Outstanding Resource Waters, and vernal pools
	Tier 3	Defined as "Special Resource Water". Note: No waters have been defined as a Special Resource Water as of the issuance of this permit.
NHR050000	State of New Hampshire	
	Tier 2/2.5	There is no list of Tier 2/Tier 2.5 waters. New dischargers and new sources should contact Thelma Murphy (EPA Region 1's stormwater coordinator) at murphy.thelma@epa.gov .
	Tier 3	Env-Ws 1708.05(a) Surface waters of national forests and surface waters designated as "natural" under RSA 483:7-a, I shall be considered outstanding resource waters (ORW). "Natural waters" are listed at http://www.gencourt.state.nh.us/ras/html/L/483/483-15.htm . Surface waters of national forests are not included in an official list. For further questions, new dischargers and new sources should contact Thelma Murphy (EPA Region 1's stormwater coordinator) at murphy.thelma@epa.gov .

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
PRR050000	Commonwealth of Puerto Rico	
	Tier 3	Tier III waters are those which are classified as either Class SA or Class SE. Class SA waters are defined as "Coastal waters and estuarine waters of high quality and/or exceptional ecological or recreational value whose existing characteristics shall not be altered, except by natural causes, in order to preserve the existing natural phenomena." Class SA waters include bioluminescent lagoons and bays such as La Parguera and Monsio José on the Southern Coast, Bahía de Mosquito in Vieques, and any other coastal or estuarine waters of exceptional quality of high ecological value or recreational which may be designated by Puerto Rico, through Resolution, as requiring this classification for protection of the waters. Class SE waters are defined as "Surface waters and wetlands of exceptional ecological value, whose existing characteristics should not be altered in order to preserve the existing natural phenomena." Class SE waters include Laguna Tortuguero, Laguna Cartagena and any other surface water bodies of exceptional ecological value as may be designated by Puerto Rico through Resolution.
DCR050000	District of Columbia	
	Tier 2/2.5	Rule 1102.4 SPECIAL WATERS OF THE DISTRICT OF COLUMBIA (SWDC): Any segment or segments of the surface waters of the District that are of water quality better than needed for the current use or have scenic or aesthetic importance shall be designated as Special Waters of the District of Columbia (SWDC). Rock Creek and its tributaries and Battery Kemble Creek and its tributaries are considered Special Waters of the District of Columbia (SWDC) under its antidegradation program.
MNR050001	Fond du Lac Band of MN Chippewa	
	Tier 3	Six lakes are presently identified as Tier 3: (1) Dead Fish, (2) Jaskari, (3) Miller (Mud), (4) Perch, (5) Rice Portage, (6) Wild Rice.
	Grand Portage Band of MN Chippewa	
	Tier 2/2.5	All waters, not already classified as Tier 3, are high quality Tier 2 waters. (see Grand Portage Reservation Water Quality Standards, Section VI & VII, Pages 14-16).
	Tier 3	"The portion of Lake Superior north of latitude 47 degrees, 57 minutes, 13 seconds, east of Hat Point, south of the Minnesota-Ontario boundary, and west of the Minnesota-Michigan boundary." (see Section VII, Page 16).
WIR050001	Lac du Flambeau Band of the Lake Superior Chippewa	
	Tier 2	All named waters, including wetlands, not specified under an antidegradation classification.
	Tier 2.5	Bills Lake, Birch Lake, Bobidosh Lake, Bog Lake (SE SE Sec. 31, T40NR6E), Bolton Lake, Broken Bow Lake, Chewalah Lake, Clear Lake (Sec. 2, T39NR4E), Corn Great, Great, Corn Lake, Little "Least/Lesser", Crawling Stone Lake, Big, Crawling Stone Lake, Little, Crescent Lake, Crooked Lake, Big, David Lake, Ellerson Lake, Middle, Ellerson Lake, West, Elsie Lake "Boundary Lake", Fat Lake, Fence Lake, Gresham

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
		Creek, Green Lake (NW NW Sec. 19, T41R6E), Grey Lake, Gunlock Lake, Haskell Lake, Headflyer Lake (Sec. 19, T41NR5E), Highway Lake (NW NW Sec. 19, T41NR5E), Horsehead Lake (SE SW Sec. 9, T40NR5E), Hutton's Creek, Ike Walton Lake, Lily Lake (SE SW Sec. 35, T40NR5E), Little Ten Lake, Lodge Lake "L. Rice" (NW NW Sec. 8, T41NR6E), Lucy Lake, Mindys Lake (Sec. 8, T40NR5E), Minette Lake, Mitten Lake, Monk's Lake (Sec. 13, T40NR5E), Moving Cloud Lake, Mud Creek, Muskesin Lake, Patterson Lake, Placid Twin Lake (North), Placid Twin Lake (South), Plummer Lake, Poupart Lake, Prairie Lake (NE SW Sec. 13, T40NR4E), Raven Lake, Ross Allen Lake, Sand Lake, Little, Scott Lake (Sec. 22, T40N, R4E), Shishebogama Lake, Signal Lake, Snort Lake (Sec. 5, T41N, R6E), Spring Lake "Jerms", Squirrel Lake, Statenaker Lake "Hollow", Stearns Lake "Hourglass", Sugarbush "Hidden Lake" (NW NW Sec. 17, T41NR5E), Sugarbush Creek, Sugarbush Lake, Little, Sugarbush Lake, Lower, Sugarbush Lake, Middle, Sugarbush Lake, Upper, Sunfish Lake, Tippecanoe Lake, Tomahawk River, To-To Tom Lake, Toulish Lake, Trout River, Warrior Lake, White Sand Lake, Whitefish Lake "Cattail Lake" (Sec. 34, T40N5R), Wishow Lake, Wyandock Lake
	Tier 3	Bear River (1st bridge to Reservation boundary), Big Springs (Sec. 25, T40NR4E), Black Lake, Cranberry Lake, Doud Lake, Eagle Lake, Gene Lake, Johnson Springs, Little Trout Lake, Lost Lake (Sect. 1, T41NR4E), Mishonagon Creek, Munnomin (Jesse, Duck) Lake, Negani (Hegani) Lake, Reservation Line Lake, Spring Creek, Tank Lake, Thomas Lake, Wild Rice Lake, Zee Lake
	Mole Lake Band of the Lake Superior Tribe of the Chippewa Indians, Sokaogon Chippewa Community	
	Tier 2.9	One Tribal Water, Wetland 22, is classified as Exceptional High Quality Water (EHQW). It is a high-quality water body of significant cultural, religious, social, ecological and recreational attributes.
	Tier 3	All waters in the Sokaogon Chippewa Community (WI) as classified as Tier 3, with one exception (Wetland 22).
COR05001	State of Colorado	
	Ute Mountain Ute Tribe	
	Tier 3	(2010 Proposed) Designations: 1. Ute Spring and unnamed creek from Ute Spring downstream within Section 12, TWP35N R18W (Colorado). 2. Allen Canyon Creek, Sections 17, 20, 29, 30, 31, TWP 35S, R21E (Utah) 3. "Lopez" Spring and unnamed creek tributary to and downstream from the spring, within Section 35, TWP 34N, R18W
NMR050000	State of New Mexico	
	Tier 3	(1) Rio Santa Barbara, including the west, middle and east forks from their headwaters downstream to the boundary of the Pecos Wilderness; and (2) the waters within the United States forest service Valle Vidal special management unit including:

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
	<p>(a) Rio Costilla, including Comanche, La Cueva, Fernandez, Chuckwagon, Little Costilla, Holman, Gold, Grassy, LaBelle and Vidal creeks, from their headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit;</p> <p>(b) Middle Ponil creek, including the waters of Greenwood Canyon, from their headwaters downstream to the boundary of the Elliott S. Barker wildlife management area;</p> <p>(c) Shuree lakes;</p> <p>(d) North Ponil creek, including McCrystal and Seally Canyon creeks, from their headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit; and</p> <p>(e) Leandro creek from its headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit.</p> <p>(3) the named perennial surface waters of the state, identified in Subparagraph (a) below, located within United States department of agriculture forest service wilderness. Wilderness are those lands designated by the United States congress as wilderness pursuant to the Wilderness Act. Wilderness areas included in this designation are the Aldo Leopold wilderness, Apache Kid wilderness, Blue Range wilderness, Chama River Canyon wilderness, Cruces Basin wilderness, Dome wilderness, Gila wilderness, Latir Peak wilderness, Pecos wilderness, San Pedro Parks wilderness, Wheeler Peak wilderness, and White Mountain wilderness.</p> <p>(a) The following waters are designated in the Rio Grande basin:</p> <p>(i) in the Aldo Leopold wilderness: Byers Run, Circle Seven creek, Flower canyon, Holden Prong, Indian canyon, Las Animas creek, Mud Spring canyon, North Fork Palomas creek, North Seco creek, Pretty canyon, Sids Prong, South Animas canyon, Victorio Park canyon, Water canyon;</p> <p>(ii) in the Apache Kid wilderness Indian creek and Smith canyon;</p> <p>(iii) in the Chama River Canyon wilderness: Chavez canyon, Ojitos canyon, Rio Chama;</p> <p>(iv) in the Cruces Basin wilderness: Beaver creek, Cruces creek, Diablo creek, Escondido creek, Lobo creek, Osha creek;</p> <p>(v) in the Dome wilderness: Capulin creek, Medio creek, Sanchez canyon/creek;</p> <p>(vi) in the Latir Peak wilderness: Bull creek, Bull Creek lake, Heart lake, Lagunitas Fork, Lake Fork creek, Rito del Medio, Rito Primero, West Latir creek;</p> <p>(vii) in the Pecos wilderness: Agua Sarca, Hidden lake, Horseshoe lake (Alamitos), Jose Vigil lake, Nambe lake, Nat lake IV, No Fish lake, North Fork Rio Quemado, Rinconada, Rio Capulin, Rio de las Trampas (Trampas creek), Rio de Truchas, Rio Frijoles, Rio Medio, Rio Molino, Rio Nambe, Rio San Leonardo, Rito con Agua, Rito Gallina, Rito Jaroso, Rito Quemado, San Leonardo lake, Santa Fe lake, Santa Fe river, Serpent lake, South Fork Rio Quemado, Trampas lake (East), Trampas lake (West);</p> <p>(viii) in the San Pedro Parks wilderness: Agua Sarca, Cañon Madera, Cave creek, Cecilia Canyon creek, Clear creek (North SPP), Clear creek (South SPP), Corralitos creek, Dove creek, Jose Miguel creek, La</p>

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority
	<p>Jara creek, Oso creek, Rio Capulin, Rio de las Vacas, Rio Gallina, Rio Puerco de Chama, Rito Anastacio East, Rito Anastacio West, Rito de las Palomas, Rito de las Perchas, Rito de los Pinos, Rito de los Utes, Rito Leche, Rito Redondo, Rito Resumidero, San Gregorio lake;</p> <p>(ix) in the Wheeler Peak wilderness: Black Copper canyon, East Fork Red river, Elk lake, Horseshoe lake, Lost lake, Sawmill creek, South Fork lake, South Fork Rio Hondo, Williams lake.</p> <p>(b) The following waters are designated in the Pecos River basin:</p> <p>(i) in the Pecos wilderness: Albright creek, Bear creek, Beatty creek, Beaver creek, Carpenter creek, Cascade canyon, Cave creek, El Porvenir creek, Hollinger creek, Holy Ghost creek, Horsethief creek, Jack's creek, Jarosa canyon/creek, Johnson lake, Lake Katherine, Lost Bear lake, Noisy brook, Panchuela creek, Pecos Baldy lake, Pecos river, Rio Mora, Rio Valdez, Rito Azul, Rito de los Chimayosos, Rito de los Esteros, Rito del Oso, Rito del Padre, Rito las Trampas, Rito Maestas, Rito Oscuro, Rito Perro, Rito Sebadilloses, South Fork Bear creek, South Fork Rito Azul, Spirit lake, Stewart lake, Truchas lake (North), Truchas lake (South), Winsor creek;</p> <p>(ii) in the White Mountain wilderness: Argentina creek, Aspen creek, Bonito creek, Little Bonito creek, Mills canyon/creek, Rodamaker creek, South Fork Rio Bonito, Turkey canyon/creek.</p> <p>(c) The following waters are designated in the Gila River basin:</p> <p>(i) in the Aldo Leopold wilderness: Aspen canyon, Black Canyon creek, Bonner canyon, Burnt canyon, Diamond creek, Falls canyon, Fisherman canyon, Running Water canyon, South Diamond creek;</p> <p>(ii) in the Gila wilderness: Apache creek, Black Canyon creek, Brush canyon, Canyon creek, Chicken Coop canyon, Clear creek, Cooper canyon, Cow creek, Cub creek, Diamond creek, East Fork Gila river, Gila river, Gilita creek, Indian creek, Iron creek, Langstroth canyon, Lilley canyon, Little creek, Little Turkey creek, Lookout canyon, McKenna creek, Middle Fork Gila river, Miller Spring canyon, Mogollon creek, Panther canyon, Prior creek, Rain creek, Raw Meat creek, Rocky canyon, Sacaton creek, Sapillo creek, Sheep Corral canyon, Skeleton canyon, Squaw creek, Sycamore canyon, Trail canyon, Trail creek, Trout creek, Turkey creek, Turkey Feather creek, Turnbo canyon, West Fork Gila river, West Fork Mogollon creek, White creek, Willow creek, Woodrow canyon.</p> <p>(d) The following waters are designated in the Canadian River basin: in the Pecos wilderness Daily creek, Johns canyon, Middle Fork Lake of Rio de la Casa, Middle Fork Rio de la Casa, North Fork Lake of Rio de la Casa, Rito de Gascon, Rito San Jose, Sapello river, South Fork Rio de la Casa, Sparks creek (Manuelitas creek).</p> <p>(e) The following waters are designated in the San Francisco River basin:</p> <p>(i) in the Blue Range wilderness: Pueblo creek;</p> <p>(ii) in the Gila wilderness: Big Dry creek, Lipsey canyon, Little Dry creek, Little Whitewater creek, South Fork Whitewater creek, Spider creek, Spruce creek, Whitewater creek.</p>

Permit Number	Areas of Coverage/Where EPA Is Permitting Authority	
		<p>(f) The following waters are designated in the Mimbres Closed basin: in the Aldo Leopold wilderness Corral canyon, Mimbres river, North Fork Mimbres river, South Fork Mimbres river.</p> <p>(g) The following waters are designated in the Tularosa Closed basin: in the White Mountain wilderness Indian creek, Nogal Arroyo, Three Rivers.</p> <p>(h) The wetlands designated are identified on the maps and list of wetlands within United States forest service wilderness areas designated as outstanding national resource waters published at the New Mexico state library and available on the department's website.</p>
CAR050001	Hualapai Tribe	
	Tier 3	Spencer, Meriwhitica, Willow Spring, Upper Milkweed Spring, Bridge Canyon, Travertine Spring, Travertine Falls, Diamond Creek, Diamond Creek Spring, Blue Mountain, Metuck, Peach Springs Spring, Westwater, Clay Tank, Hockey Puck, Pocamote Spring, Mohawk Spring, Granite Spring, Three Spring, Warm Spring, Honga Spring, National Canyon Spring, National Canyon, Moss Spring
	White Mountain Apache Tribe of the Fort Apache Indian Reservation	
	Tier 2/2.5	East Fork White River, above R52 Road, East Fork White River below R52 Road, above Rock Cr., Paradise Creek, above Wohlenberg, Ord Creek, Smith Cienega, Bull Cienega, Smith Creek, Big Bonito , Tonto Creek, below Y47 Crossing, Crooked Creek, Boggy Creek, Lofer Cienego Creek, Little Bonito Creek, above Y55 Crossing, Flash Creek, Squaw Creek, Hurricane Lake, Hurricane Creek, Hughey Creek, Bonito Cienega, West Fork Black River, Hall Cienega, Purcell Cienega, Thompson Creek, Carrizo Creek below Corduroy, Carrizo Creek above Corduroy, Cedar Creek, Big Canyon (E. Cedar Creek), Middle Cedar Creek, West Cedar Creek, Cibecue Creek in Box Canyon to Salt river, Cibecue Creek, Box CallYon up to confluence with Salt Creek, Spring Creek, Salt Creek, Cibecue Creek, from confluence w/Salt Cr, to Big Springs, Cibecue Creek, above Big Springs, Rock Springs Creek, Salt Draw, Canyon Creek S. of Chediski Farms, Willow Creek (Lower Canyon Cr), Oak Creek, Canyon Creek. N. of Chedlski Fanns,
	Tier 3	East Fork While River, in Wilderness Area, Pumpkin Lake
IDR050000	State of Idaho	
	For Tier 2 and Tier 3 waters, please consult the Idaho Integrated Report, available at: http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report.aspx and the closest regional office of the Idaho Department of Environmental Quality: http://www.deq.idaho.gov/regional-offices-issues.aspx	

Appendix M - Discharge Monitoring Report (DMR) Form

Part 7.1 requires you to use the electronic NetDMR system to prepare and submit your Discharge Monitoring Report (DMR) form. However, if you are given approval by the EPA Regional Office to use a paper DMR form, and you elect to use it, you must complete and submit the following form.



A. Approval to Use Paper DMR Form

1. Have you been granted a waiver from electronic reporting from the EPA Regional Office*? YES NO

If yes, check which waiver you have been granted, the name of the EPA Regional Office staff person who granted the waiver, and the date of approval:

- Waiver granted: The owner/operator's headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.
- The owner/operator has issues regarding available computer access or computer capability.

Name of EPA staff person that granted the waiver:

Date approval obtained: / /

* Note: You are required to obtain approval from the applicable EPA Regional Office prior to using this paper DMR form. If you have not obtained a waiver, you must file this form electronically using the NetDMR at <http://www.epa.gov/netdmr/>

B. Permit Information

1. NPDES ID:

2. Reason(s) for Submission (Check all that apply):

- Submitting monitoring data (Fill in all Sections).
- Reporting no discharge for all outfalls for this monitoring period (Fill in Sections A, B, C, D, E.1, and G).
- Reporting that your site status has changed to inactive and unstaffed (Fill in Sections A, B, C, D, and F and include date of status change in comment field in Section F.4).
- Reporting that your site status has changed to active (Fill in all Sections and include date of status change in comment field in Section F.4).
- Reporting that no further pollutant reductions are achievable for all outfalls and for all pollutants via Part 6.2.1.2 of the MSGP (Fill in Sections A, B, C, D, and G).

C. Facility Operator Information

1. Operator Information

Operator Name:

Mailing Address:

Street:

City: State: ZIP Code: -

Phone: - - Ext.

E-mail:

2. DMR Preparer (Complete if DMR was prepared by someone other than the certifier):

First Name, Middle Initial, Last Name:

Organization:

Phone: - - Ext.

E-mail:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460
MSGP INDUSTRIAL DISCHARGE MONITORING REPORT (DMR)

Form Approved. OMB No. 2040-0004

F. Monitoring Information

Note: Make additional copies of this form as necessary.

1. Nature of Discharge: Rainfall (Complete line items 2.a., 2.b., & 2.c.) Snowmelt

2.a. Duration of the rainfall event (hours):

2.b. Rainfall amount (inches):

2.c. Time since previous measurable storm event (days):

3.a. Outfall ID (list the same 3-digit outfalls identified on the NOI form)	3.b. Check if Any Outfalls are Substantially Identical to Other Outfalls Listed	3.c. Check if No Discharge	3.d. Monitoring Type QBM, ELG, S/T, I, O*	3.e. Parameter	3.f. Quality or Concentration	3.g. Units	3.h. Results Description	3.i. Collection Date	3.j. Exceedance due to natural background pollutant levels	3.k. No further pollutant reductions achievable?
		<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Substantially identical to outfall: _____	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Substantially identical to outfall: _____	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Substantially identical to outfall: _____	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/> Substantially identical to outfall: _____	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Substantially identical to outfall: _____	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> Substantially identical to outfall: _____	<input type="checkbox"/>							<input type="checkbox"/>	<input type="checkbox"/>

* (QBM) - Quarterly benchmark monitoring; (ELG) - Annual effluent limitations guidelines monitoring; (S/T) - State- or tribal-specific monitoring; (I) - Impaired waters monitoring; (O) - Other monitoring as required by EPA

4. Comment and/or Explanation of Any Violations (Reference all attachments here)

**Discharge Monitoring Report (DMR) for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

Form Approved OMB No. 2040-0004

Who Must Submit A Discharge Monitoring Report to EPA?

Facilities covered under the Multi-Sector General Permit (MSGP or permit) that are required to monitor pursuant to Parts 6.2 and 8 of the permit must submit Discharge Monitoring Reports (DMRs) consistent with the reporting requirements specified in Part 7.1 of the permit.

Completing the Form

Obtain and read a copy of the 2015 MSGP, viewable at <http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>. To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. Please submit original document with signature in ink - do not send a photocopied signature. **Photocopy your DMR form for your records before you send the completed original form to the appropriate address.**

Section A. Approval to Use Paper DMR Form

You must indicate whether you have been granted a waiver from electronic reporting from the EPA Regional Office. Note that you are not authorized to use this paper DMR form unless the EPA Regional Office has approved its use. Where you have obtained approval to use this form, indicate the waiver that you have been granted, the name of the EPA staff person who granted the waiver, and the date that approval was provided. See <http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm> for a list of EPA Regional Office contacts.

Section B. Permit Information

Provide the NPDES ID (i.e., NOI tracking number) assigned to the facility for which this DMR is being submitted.

Indicate your reason(s) for submitting this DMR by checking all boxes that apply. The reasons for submission are defined as follows:

- *Submitting monitoring data:* For each storm sampled, submit one DMR form with data for all outfalls sampled. Select this reason even if you only have monitoring data for some of your outfalls (i.e., some outfalls did not discharge). If you select this reason you are required to complete all Sections of the form.
- *Reporting no discharge for all outfalls for this monitoring period:* Indicates that there were no discharges from all outfalls during this monitoring period. If you select this reason you are only required to complete Sections A, B, C, D, E.1, and G.
- *Reporting that your site status has changed to inactive and unstaffed:* Indicates that your facility is currently inactive and unstaffed (See Part 6.2.1.3 of the permit for more information). If you select this reason you are only required to complete Sections A, B, C, D, and F and include date of status change in comment field in Section F.4
- *Reporting that your site status has changed from inactive to active:* Indicates that your facility is currently active (See Part 6.2.1.3 of the permit for more information). If you select this reason you are required to complete all Sections of the form and include date of status change in the comment field in Section F.4.

- *Reporting that no further reductions are achievable for all outfalls and for all pollutants via Part 6.2.1.2 of the permit:* Indicates that you have determined that no further pollutant reductions are technologically and economically practicable in light of best industry practice to meet the technology-based effluent limits or are necessary to meet the water-quality-based effluent limitations in Parts 2 of the permit (See Part 6.2.1.2 of the permit for more information). If you select this reason you are required to complete Sections A, B, C, D and G. However, if you can make this finding for some outfalls and pollutants, but not for others, you cannot select this reason; you will instead be able to identify which outfalls and which pollutants you can make this finding for in Section F.

Section C. Facility Operator Information.

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility for which this DMR is being submitted. An operator of a facility is the legal entity that controls the operation of the facility. Refer to Appendix A of the permit for the definition of "operator". Provide the operator's mailing address, phone number, and e-mail. The operator information in this Section should match the operator information provided on your NOI form.

Provide the name, organization, phone number, an email address for the person who prepared this DMR form.

Section D. Facility Information

Enter the official or legal name and complete street address, including city, state, ZIP code, and county or similar government subdivision of the facility. If the facility lacks a street address, indicate the general location of the facility (e.g., Intersection of State Highways 61 and 34). Complete facility information must be provided for permit coverage to be granted. The facility information in this Section should match the facility information provided on your NOI form.

Section E. Discharge Information.

Indicate the appropriate monitoring period (Quarter 1, 2, 3, or 4) covered by the DMR. "Alternative" monitoring periods can apply to facilities located in arid and semi-arid climates, or in areas subject to snow or prolonged freezing. To use alternative monitoring periods, you must provide a revised monitoring schedule here. If using alternative monitoring periods, identify the first day of the monitoring period through the last day of the monitoring period for each of the four periods. The dates should be displayed as month (Mo) / day (Day). See Parts 6.1.6 and 6.1.7 of the permit for more information.

If you are submitting benchmark monitoring data, identify if your facility is required to collect benchmark samples for one or more hardness-dependent metals (i.e., cadmium, copper, lead, nickel, silver, and zinc). If you select "yes" to this question provide the hardness level of the receiving water (in mg/L). If you select "no" to this question, you must identify if your facility discharges into any saltwater receiving waters.

**Discharge Monitoring Report (DMR) for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

Form Approved OMB No. 2040-0004

F. Monitoring Information

For the reported monitoring event indicate whether the discharge was from a rainfall or snowmelt event. If you select "rainfall" then indicate the duration (in hours) of the rainfall event, rainfall total (in inches) for that rainfall event, and time (in days) since the previous measurable storm event in line items 2.a-c. For both rainfall and snowmelt monitoring, you must identify the date of collection for the monitoring event in column 3.i. of the table. If the discharge occurs during a period of both rainfall and snowmelt, check both the rainfall and snowmelt boxes and report the appropriate rainfall information in item 2.a-c. To report multiple monitoring events in the same reporting period, copy this form and enter each monitoring event separately with data for all outfalls sampled.

Identify all the outfalls from your facility that discharge stormwater. Each outfall must be assigned a unique 3-digit number (e.g., 001, 002, 003), and should match the outfalls identified on your NOI form.

If any outfalls are substantially identical, check the box in 3.b and identify the outfall that the outfall in 3.a is substantially identical to. In 3.d – k, you only need to provide benchmark monitoring data for one of the outfalls.

For any outfall for which there was no discharge during the monitoring period, check the box in 3.

In 3.d, identify the type of monitoring using the specified codes, in parentheses, below:

- (QBM) – Quarterly benchmark monitoring
- (ELG) – Annual effluent limitations guidelines monitoring;
- (S/T) – State- or Tribal-specific monitoring;
- (I) – Impaired waters monitoring; or
- (O) – Other monitoring as required by EPA.

In 3.e, enter each "parameter" (or "pollutant") monitored. For QBM and ELG monitoring, use the same parameter name as in Part 8 of the permit.

In 3.f., enter a sample measurement value for each parameter analyzed and required to be reported. Enter "ND" (i.e., not detected) for any sample results below the method detection limit or "BQL" (i.e., below quantitation limit) for sample results above the detection limit but below the quantitation limit.

In 3.g., enter the units for sample measurement values (i.e., "mg/L" for milligrams per liter) for each parameter analyzed and required to be reported. For monitoring results reported as ND or BQL this space will be left blank and the units will be reported in Column 3.f.

3.h. must be completed for any monitoring results reported as ND or BQL in the "Quality or Concentration" column. For ND, report the laboratory detection level and units in this column. For BQL, report the laboratory quantitation limit and units in this column.

In 3.i. identify the sampling date for each parameter monitoring result reported on this form.

3.h. *Exceedance due to natural background pollutant levels:* Check box if following the first 4 quarters of benchmark monitoring (or sooner if the exceedance is triggered by less than 4 quarters of data) you have determined that the exceedance of the

benchmark is attributable solely to the presence of that pollutant in the natural background for that outfall and any substantially identical outfalls, or for impaired waters monitoring, the presence of the pollutant is caused solely by natural background. See Part 6.2.1.2 and 6.2.4.1 of the permit for more information.

In 3.j. check the box if after collection of 4 quarterly samples (or sooner if the exceedance is triggered by less than 4 quarters of data), the average of the 4 monitoring values for any parameter exceeds the benchmark and you have made the determination that no further pollutant reductions are technologically available and economically practicable and achievable in light of best industry practice to meet the technology-based effluent limits or are necessary to meet the water-quality-based effluent

Where violations of the permit requirements are reported, include a brief explanation to describe the cause and corrective actions taken, and reference each violation by date. Also, this section should include any additional comments such as are required when changing site status from inactive and unstaffed to active or vice versa. Attach additional pages if you need more space.

Attach additional copies of Section F as necessary to address all outfalls and parameters.

Section G. Certification Information

DMRs must be signed by a person described below, or by a duly authorized representative of that person.

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing.

**Discharge Monitoring Report (DMR) for Stormwater Discharges
Associated with Industrial Activity Under the NPDES Multi-Sector General Permit**

NPDES Form Date (06/15)

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A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above;
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and
3. The written authorization is submitted to the Director.

An unsigned or undated DMR form be considered incomplete.

Paperwork Reduction Act Notice

Public reporting burden for this form is estimated to average 7.25 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed DMR form to this address.

Submitting Your Form

If you have been granted a waiver from your Regional Office to submit a paper DMR form, you must send your DMR form by mail to one of the following addresses:

Region 1

MSGP Discharge Monitoring Reports (OES4-SMR)
EPA New England, Region 1
5 Post Office Square - Suite 100
Boston, MA 02109-3912

Region 2

MSGP Discharge Monitoring Reports
290 Broadway
DECA/CAPBS/DMT
21st Floor
New York, NY, 10007-1866

Region 3

Nancy Ford
U.S. EPA Region 3
1650 Arch Street
Mail Code #3WP60
Philadelphia, PA 19103

Region 5

U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard (WN-16J)
Chicago, Illinois 60604
Attn: Brian Bell - Storm Water Coordinator

Region 6

U.S. EPA, Region 6 MSGP DMRs
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue
Dallas, TX 75202

Region 7

Neal Gilbert
U.S. Environmental Protection Agency, Region 7
Enforcement Coordination Office
11201 Renner Blvd
Lenexa, KS 66219

Region 8

U.S. EPA, Region 8 (ENF-PJ)
Attention: DMR Coordinator
1595 Wynkoop Street
Denver, CO 80202-1129

Region 9

Sandra Chew
U.S. EPA Region 9
Information Management Section, ENF-4-1
75 Hawthorne Street
San Francisco, CA 94105

Region 10

U.S. EPA Region 10
Attn: NPDES Data Manager, OCE-101
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

Visit this website for instructions on how to submit electronically:
<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>

Appendix N - List of SIC and NAICS Codes

Sector A. Timber Products					
Sub-sector	SIC Codes		NAICS Codes		Notes
A3	2411	Logging (log storage and handling activities only; wet deck storage areas only authorized if no chemical additives are used in the spray water or applied to the logs.)	113310	Logging	
A1	2421	General Sawmills and Planing Mills (sawmills)	321113	Sawmills	
		(lumber manufacturing from purchased lumber, softwood cut stock, wood lath, fence pickets, and planing mill products)	321912	Cut Stock, Resawing Lumber, and Planing	
		(softwood flooring)	321918	Other Millwork (including Flooring)	
		(box lumber made from purchased lumber)	321920	Wood Container and Pallet Manufacturing	
		(kiln drying)	321999	All Other Miscellaneous Wood Product Manufacturing	
A4	2426	Hardwood Dimension and Flooring Mills (hardwood dimension lumber made from logs or bolts)	321113	Sawmills	
		(hardwood cut stock, resawing hardwood lumber, and planing purchased hardwood lumber except flooring)	321912	Cut Stock, Resawing Lumber, and Planing	
		(hardwood flooring)	321918	Other Millwork (including Flooring)	
		(wood furniture frames and finished furniture parts)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
	2429	Special Product Sawmills, Not Elsewhere Classified (shingle mills, shakes)	321113	Sawmills	
		(stave manufacturing from purchased lumber)	321912	Cut Stock, Resawing Lumber, and Planing	
		(cooperage stock)	321920	Wood Container and Pallet Manufacturing	
		(excelsior)	321999	All Other Miscellaneous Wood Product Manufacturing	

	2431	Millwork		
		(wood windows and doors)	321911	Wood Window and Door Manufacturing
		(except wood windows and doors)	321918	Other Millwork (including Flooring)
	2435	Hardwood Veneer and Plywood	321211	Hardwood Veneer and Plywood Manufacturing
	2436	Softwood Veneer and Plywood	321212	Softwood Veneer and Plywood Manufacturing
2439	Structural Wood Members, Not Elsewhere Classified	(except trusses)	321213	Engineered Wood Member (except Truss) Manufacturing
		(trusses)	321214	Truss Manufacturing
	A5	2441	Nailed and Lock Corner Wood Boxes and Shook	321920
A4	2448	Wood Pallets and Skids	321920	Wood Container and Pallet Manufacturing
	2449	Wood Containers, Not Elsewhere Classified	321920	Wood Container and Pallet Manufacturing
	2451	Mobil Homes	321991	Manufactured Home (Mobil Home) Manufacturing
	2452	Prefabricated Wood Buildings and Components	321992	Prefabricated Wood Building Manufacturing
A2	2491	Wood Preserving	321114	Wood Preservation
A4	2493	Reconstituted Wood Products	321219	Reconstituted Wood Product Manufacturing
	2499	Wood Products, Not Elsewhere Classified		
		(wood containers, such as noncoopered vats and reed or straw baskets)	321920	Wood Container and Pallet Manufacturing
		(except wood containers, wood cooling towers, cork life preservers, mirror or picture frames, and laundry hampers of reed, rattan, and willow)	321999	All Other Miscellaneous Wood Product Manufacturing
		(wood cooling towers)	333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing
		(laundry hampers of reed, rattan, and willow)	337125	Household Furniture (except Wood and Metal) Manufacturing
(cork life preservers)	339113	Surgical Appliance and Supplies Manufacturing		
	(mirror and picture frames)	339999	All Other Miscellaneous Manufacturing	

Sector B. Paper and Allied Products Manufacturing						
Sub-sector	SIC Codes		NAICS Codes		Notes	
B2	2611	Pulp Mills				
		(pulp producing mills only)	322110	Pulp Mills		
		(producing paper except newsprint)	322121	Paper (except Newsprint) Mills		
		(producing newsprint)	322122	Newsprint Mills		
		(producing paperboard)	322130	Paperboard Mills		
	2621	Paper Mills				
(except newsprint mills)		322121	Paper (except Newsprint) Mills			
		(newsprint mills)	322122	Newsprint Mills		
B1	2631	Paperboard Mills	322130	Paperboard Mills		
B2	2652	Setup Paperboard Boxes	322213	Setup Paperboard Box Manufacturing		
	2653	Corrugated and Solid Fiber Boxes	322211	Corrugated and Solid Fiber Boxes Manufacturing		
	2655	Fiber Cans, Tubes, Drums, and Similar Products	322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing		
	2656	Sanitary Food Containers, Except Folding	322215	Nonfolding Sanitary Food Container Manufacturing		
	2657	Folding Paperwork Boxes	322212	Folding Paperboard Box Manufacturing		
	2671	Packaging Paper and Plastics Film, Coated and Laminated				
		(except single-web and multi-web plastics packaging film and sheets)	322221	Coated and Laminated Packaging Paper and Plastics Film Manufacturing		
	(single-web and multi-web plastics packaging film and sheets)	326112	Plastics Packaging Film and Sheet (including Laminated) Manufacturing	Any facility whose primary activity is manufacturing single-web and multi-web plastics packaging film and sheets (SIC 2671 / NAICS 326112) should be regulated under Sector Y, but may continue to be regulated under Sector B, or alternatively, under Sector AD. Sectors Y, B, and AD do not have specific requirements for facilities manufacturing single-web and multi-web plastics packaging film and sheets. However, under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements. Regulatory burden would not differ between Sectors B and Y.		
2672	Coated and Laminated Paper, NEC	322222	Coated and Laminated Paper Manufacturing			

2673	Plastics, Foil, and Coated Paper Bags (except single-web or multi-web plastics bags)	322223	Plastics, Foil, and Coated Paper Bags Manufacturing	Any facility whose primary activity is manufacturing single-web and multi- web plastics bags (SIC 2673 / NAICS 326111) should be regulated under Sector Y, but may continue to be regulated under Sector B, or alternatively, under Sector AD. Sectors Y, B, and AD do not have specific requirements for facilities manufacturing single-web and multi- web plastics bags. However, under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements. Regulatory burden would not differ between Sectors B and Y.
	(single-web and multi-web plastics bags)	326111	Plastics Bag Manufacturing	
2674	Uncoated Paper and Multiwall Bags	322224	Uncoated Paper and Multiwall Bags Manufacturing	
2675	Die Cut Paper and Paperboard and Cardboard (pasted, lined, laminated, or surface- coated paperboard)	322226	Surface-Coated Paperboard Manufacturing	
	(die cut paper and paperboard office supplies, such as file folders, tabulating cards, and report covers)	322231	Die Cut Paper and Paperboard Office Supplies Manufacturing	
	(except pasted, lined, laminated, or surface-coated paperboard and die- cut paper and paperboard office supplies)	322299	All Other Converted Paper Product Manufacturing	
2676	Sanitary Paper Products	322291	Sanitary Paper Product Manufacturing	
2677	Envelopes	322232	Envelope Manufacturing	
2678	Stationery, Tablets, and Related Products	322233	Stationery, Tablets, and Related Product Manufacturing	
2679	Converted Paper and Paperboard Products, NEC (corrugated paper)	322211	Corrugated and Solid Fiber Box Manufacturing	
	(wallpaper and gift wrap paper)	322222	Coated and Laminated Paper Manufacturing	
	(paper supplies for business machines, such as adding machine tape, and other paper office supplies)	322231	Die Cut Paper and Paperboard Office Supplies Manufacturing	

	(except corrugated paper, wall paper, gift wrap paper, paper supplies for business machines, and other paper office supplies)	322299	All Other Converted Paper Product Manufacturing		
Sector C. Chemical and Allied Products Manufacturing					
Sub-sector	SIC Codes	NAICS Codes		Notes	
C2	2812	Alkalies and Chlorine	325181	Alkalies and Chlorine Manufacturing	
	2813	Industrial Gases	325120	Industrial Gas Manufacturing	
	2816	Inorganic Pigments (except bone and lamp black)	325131	Inorganic Dye and Pigment Manufacturing	
		(bone and lamp black)	325182	Carbon Black Manufacturing	
	2819	Industrial Inorganic Chemicals, Not Elsewhere Classified (recovering sulfur from natural gas)	211112	Natural Gas Liquid Extraction	
		(inorganic dyes)	325131	Inorganic Dye and Pigment Manufacturing	
		(other)	325131	All Other Basic Inorganic Chemical Manufacturing	
		(activated carbon and charcoal)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	
		(alumina)	331311	Alumina Refining	Any facility whose primary activity is alumina refining (NAICS 331311) should be regulated under Sector F, but may continue to be regulated under Sector C. Sector C requires sector/subsector specific benchmark monitoring for total aluminum, total iron, and nitrate plus nitrite nitrogen. Sector F applies additional technology-based effluent limits comprised of good housekeeping measures; additional SWPPP requirements; and additional inspection requirements. Regulatory burdens differ between Sectors C and F but determining which sector would be more burdensome would depend on the regulated facility.
	C4	2821	Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers	325211	Plastics Material and Resin Manufacturing
2822		Synthetic Rubber	325212	Synthetic Rubber Manufacturing	

	2823	Cellulosic Manmade Fibers	325221	Cellulosic Organic Fiber Manufacturing	
	2824	Manmade Organic Fibers, Except Cellulosic	325222	Noncellulosic Organic Fiber Manufacturing	
C5	2833	Medicinal Chemicals and Botanical Products	325411	Medicinal and Botanical Manufacturing	
	2834	Pharmaceutical Preparations	325412	Pharmaceutical Preparation Manufacturing	
	2835	In Vitro and In Vivo Diagnostic Substances (except in vitro diagnostic)	325412	Pharmaceutical Preparation Manufacturing	
		(in vitro diagnostic substances)	325413	In Vitro Diagnostic Substance Manufacturing	
	2836	Biological Products, Except Diagnostic Substances	325414	Biological Product (except Diagnostic) Manufacturing	
C3	2841	Soaps and Other Detergents, Except Specialty Cleaners	325611	Soap and Other Detergent Manufacturing	
	2842	Specialty Cleaning, Polishing, and Sanitation Preparations	325612	Polish and Other Sanitation Good Manufacturing	
	2843	Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants	325613	Surface Active Agent Manufacturing	
	2844	Perfumes, Cosmetics, and Other Toilet Preparations (toothpaste, gel and dentifrice powders)	325611	Soap and Other Detergent Manufacturing	
		(except toothpaste, gel and dentifrice powders)	325620	Toilet Preparation Manufacturing	
C5	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products	325510	Paint and Coating Manufacturing	
	2861	Gum and Wood Chemicals	325191	Gum and Wood Chemical Manufacturing	
	2865	Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments (aromatics)	325110	Petrochemical Manufacturing	
		(organic dyes and pigments)	325132	Synthetic Organic Dye and Pigment Manufacturing	
		(except aromatics and organic dyes and pigments)	325192	Cyclic Crude and Intermediate Manufacturing	
	2869	Industrial Organic Chemicals, Not Elsewhere Classified (aliphatics)	325110	Petrochemical Manufacturing	
		(fluorocarbon gases)	325120	Industrial Gas Manufacturing	
(carbon bisulfide)		325188	All Other Basic Inorganic Chemical Manufacturing		

		(cyclopropane, diethylcyclohexane, naphthalene sulfonic acid)	325192	Cyclic Crude and Intermediate Manufacturing		
		(ethyl alcohol)	325193	Ethyl Alcohol Manufacturing		
		(except aliphatics, carbon bisulfide, ethyl alcohol, cyclopropane, diethylcyclohexane, naphthalene sulfonic acid, synthetic hydraulic fluids, and fluorocarbon gases)	325199	All Other Basic Organic Chemical Manufacturing		
		(synthetic hydraulic fluids)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing		
C1	2873	Nitrogenous Fertilizers	325311	Nitrogenous Fertilizer Manufacturing		
	2874	Phosphatic Fertilizers	325312	Phosphatic Fertilizer Manufacturing		
	2875	Fertilizers, Mixing Only	325314	Fertilizers (Mixing Only) Manufacturing		
	2879	Pesticides and Agricultural Chemicals, NEC	325320	Pesticides and Other Agricultural Chemical Manufacturing		
C5	2891	Adhesives and Sealants	325520	Adhesive Manufacturing		
	2892	Explosives	325920	Explosives Manufacturing		
	2893	Printing Ink	325910	Printing Ink Manufacturing		
	2895	Carbon Black	325182	Carbon Black Manufacturing		
	2899	Chemicals and Chemical Preparations, NEC	(table salt)	311942	Spice and Extract Manufacturing (table salt only)	
			(fatty acids)	325199	All Other Basic Organic Chemical Manufacturing	
			(frit and plastic wood fillers)	325510	Paint and Coating Manufacturing	
			(except frit, plastic wood fillers, fatty acids, and table salt)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	
	2911	Petroleum Refining	324110	Petroleum Refineries		
	3952	Lead Pencils, Crayons, and Artists' Materials (limited to inks and paints, including china painting enamels)	(drawing inks and india ink)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	
			(china painting enamels, platinum paint for burnt wood or leather work, paints for china painting, artist's paints, and artist's watercolors)	339942	Lead Pencil and Art Good Manufacturing	

Sector D. Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers					
Sub-sector	SIC Codes		NAICS Codes		Notes
D1	2951	Asphalt Paving Mixtures and Blocks	324121	Asphalt Paving Mixture and Block Manufacturing	
	2952	Asphalt Felt and Coatings	324122	Asphalt Shingle and Coating Materials Manufacturing	
D2	2992	Lubricating Oils and Greases	324191	Petroleum Lubricating Oil and Grease Manufacturing	
	2999	Products of Petroleum and Coal, Not Elsewhere Classified	324199	All Other Petroleum and Coal Products Manufacturing	
Sector E. Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing					
Sub-sector	SIC Codes		NAICS Codes		Notes
E3	3211	Flat Glass	327211	Flat Glass Manufacturing	
	3221	Glass Containers	327213	Glass Container Manufacturing	
	3229	Pressed and Blown Glass and Glassware, Not Elsewhere Classified	327212	Other Pressed and Blown Glass and Glassware Manufacturing	
	3231	Glass Product Manufacturing Made of Purchased Glass	327215	Glass Product Manufacturing Made of Purchased Glass	
	3241	Hydraulic Cement	327310	Cement Manufacturing	
E1	3251	Brick and Structural Clay Tile (except slumped brick)	327121	Brick and Structural Clay Tile Manufacturing	
		(slumped brick)	327331	Concrete Block and Brick Manufacturing	
	3253	Ceramic Wall and Floor Tile	327122	Ceramic Wall and Floor Tile Manufacturing	
	3255	Clay Refractories	327124	Clay Refractory Manufacturing	
	3259	Structural Clay Products, Not Elsewhere Classified	327123	Other Structural Clay Product Manufacturing	
	3261	Vitreous China Plumbing Fixtures and China and Earthenware Fittings and Bathroom Accessories	327111	Vitreous China Plumbing Fixture and China and Earthenware Bathroom Accessories Manufacturing	
	3262	Vitreous China Table and Kitchen Articles	327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	
	3263	Fine Earthenware (Whiteware) Table and Kitchen Articles	327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	
	3264	Porcelain Electrical Supplies	327113	Porcelain Electrical Supply Manufacturing	
	3269	Pottery Products, Not Elsewhere Classified	327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	

E2	3271	Concrete Block and Brick	327331	Concrete Block and Brick Manufacturing	
	3272	Concrete Products, Except Block and Brick			
		(concrete pipe)	327332	Concrete Pipe Manufacturing	
		(concrete products, except dry mix concrete and pipe)	327390	Other Concrete Product Manufacturing	
		(dry mixture concrete)	327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	
	3273	Ready-Mixed Concrete	327320	Ready-Mix Concrete Manufacturing	
	3274	Lime Manufacturing			
		Calcium hydroxide (i.e., hydrated lime) manufacturing	327410	Lime Manufacturing	
		Calcium oxide (i.e., quicklime) manufacturing	327410	Lime Manufacturing	
		Dolomite, dead-burned, manufacturing	327410	Lime Manufacturing	
		Hydrated lime (i.e., calcium hydroxide) manufacturing	327410	Lime Manufacturing	
		Quicklime (i.e., calcium oxide) manufacturing	327410	Lime Manufacturing	
Agricultural lime manufacturing Dolomitic lime manufacturing		327410 327410	Lime Manufacturing Lime Manufacturing		
3275	Gypsum Products	327420	Gypsum Product Manufacturing		
E3	3281	Cut Stone and Stone Products	327991	Cut Stone and Stone Product Manufacturing	
	3291	Abrasive Products (except steel wool manufacturing)	327910	Abrasive Product Manufacturing	
		(steel wool manufacturing)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	Any facility whose primary activity is steel wool manufacturing (NAICS 332999) should be regulated under Sector AA, but may continue to be regulated under Sector E. Sector AA applies additional technology-based effluent limits comprised of good housekeeping measures, spill prevention and response procedures, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector E applies additional technology-based effluent limits comprised of good housekeeping measures, and additional SWPPP requirements.

				Regulatory burden would likely be greater under Sector AA.	
	3292	Asbestos Products (except brake pads and linings)	327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	
		(asbestos brake linings and pads)	336340	Motor Vehicle Brake System Manufacturing	
		(asbestos clutch facings, motor vehicle)	336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	
	3295	Minerals and Earths, Ground or Otherwise Treated (grinding, washing, separating, etc. of kaolin and ball clay)	212324	Kaolin and Ball Clay Mining	
		(grinding, washing, separating, etc. of clay, ceramic, and refractory minerals not elsewhere classified)	212325	Clay and Ceramic and Refractory Minerals Mining	
		(grinding, washing, separating, etc. of chemical and fertilizer minerals, not elsewhere classified)	212393	Other Chemical and Fertilizer Mineral Mining	
		(grinding, washing, separating, etc. of nonmetallic minerals, not elsewhere classified)	212399	All Other Nonmetallic Mineral Mining	
		(except grinding, washing, separating, etc. of nonmetallic minerals)	327992	Ground or Treated Mineral and Earth Manufacturing	
	3296	Mineral Wool	327993	Mineral Wool Manufacturing	
	3297	Nonclay Refractories	327125	Nonclay Refractory Manufacturing	
	3299	Nonmetallic Mineral Products, Not Elsewhere Classified (clay statuary)	327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	
		(moldings, ornamental and architectural plaster work, and gypsum statuary)	327420	Gypsum Product Manufacturing	
		(except moldings, ornamental and architectural plaster work, clay statuary, and gypsum statuary)	327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	
Sector F. Primary Metals					
Sub-sector	SIC Codes		NAICS Codes		Notes
F1	3312	Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills			

	(coke oven products [e.g., coke, gases, tars] made in coke oven establishments)	324199	All Other Petroleum and Coal Products Manufacturing	Any facility whose primary activity is manufacturing coke oven products (e.g., coke, gases, tars) made in coke oven establishments should be regulated under Sector D, but may continue to be regulated under Sector F. Sector F requires sector-specific benchmark monitoring requirements for total aluminum and total zinc, Sector D does not require benchmark monitoring from these facilities. Regulatory burden would be greater under Sector F.
	(except coke ovens not integrated with steel mills and hot-rolling purchased steel)	331111	Iron and Steel Mills	
	(hot-rolling purchased steel)	331221	Rolled Steel Shape Manufacturing	
3313	Electrometallurgical Products, Except Steel	331112	Electrometallurgical Ferroalloy Product Manufacturing	
3315	Steel Wiredrawing and Steel Nails and Spikes (steel wire drawing)	331222	Steel Wire Drawing	
3316	Cold-Rolled Steel Sheet, Strip, and Bars	331221	Rolled Steel Shape Manufacturing	
3317	Steel Pipe and Tubes	331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	
F2	3321 Gray and Ductile Iron Foundries	331511	Iron Foundries	
	3322 Malleable Iron Foundries	331511	Iron Foundries	
	3324 Steel Investment Foundries	331512	Steel Investment Foundries	
	3325 Steel Foundries, NEC	331513	Steel Foundries (except Investment)	
F5	3331 Primary Smelting and Refining of Copper	331411	Primary Smelting and Refining of Copper	
	3334 Primary Production of Aluminum	331312	Primary Aluminum Production	
	3339 Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum	331419	Primary Smelting and Refining of Nonferrous Metal (except Copper and Aluminum)	
	3341 Secondary Smelting and Refining of Nonferrous Metals	(aluminum)	331314	Secondary Smelting and Alloying of Aluminum
(copper)		331423	Secondary Smelting, Refining and Alloying of Copper	

		(except copper and aluminum)	331492	Secondary Smelting, Refining and Alloying of Nonferrous Metal (except Copper and Aluminum)		
F3	3351	Rolling, Drawing, and Extruding of Copper	331421	Copper Rolling, Drawing, and Extruding		
	3353	Aluminum Sheet, Plate, and Foil	331315	Aluminum Sheet, Plate, and Foil Manufacturing		
	3354	Aluminum Extruded Products	331316	Aluminum Extruded Product Manufacturing		
	3355	Aluminum Rolling and Drawing, Not Elsewhere Classified	331319	Other Aluminum Rolling and Drawing		
	3356	Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum	331491	Nonferrous Metal (Except Copper and Aluminum) Rolling, Drawing, and Extruding		
	3357	Drawing and Insulating of Nonferrous Wire	(aluminum wire drawing)	331319	Other Aluminum Rolling and Drawing	
			(copper wire drawing)	331422	Copper Wire (except Mechanical) Drawing	
			(wire drawing except copper or aluminum)	331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	
(fiber optic cable-insulating only)			335921	Fiber Optic Cable Manufacturing		
(communication and energy wire, except fiber optic-insulating only)			335929	Other Communication and Energy Wire Manufacturing		
F4	3363	Aluminum Die Castings	331521	Aluminum Die Casting Foundries		
	3364	Nonferrous Die Castings, Except Aluminum	331522	Nonferrous (Except Aluminum) Die Casting Foundries		
	3365	Aluminum Foundries	331524	Aluminum Foundries (Except Die-Casting)		
	3366	Copper Foundries	331525	Copper Foundries (Except Die-Casting)		
	3369	Nonferrous Foundries, Except Copper and Aluminum	331528	Other Nonferrous Foundries (Except Die-Casting)		
F5	3398	Metal Heat Treating	332811	Metal Heat Treating		
	3399	Primary Metal Products, Not Elsewhere Classified (iron ore recovery from open hearth slag) (ferrous powder, paste, flakes, etc.) (aluminum powder, paste, flakes, etc.) (copper powder, paste, flakes, etc.) (nonferrous powder, paste, flakes, etc. except copper and aluminum) (nonferrous nails, brads, staples, tacks, etc. made from purchased nonferrous wire)	331111	Iron and Steel Mills		
			331221	Rolled Steel Shape Manufacturing		
			331314	Secondary Smelting and Alloying of Aluminum		
			331423	Secondary Smelting, Refining, and Alloying of Copper		
			331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)		
			332618	Other Fabricated Wire Product Manufacturing		

Sector G. Metal Mining (Ore Mining and Dressing)					
Sub-sector	SIC Codes		NAICS Codes		Notes
G1	1021	Copper Ores	212234	Copper Ore and Nickel Ore Mining	
G2	1011	Iron Ores	212210	Iron Ore Mining	
	1021	Copper Ores	212234	Copper Ore and Nickel Ore Mining	
	1031	Lead and Zinc Ores	212231	Lead Ore and Zinc Ore Mining	
	1041	Gold Ores	212221	Gold Ore Mining	
	1044	Silver Ores	212222	Silver Ore Mining	
	1061	Ferroalloy Ores, Except Vanadium (nickel) (other ferroalloys except nickel)	212234	Copper Ore and Nickel Ore Mining	
			212299	All Other Metal Ore Mining	
	1081	Metal Mining Services (except site preparation and related activities performed on a contract or fee basis and geophysical surveying and mapping) (site preparation and related construction activities on a contract basis)	213114	Support Activities for Metal Mining	
			238910	Site Preparation Contractors	
			212291	Uranium-Radium-Vanadium Ore Mining	
1094	Uranium-Radium-Vanadium Ores	212291	Uranium-Radium-Vanadium Ore Mining		
1099	Miscellaneous Metal Ores, Not Elsewhere Classified	212299	All Other Metal Ore Mining		
Sector H. Coal Mines and Coal Mining-Related Facilities					
Sub-sector	SIC Codes		NAICS Codes		Notes
H1	1221	Bituminous Coal and Lignite Surface Mining	212111	Bituminous Coal and Lignite Surface Mining	
	1222	Bituminous Coal Underground Mining	212112	Bituminous Coal Underground Mining	
	1231	Anthracite Mining	212113	Anthracite Mining	
	1241	Coal Mining Services (except site preparation and related construction activities on a contract basis) (site preparation and related construction activities on a contract basis)	213113	Support Activities for Coal Mining	
			238910	Site Preparation Contractors	

Sector I. Oil and Gas Extraction					
Sub-sector	SIC Codes		NAICS Codes		Notes
I1	1311	Crude Petroleum and Natural Gas	211111	Crude Petroleum and Natural Gas Extraction	
	1321	Natural Gas Liquids	211112	Natural Gas Liquid Extraction	
	1381	Drilling Oil and Gas Wells	213111	Drilling Oil and Gas Wells	
	1382	Oil and Gas Field Exploration Services	213112	Support Activities for Oil and Gas Operations	
	1389	Oil and Gas Field Services, Not Elsewhere Classified (except construction of field gathering lines, site preparation and related construction activities performed on a contract or fee basis)	213112	Support Activities for Oil and Gas Operations	
		(construction of field gathering lines on a contract or fee basis)	237120	Oil and Gas Pipeline and Related Structures Construction	
		(site preparation and related construction activities on a contract basis)	238910	Site Preparation Contractors	
Sector J. Mineral Mining and Dressing					
Sub-sector	SIC Codes		NAICS Codes		Notes
J2	1411	Dimension Stone	212311	Dimension Stone Mining and Quarrying	
	1422	Crushed and Broken Limestone	212312	Crushed and Broken Limestone Mining and Quarrying	
	1423	Crushed and Broken Granite	212313	Crushed and Broken Granite Mining and Quarrying	
	1429	Crushed and Broken Stone, Not Elsewhere Classified	212319	Other Crushed and Broken Stone Mining and Quarrying	
J1	1442	Construction Sand and Gravel	212321	Construction Sand and Gravel Mining	
	1446	Industrial Sand	212322	Industrial Sand Mining	
J3	1455	Kaolin and Ball Clay	212324	Kaolin and Ball Clay Mining	
	1459	Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified	212325	Clay, Ceramic, and Refractory Minerals Mining	
	1474	Potash, Soda, and Borate Minerals	212391	Potash, Soda, and Borate Mineral Mining	
	1475	Phosphate Rock	212392	Phosphate Rock Mining	
	1479	Chemical and Fertilizer Mineral Mining, Not Elsewhere Classified	212393	Other Chemical and Fertilizer Mineral Mining	
J2	1481	Nonmetallic Minerals Services, Except Fuels			

		(except geophysical surveying and mapping and site preparation and related construction activities performed on a contract or fee basis)	213115	Support Activities for Nonmetallic Minerals (except Fuels)	
		(site preparation and related construction activities on a contract basis)	238910	Site Preparation Contractors	
1499		Miscellaneous Nonmetallic Minerals, Except Fuels			
		(except bituminous limestone and bituminous sandstone)	212399	All Other Nonmetallic Mineral Mining	
Sector K. Hazardous Waste Treatment, Storage or Disposal Facilities					
Sub-Sector	Activity Code	Narrative Description		Notes	
K1	HZ	<ul style="list-style-type: none"> Hazardous waste treatment Hazardous waste storage Hazardous waste disposal Hazardous waste facilities operating under interim status Hazardous waste facilities operating under a permit under Subtitle C of RCRA 		HZ is the Activity Code (i.e., non-SIC / non-NAICS designation) for this Sector. It potentially applies to any facility regardless of SIC / NAICS Code, in addition to these specifically related to hazardous waste: <ul style="list-style-type: none"> SIC 4953 Refuse Systems (hazardous waste treatment and disposal); NAICS 562211 Hazardous Waste Treatment and Disposal; NAICS 562112 Hazardous Waste Collection (hazardous waste transfer stations). 	
Sector L. Landfills and Land Application Sites					
Sub-Sector	Activity Code	Narrative Description		Notes	
L1	LF	<ul style="list-style-type: none"> All Landfill, Land Application Sites and Open Dumps 		LF is the Activity Code (i.e., non-SIC and non-NAICS designation) for this Sector. It may apply to any facility / SIC Code / NAICS Code, in addition to these specifically related to landfills and landfill application sites: <ul style="list-style-type: none"> SIC 4953 Refuse Systems (solid waste landfills); NAICS 562212 Solid Waste Landfill. Industrial waste is waste from any of the facilities covered by the MSGP (also described in 40 CFR 122.26(b)(14)).	
L2	LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.			
Sector M. Automobile Salvage Yards					
Sub-sector	SIC Codes		NAICS Codes		Notes
M1	5015	Motor Vehicle Parts, Used (merchant wholesalers except those selling via retail method)	423140	Motor Vehicle Parts (Used) Merchant Wholesalers	

Sector N. Scrap Recycling Facilities						
Sub-sector	SIC Codes		NAICS Codes		Notes	
N1	5093	Scrap and Waste Materials (merchant wholesalers except Source-Separated Recycling)	423930	Recyclable Material Merchant Wholesalers		
N2	5093	Scrap and Waste Materials (Source-Separated Recycling)	423930	Recyclable Material Merchant Wholesalers		
Sector O. Steam Electric Generating Facilities						
Sub-Sector	Activity Code	Narrative Description	Notes			
O1	SE	<ul style="list-style-type: none"> steam electric power generation using coal, including coal handling areas steam electric power generation using natural gas steam electric power generation using oil steam electric power generation using nuclear energy steam electric power generation using any other fuel to produce a steam source coal pile runoff (includes effluent limitations established by 40 CFR 423) dual fuel co-generation (i.e., steam generation using fossil fuel to augment a heat-capture generation system) 	SE is the Activity Code (i.e., non-SIC and non-NAICS designation) for this Sector. It may apply to any facility / SIC Code / NAICS Code, in addition to these specifically related to steam electric generation: <ul style="list-style-type: none"> SIC 4911 Electric Services (fossil fuel power generation, nuclear electric power generation & other electric power generation) NAICS 221112 Fossil Fuel Electric Power Generation NAICS 221113 Nuclear Electric Power Generation 			
Sector P. Land Transportation						
Sub-sector	SIC Codes		NAICS Codes		Notes	
P1	4011	Railroads, Line-Haul Operating	482111	Line-Haul Railroads		
	4013	Railroad Switching and Terminal Establishments				
		(short line railroads)	482112	Short Line Railroads		
		(except short line railroads)	488210	Support Activities for Rail Transportation		
	4111	Local and Suburban Transit				
		(mixed mode)	485111	Mixed Mode Transit Systems		
		(commuter rail)	485112	Commuter Rail Systems		
		(bus and motor vehicle)	485113	Bus and Other Motor Vehicle Transit Systems		
(except mixed mode, commuter rail, airport transportation service, and bus and motor vehicle)		485119	Other Urban Transit Systems			
(airport transportation service)	485999	All Other Transit and Ground Passenger Transportation				
4119	Local Passenger Transportation, Not Elsewhere Classified					

	(limousine rental with driver and automobile rental with driver)	485320	Limousine Service	
	(employee transportation)	485410	School and Employee Bus Transportation	
	(special needs transportation)	485991	Special Needs Transportation	
	(hearse rental with driver and carpool and vanpool operation)	485999	All Other Transit and Ground Passenger Transportation	
	(sightseeing buses and cable and cog railways, except scenic)	487110	Scenic and Sightseeing Transportation, Land	
	(land ambulance)	621910	Ambulance Services	
4121	Taxicabs	485310	Taxi Service	
4131	Intercity and Rural Bus Transportation	485210	Interurban and Rural Bus Transportation	
4141	Local Bus Charter Service	485510	Charter Bus Industry	
4142	Bus Charter Service, Except Local	485510	Charter Bus Industry	
4151	School Buses	485410	School and Employee Bus Transportation	
4173	Terminal and Service Facilities for Motor Vehicle Passenger Transportation	488490	Other Support Activities for Road Transportation	
4212	Local Trucking Without Storage (general freight)	484110	General Freight Trucking, Local	
	(household goods moving)	484210	Used Household and Office Goods Moving	
	(specialized freight)	484220	Specialized Freight (except Used Goods) Trucking, Local	
	(solid waste collection without disposal)	562111	Solid Waste Collection	
	(hazardous waste collection without disposal)	562112	Hazardous Waste Collection	
	(other waste collection without disposal)	562119	Other Waste Collection	
4213	Trucking, Except Local (general freight, truckload)	484121	General Freight Trucking, Long-Distance, Truckload	
	(general freight, less than truckload)	484122	General Freight Trucking, Long-Distance, Less Than Truckload	
	(household goods moving)	484210	Used Household and Office Goods Moving	
	(specialized freight)	484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	
4214	Local Trucking With Storage (general freight)	484110	General Freight Trucking, Local	
	(household goods moving)	484210	Used Household and Office Goods Moving	
	(specialized freight)	484220	Specialized Freight (except Used Goods) Trucking, Local	

	4215	Courier Services, Except by Air (hub and spoke intercity delivery)	492110	Couriers	
		(local delivery)	492210	Local Messengers and local Delivery	
	4226	Special Warehousing and Storage, Not Elsewhere Classified (warehousing in foreign trade zones)	493110	General Warehousing and Storage	
		(fur storage)	493120	Refrigerated Warehousing and Storage	
		(except fur storage and warehousing in foreign trade zones)	493190	Other Warehousing and Storage	
	4231	Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation	488490	Other Support Activities for Road Transportation	
	4311	United States Postal Service	491110	Postal Service	
	5171	Petroleum Bulk Stations and Terminals			
(except petroleum sold via retail method)		424710	Petroleum Bulk Stations and Terminals		
(heating oil sold to final consumer) (LP gas sold to final consumer)		454311 454312	Heating Oil Dealers Liquefied Petroleum Gas (Bottled Gas) Dealers		
Sector Q. Water Transportation					
Sub-sector	SIC Codes		NAICS Codes		Notes
Q1	4412	Deep Sea Foreign Transportation of Freight	483111	Deep Sea Freight Transportation	
	4424	Deep Sea Domestic Transportation of Freight	483113	Coastal and Great Lakes Freight Transportation	
	4432	Freight Transportation on the Great Lakes - St. Lawrence Seaway	483113	Coastal and Great Lakes Freight Transportation	
	4449	Water Transportation of Freight, Not Elsewhere Classified	483211	Inland Water Freight Transportation	
	4481	Deep Sea Transportation of Passengers, Except by Ferry			
		(deep sea activities)	483112	Deep Sea Passenger Transportation	
	4482	(coastal activities)	483114	Coastal and Great Lakes Passenger Transportation	
		Ferries			
	(coastal and Great Lakes)	483114	Coastal and Great Lakes Passenger Transportation		
	(inland)	483212	Inland Water Passenger Transportation		

4489	Water Transportation of Passengers, Not Elsewhere Classified (water taxis)	483212	Inland Water Passenger Transportation	
	(airboats, excursion boats, and sightseeing boats)	487210	Scenic and Sightseeing Transportation, Water	
4491	Marine Cargo Handling (dock and pier operations)	488310	Port and Harbor Operations	
	(all but dock and pier operations)	488320	Marine Cargo Handling	
4492	Towing and Tugboat Services	488330	Navigational Services to Shipping	
4493	Marinas	713930	Marinas	
4499	Water Transportation Services, Not Elsewhere Classified (lighterage)	483211	Inland Water Freight Transportation	
	(lighthouse and canal operations)	488310	Port and Harbor Operations	
	(piloting vessels in and out of harbors and marine salvage)	488330	Navigational Services to Shipping	
	(all but lighthouse operations, piloting vessels in and out of harbors, boat and ship rental, marine salvage, lighterage, marine surveyor services, and canal operations)	488390	Other Support Activities for Water Transportation	
	(boat and ship rental, commercial)	532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	
Sector R. Ship and Boat Building and Repair Yards				
Sub-sector	SIC Codes	NAICS Codes		Notes
R1	3731 Ship Building and Repairing (except repairs in floating drydocks) (repair services provided by floating drydocks)	336611	Ship Building and Repairing	
		488390	Other Support Activities for Water Transportation (includes ship scaling facilities)	
	3732 Boat Building and Repairing (boat building) (pleasure boat repair and maintenance services without retailing new boats)	336612	Boat Building	
		811490	Other Personal and Household Goods Repair and Maintenance	
	(ship scaling)	488390	Other Support Activities for Water Transportation (drydocks, floating [i.e., routine repair and maintenance of ships]; other support activities for water transportation; ship dismantling at floating drydock; ship scaling services not done at a shipyard)	
(motorboat [i.e., inboard and outboard] repair and maintenance)	811490	Other Personal and Household Goods Repair and Maintenance		

services; outboard motor repair shops)

Sector S. Air Transportation Facilities

Sub-sector	SIC Codes	NAICS Codes	Notes	
S1	4512 Air Transportation, Scheduled (passenger)	481111	Scheduled Passenger Air Transportation	
		(freight)	481112	Scheduled Freight Air Transportation
	4513	Air Courier Services	492110	Couriers
	4522 Air Transportation, Nonscheduled (passenger)	481211	Nonscheduled Chartered Passenger Air Transportation	
		(freight)	481212	Nonscheduled Chartered Freight Air Transportation
		(using general purpose aircraft for a variety of passenger, freight, courier, and other uses)	481219	Other Nonscheduled Air Transportation
		(sightseeing planes)	487990	Scenic and Sightseeing Transportation, Other
		(air ambulance)	621910	Ambulance Services
	4581 Airports, Flying Fields, and Airport Terminal Services (air freight handling at airports, hangar operations, airport terminal services, aircraft storage, airports, and flying fields)	488119	Other Airport Operations	
		(aircraft servicing and repairing)	488190	Other Support Activities for Air Transportation

Sector T. Treatment Works					
Sub-sector	Activity Code	Narrative Description		Notes	
T1	TW	<ul style="list-style-type: none"> treatment works with a design flow of 1.0 MGD or more treating domestic sewage or any other sewage sludge; wastewater treatment devices or system used by the treatment works for the storage, treatment, recycling and reclamation of municipal or domestic sewage; land located within the confines of the treatment works that is dedicated to the disposal of sewage sludge; treatment works required to have an approved pretreatment program under 40 CFR Part 403 		TW is the Activity Code (i.e., non-SIC and non-NAICS designation) for this Sector. It may apply to any facility / SIC Code / NAICS Code, in addition to these specifically related to treatment works: <ul style="list-style-type: none"> SIC 4952 Sewerage Systems NAICS 221320 Sewage Treatment Facilities 	
Sector U. Food and Kindred Products					
Sub-sector	SIC Codes		NAICS Codes		Notes
U3	2011	Meat Packing Plants	311611	Animal (except Poultry) Slaughtering	
	2013	Sausages and Other Prepared Meat Products	311612	Meat Processed from Carcasses	
		(except lard made from purchased materials)			
	2015	(lard made from purchased materials)	311613	Rendering and Meat Byproduct Processing	
		Poultry Slaughtering and Processing (poultry slaughtering and processing)	311615	Poultry Processing	
	2021	(egg processing)	311999	All Other Miscellaneous Food Manufacturing	
		Creamery Butter	311512	Creamery Butter Manufacturing	
	2022	Natural, Processed, and Imitation Cheese	311513	Cheese Manufacturing	
	2023	Dry, Condensed and Evaporated Dairy Products	311511	Fluid Milk Manufacturing	
		(liquid non-dairy creamer)			
	2024	(except liquid non-dairy creamer)	311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	
		Ice Cream and Frozen Deserts	311520	Ice Cream and Frozen Desert Manufacturing	
	2026	Fluid Milk	311511	Fluid Milk Manufacturing	
		(except ultra-high temperature)			
	2032	(ultra-high temperature)	311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	
Canned Specialties		311422	Specialty Canning		
(except canned puddings)					
2033	(canned puddings)	311999	All Other Miscellaneous Food Manufacturing		
	Canned Fruits, Vegetables, Preserves, Jams, and Jellies	311421	Fruit and Vegetable Canning		

	2034	Dried and Dehydrated Fruits, Vegetables and Soup Mixes (vegetable flour)	311211	Flour Milling	
		(except vegetable flour and soup mixes made from purchased dried and dehydrated ingredients)	311423	Dried and Dehydrated Food Manufacturing	
		(soup mixes made from purchased dehydrated ingredients)	311999	All Other Miscellaneous Food Manufacturing	
	2035	Pickled Fruits and Vegetables, Vegetable Sauces and Seasonings, and Salad Dressings (pickled fruits and vegetables)	311421	Fruit and Vegetable Canning	
		(sauces and salad dressings)	311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing	
	2037	Frozen Fruits, Fruit Juices, and Vegetables	311411	Frozen Fruit, Juice, and Vegetable Manufacturing	
	2038	Frozen Specialties, Not Elsewhere Classified	311412	Frozen Specialty Food Manufacturing	
	U1	2041	Flour and Other Grain Mill Products	311211	Flour Milling
2043		Cereal Breakfast Foods (cereal breakfast foods and related preparations except grain based coffee substitutes)	311230	Breakfast Cereal Manufacturing	
		(grain based coffee substitutes)	311920	Coffee and Tea Manufacturing	
2044		Rice Milling	311212	Rice Milling	
2045		Prepared Flour Mixes and Doughs	311822	Flour Mixes and Dough Manufacturing from Purchased Flour	
2046		Wet Corn Milling (except refining purchased corn oil)	311221	Wet Corn Milling	
		(refining purchased corn oil)	311225	Fats and Oils Refining and Blending	
2047		Dog and Cat Food	311111	Dog and Cat Food Manufacturing	
2048		Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats (except slaughtering animals for pet food)	311119	Other Animal Food Manufacturing	
		(slaughtering animals for pet food)	311611	Animal (except Poultry) Slaughtering	
U3	2051	Bread and Other Bakery Products, Except Cookies and Crackers	311812	Commercial Bakeries	
	2052	Cookies and Crackers (unleavened bread and soft pretzels)	311812	Commercial Bakeries	
		(except unleavened bread and pretzels)	311821	Cookie and Cracker Manufacturing	

	(hard pretzels and snack pretzels, except soft)	311919	Other Snack Food Manufacturing (pretzels, except soft)		
2053	Frozen Bakery Products, Except Bread	311813	Frozen Cakes, Pies, and Other Pastries Manufacturing		
2061	Cane Sugar, Except Refining	311311	Sugarcane Mills		
2062	Cane Sugar Refining	311312	Cane Sugar Refining		
2063	Beet Sugar	311313	Beet Sugar Manufacturing		
2064	Candy and Other Confectionery Products (chocolate confectionery)	311330	Confectionery Manufacturing from Purchased Chocolate		
	(nonchocolate confectionery)	311340	Nonchocolate Confectionery Manufacturing		
2066	Chocolate and Cocoa Products (except chocolate products, made from purchased chocolate)	311320	Chocolate and Confectionery Manufacturing from Cacao Beans		
	(chocolate products made from purchased chocolate)	311330	Confectionery Manufacturing from Purchased Chocolate		
2067	Chewing Gum	311340	Nonchocolate Confectionery Manufacturing		
2068	Salted and Roasted Nuts and Seeds	311911	Roasted Nuts and Peanut Butter Manufacturing		
U2	2074	Cottonseed Oil Mills (cottonseed processing)	311223	Other Oilseed Processing	
		(processing purchased cottonseed oil)	311225	Fats and Oils Refining and Blending	
	2075	Soybean Oil Mills (soybean processing, except edible soybean oil)	311222	Soybean Processing	
		(processing purchased soybean oil)	311225	Fats and Oils Refining and Blending	
	2076	Vegetable Oil Mills, Except Corn, Cottonseed, and Soybean (oilseed processing)	311223	Other Oilseed Processing	
		(processing purchased vegetable and oilseed oils)	311225	Fats and Oils Refining and Blending	
	2077	Animal and Marine Fats and Oils (animal fats and oils)	311613	Rendering and Meat Byproduct Processing	
		(canned marine fats and oils)	311711	Seafood Canning	
		(fresh and frozen marine fats and oils)	311712	Fresh and Frozen Seafood Processing	
	2079	Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, Not Elsewhere Classified (processing soybean oil into edible cooking oils from soybeans crushed in the same establishment)	311222	Soybean Processing	

		(processing vegetable oils, except soybean, into edible cooking oils from oilseeds and vegetables crushed in the same establishment)	311223	Other Oilseed Processing	
		(except processing vegetable and soybean oils into edible oils from oilseeds and vegetables crushed in the same establishment)	311225	Fats and Oils Refining and Blending	
U3	2082	Malt Beverages			
		(malt extract)	311942	Spice and Extract Manufacturing	
		(except malt extract)	312120	Breweries	
	2083	Malt	311213	Malt Manufacturing	
	2084	Wines, Brandy and Brandy Spirits	312130	Wineries	
	2085	Distilled and Blended Liquors			
		(apple jack)	312130	Wineries	
		(except apple jack)	312140	Distilleries	
	2086	Bottled and Canned Soft Drinks and Carbonated Water			
		(except bottled water)	312111	Soft Drink Manufacturing	
		(bottled water)	312112	Bottled Water Manufacturing	
	2087	Flavoring Extracts and Flavoring Syrups, Not Elsewhere Classified			
		(coffee flavoring and syrups)	311920	Coffee and Tea Manufacturing	
		(flavoring syrups and concentrates except coffee)	311930	Flavoring Syrup and Concentrate Manufacturing	
		(flavoring extracts and natural food colorings)	311942	Spice and Extract Manufacturing	
		(powered drink mix)	311999	All Other Miscellaneous Food Manufacturing	
	2091	Canned and Cured Fish and Seafoods	311711	Seafood Canning	
2092	Prepared Fresh or Frozen Fish and Seafoods	311712	Fresh and Frozen Seafood Processing		
2095	Roasted Coffee	311920	Coffee and Tea Manufacturing		
2096	Potato Chips, Corn Chips, and Similar Snacks	311919	Other Snack Food Manufacturing		
2097	Manufactured Ice	312113	Ice manufacturing		
2098	Macaroni, Spaghetti, Vermicelli, and Noodles	311823	Dry Pasta Manufacturing		
2099	Food Preparations, Not Elsewhere Classified				
	(rice, uncooked and packaged with other ingredients made in rice mills)	311212	Rice Milling		
	(marshmallow creme)	311340	Nonchocolate Confectionery Manufacturing		

	(bouillon and potatoes dried and packaged with other ingredients produced in dehydrating plants)	311423	Dried and Dehydrated Food Manufacturing	
	(dry pasta packaged with other ingredients made in dry pasta plants)	311823	Dry Pasta Manufacturing	
	(tortillas)	311830	Tortilla Manufacturing	
	(peanut butter)	311911	Roasted Nuts and Peanut Butter Manufacturing	
	(tea)	311920	Coffee and Tea Manufacturing	
	(vinegar, prepared dip)	311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing	
	(spices, dry dip mix, dry salad dressing mix, and seasoning mix)	311942	Spice and Extract Manufacturing	
	(perishable prepared food)	311991	Perishable Prepared Food Manufacturing	
	(except bouillon, marshmallow creme, spices, peanut butter, perishable prepared foods, tortillas, tea and tea extracts, dry dip mix, prepared dips, dry salad dressing mix, seasoning mix, dried potatoes, pasta, and rice mixed with other ingredients in mills or dehydrating plants, reducing maple sap to maple syrup, wool grease, and vinegar)	311999	All Other Miscellaneous Food Manufacturing	
2111	Cigarettes	312221	Cigarette Manufacturing	
2121	Cigars	312229	Other Tobacco Product Manufacturing	
2131	Chewing and Smoking Tobacco and Snuff	312229	Other Tobacco Product Manufacturing	
2141	Tobacco Stemming and Redrying (stemming and redrying tobacco)	312210	Tobacco Stemming and Redrying	
	(reconstituted tobacco)	312229	Other Tobacco Product Manufacturing	
Sector V. Textile Mills, Apparel, and Other Fabric Product Manufacturing				
Sub-sector	SIC Codes	NAICS Codes		Notes
V1	2211	Broadwoven Fabric Mills, Cotton	313210	Broadwoven Fabric Mills
	2221	Broadwoven Fabric Mills, Manmade Fiber and Silk	313210	Broadwoven Fabric Mills
	2231	Broadwoven Fabric Mills, Wool (Including Dyeing and Finishing) (except finishing wool fabric without weaving wool fabric)	313210	Broadwoven Fabric Mills 2231
		(wool broadwoven fabric finishing without weaving fabric)	313311	Broadwoven Fabric Finishing Mills

	(wool fabric, except broadwoven, finishing without weaving fabric)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
2241	Narrow Fabric and Other Smallwares Mills: Cotton, Wool, Silk and Manmade Fiber	313221	Narrow Fabric Mills	
2251	Women's Full-Length and Knee-Length Hosiery, Except Socks (dyeing and finishing sheer hosiery without knitting sheer hosiery)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
	(except dyeing and finishing sheer hosiery without knitting sheer hosiery)	315111	Sheer Hosiery Mills	
2252	Hosiery, Not Elsewhere Classified (dyeing and finishing hosiery, except sheer, without knitting hosiery)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
	(girls' full length and knee length sheer hosiery)	315111	Sheer Hosiery Mills	
	(except girls' full-length and knee-length sheer hosiery and dyeing and finishing hosiery without knitting hosiery)	315119	Other Hosiery and Sock Mills	
2253	Knit Outerwear Mills (dyeing and finishing knit outerwear without knitting outerwear)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
	(except bath and lounging robes and dyeing and finish without knitting garments)	315191	Outerwear Knitting Mills	
	(knitting bath or lounging robes)	315192	Underwear and Nightwear Knitting Mills	
2254	Knit Underwear and Nightwear Mills (dyeing and finishing underwear and nightwear without knitting garments)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
	(except dyeing and finishing underwear and nightwear without knitting garments)	315192	Underwear and Nightwear Knitting Mills	
2257	Weft Knit Fabric Mills (except finishing without knitting weft fabric)	313241	Weft Knit Fabric Mills	
	(finishing weft fabric without knitting weft fabric)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
2258	Weft Knit Fabric Mills (except finishing without knitting weft fabric)	313241	Weft Knit Fabric Mills	
	(finishing weft fabric without knitting weft fabric)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	

2259	Knitting Mills, Not Elsewhere Classified (knitting weft fabric and fabricating textile products, such as bedspreads, curtains, or towels)	313241	Weft Knit Fabric Mills	
	(knitting lace or warp fabric and fabricating textile products, such as bedspreads, curtains, or towels)	313249	Other Knit Fabric and Lace Mills	
	(dyeing and finishing knit gloves and mittens without knitting gloves or mittens)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
	(knitting gloves and mittens)	315191	Outerwear Knitting Mills	
	(knitting girdles and allied foundation garments)	315192	Underwear and Nightwear Knitting Mills	
2261	Finishers of Broadwoven Fabrics of Cotton	313311	Broadwoven Fabric Finishing Mills	
2262	Finishers of Broadwoven Fabrics of Manmade Fibers and Silk	313311	Broadwoven Fabric Finishing Mills	
2269	Finishers of Textiles, Not Elsewhere Classified (linen fabric finishing)	313311	Broadwoven Fabric Finishing Mills	
	(except linen fabric finishing)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
2273	Carpets and Rugs	314110	Carpet and Rug Mills	
2281	Yarn Spinning Mills	313111	Yarn Spinning Mills	
2282	Yarn Texturizing, Throwing, Twisting and Spinning Mills	313112	Yarn Texturizing, Throwing, Twisting Mills	
2284	Thread Mills (except finishing thread without manufacturing thread)	313113	Thread Mills	
	(finishing thread without manufacturing thread)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
2295	Coated Fabrics, Not Rubberized	313320	Fabric Coating Mills	
2296	Tire Cord and Fabrics	314992	Tire Cord and Tire fabric Mills	
2297	Nonwoven Fabrics	313230	Nonwoven Fabric Mills	
2298	Cordage and Twine (hemp rope made in spinning mills)	313111	Yarn Spinning Mills	
	(except hemp rope made in spinning mills)	314991	Rope, Cordage, and Twine Mills	
2299	Textile Goods, Not Elsewhere Classified			

	(hemp bags made in spinning mills, & spinning yarn of flax, hemp, jute, and ramie)	313111	Yarn Spinning Mills	
	(manufacturing thread of hemp, linen, and ramie)	313113	Thread Mills	
	(broadwoven fabrics of jute, linen, hemp, and ramie and hand woven fabrics)	313210	Broadwoven Fabric Mills	
	(narrow woven fabric of jute, linen, hemp, and ramie)	313221	Narrow Fabric Mills	
	(nonwoven felt)	313230	Nonwoven Fabric Mills	
	(finishing hard fiber thread and yarn without manufacturing thread or yarn)	313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	
	(manufacturing other textile products)	314999	All Other Miscellaneous Textile Product Mills	
2311	Men's and Boys' Suits, Coats, and Overcoats			
	(contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except contractors)	315222	Men's and Boys' Cut and Sew Suit, Coat and Overcoat Manufacturing	
2321	Men's and Boys' Shirts, Except Work Shirts			
	(contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except contractors)	315223	Men's and Boys' Cut and Sew Shirt (except Work Shirt) Manufacturing	
2322	Men's and Boys' Underwear and Nightwear			
	(contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except contractors)	315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	
2323	Men's and Boys' Neckwear			
	(contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except contractors)	315993	Men's and Boys' Neckwear Manufacturing	
2325	Men's and Boys' Separate Trousers and Slacks			
	(contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except contractors)	315224	Men's and Boys' Cut and Sew Trouser, Slack and Jean Manufacturing	

2326	Men's and Boys' Work Clothing (contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except contractors)	315225	Men's and Boys' Cut and Sew Work Clothing Manufacturing	
2329	Men's and Boys' Clothing, Not Elsewhere Classified (contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(except team athletic uniforms and contractors)	315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	
	(team athletic uniforms except contractors)	315299	All Other Cut and Sew Apparel Manufacturing	
2331	Women's, Misses', and Juniors' Blouses and Shirts (contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing	
2335	Women's, Misses', and Juniors' Dresses (contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315233	Women's and Girls' Cut and Sew Dress Manufacturing	
2337	Women's, Misses', and Juniors' Suits, Skirts, and Coats (contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing	
2339	Women's, Misses', and Juniors' Outerwear, Not Elsewhere Classified (contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except team athletic uniforms, scarves, and contractors)	315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing	
	(team athletic uniforms except contractors)	315299	All Other Cut and Sew Apparel Manufacturing	
	(scarves except contractors)	315999	Other Apparel Accessories and Other Apparel Manufacturing	

2341	Women's, Misses', Children's, and Infants' Underwear and Nightwear (boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(boys' except contractors)	315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	
	(women and girls' except contractors)	315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	
	(infants' except contractors)	315291	Infants' Cut and Sew Apparel Manufacturing	
2342	Brassieres, Girdles, and Allied Garments (contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	
2353	Hats, Caps, and Millinery (men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315991	Hat, Cap, and Millinery Manufacturing	
2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(girls' and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(boys' shirts except contractors)	315223	Men's and Boys' Cut and Sew Shirt (except Work Shirt) Manufacturing	
	(girls' blouses and shirts except contractors)	315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing	
	(girls' dresses except contractors)	315233	Women's and Girls' Cut and Sew Dress Manufacturing	
	(infants' except contractors)	315291	Infants' Cut and Sew Apparel Manufacturing	
2369	Girls', Children's, and Infants' Outerwear, Not Elsewhere Classified (boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(girls' and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(boys' robes except contractors)	315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	

	(boys' suits and coats except contractors)	315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing	
	(boys' trousers, slacks, and jeans except contractors)	315224	Men's and Boys' Cut and Sew Trouser, Slack and Jean Manufacturing	
	(boys' other outerwear except contractors)	315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	
	(girls' robes except contractors)	315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	
	(girls' suits, coats, jackets, and skirts except contractors)	315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing	
	(girls' other outerwear except contractors)	315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing	
	(infants' except contractors)	315291	Infants' Cut and Sew Apparel Manufacturing	
2371	Fur Goods			
	(men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315292	Fur and Leather Apparel Manufacturing	
2381	Dress and Work Gloves, Except Knit and All-Leather			
	(men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315992	Glove and Mitten Manufacturing	
2384	Robes and Dressing Gowns			
	(men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(men's except contractors)	315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	
	(women's except contractors)	315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	
2385	Waterproof Outerwear			
	(men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(men's and boys' water resistant or water repellent tailored overcoats, except made from rubberized fabric, plastics, etc. and contractors)	315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing	

	(men's and boys' water resistant or water repellent nontailored outerwear, except made from rubberized fabric, plastics, etc. and contractors)	315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	
	(women's and girls' water resistant or water repellent tailored coats, except made from rubberized fabric, plastics, etc. and contractors)	315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing"	
	(other women's and girls' water resistant or water repellent nontailored outerwear, except made from rubberized fabric, plastics, etc. and contractors)	315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing	
	(infants' waterproof outerwear made from rubberized fabric, plastics, etc. except contractors)	315291	Infants' Cut and Sew Apparel Manufacturing	
	(men's, boys', women's, and girls' waterproof outerwear made from rubberized fabric, plastics, etc. except contractors)	315299	All Other Cut and Sew Apparel Manufacturing	
	(accessories, such as aprons, bibs, and other miscellaneous waterproof items, made from rubberized fabric, plastics, etc. except contractors)	315999	Other Apparel Accessories and Other Apparel Manufacturing	
2386	Leather and Sheep-Lined Clothing (men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315292	Fur and Leather Apparel Manufacturing	
2387	Apparel Belts (men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315999	Other Apparel Accessories and Other Apparel Manufacturing	
2389	Apparel and Accessories, Not Elsewhere Classified (men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	

	(garters and garter belts except contractors)	315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	
	(apparel, such as academic gowns, clerical outerwear, and band uniforms, except contractors)	315299	All Other Cut and Sew Apparel Manufacturing	
	(accessories such as, handkerchiefs, arm bands, cummerbunds, suspenders, etc., except contractors)	315999	Other Apparel Accessories and Other Apparel Manufacturing	
2391	Curtains and Draperies	314121	Curtain and Drapery Mills	
2392	Housefurnishings, Except Curtains and Draperies (except mops, dust rags, and bags)	314129	Other Household Textile Product Mills	
	(blanket, laundry, and wardrobe bags)	314911	Textile Bag Mills	
	(dust rags)	314999	All Other Miscellaneous Textile Product Mills	
	(floor and dust mops)	339994	Broom, Brush, and Mop Manufacturing	
2393	Textile Bags	314911	Textile Bag Mills	
2394	Canvas and Related Products	314912	Canvas and Related Product Mills	
2395	Pleating, Decorative and Novelty Stitching, and Tucking for the Trade (except apparel contractors)	314999	All Other Miscellaneous Textile Product Mills	
	(men's and boy's apparel contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' apparel contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
2396	Automotive Trimmings, Apparel Findings, and Related Products (textile products except automotive and apparel trimmings and findings, printing or embossing on apparel, and contractors)	314999	All Other Miscellaneous Textile Product Mills	
	(men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(apparel findings and trimmings, except contractors)	315999	Other Apparel Accessories and Other Apparel Manufacturing	
	(printing and embossing on fabric articles)	323113	Commercial Screen Printing	
	(textile motor vehicle trimming except contractors)	336360	Motor Vehicle Seating and Interior Trim Manufacturing	
2397	Schiffli Machine Embroideries	313222	Schiffli Machine Embroidery	

2399	Fabricated Textile Products, Not Elsewhere Classified (except apparel and accessories, automotive seat belts, seat and tire covers, and contractors)	314999	All Other Miscellaneous Textile Product Mills	
	(men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(apparel and apparel accessories, except contractors)	315999	Other Apparel Accessories and Other Apparel Manufacturing	
	(seat belts, and seat and tire covers)	336360	Motor Vehicle Seating and Interior Trim Manufacturing	
3131	Boot and Shoe Cut Stock and Findings (except wood heels and metal buckles)	316999	All Other Leather Good Manufacturing	
	(heels, boot and shoe, finished wood, manufacturing)	321999	All Other Miscellaneous Wood Product Manufacturing	A facility with the primary activity of NAICS 321999 "heels, boot and shoe, finished wood, manufacturing" can be regulated under Sector A or Sector V. Sector A requires additional technology-based effluent limits comprising good housekeeping; additional SWPPP requirements; additional inspection requirements; and benchmark monitoring for COD and TSS. Sector V requires additional technology-based effluent limits comprised of good housekeeping measures and employee training; additional SWPPP requirements; and additional inspection requirements. Regulatory burden would likely be greater under Sector A.
	(metal buckles)	339993	Fastener, Button, Needle, and Pin Manufacturing	Any facility whose primary activity is manufacturing metal buckles (SIC 3131 / NAICS 339993) should be regulated under Sector Y, but may continue to be regulated under Sector V, or alternatively, under Sector AD. Sector Y does not apply additional sector-specific requirements to metal

				<p>buckle manufacturers. Sector V applies additional technology-based limitations comprised of good housekeeping measures for material storage areas and employee training. Under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements.</p> <p>Regulatory burden would likely be greater under Sector V.</p>
3142	House Slippers	316212	House Slipper Manufacturing	
3143	Men's Footwear, Except Athletic	316213	Men's Footwear (except Athletic) Manufacturing	
3144	Women's Footwear, Except Athletic	316214	Women's Footwear (except Athletic) Manufacturing	
3149	Footwear, Except Rubber, Not Elsewhere Classified	316219	Other Footwear Manufacturing	
3151	Leather Gloves and Mittens (men's and boys' contractors)	315211	Men's and Boys' Cut and Sew Apparel Contractors	
	(women's, girls', and infants' contractors)	315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	
	(except contractors)	315992	Glove and Mitten Manufacturing	
3161	Luggage	316991	Luggage Manufacturing	
3171	Women's Handbags and Purses	316992	Women's Handbag and Purse Manufacturing	
3172	Personal Leather Goods, Except Women's Handbags and Purses (except nonprecious metal personal goods, such as card cases, cigar cases, and comb cases)	316993	Personal Leather Good (except Women's Handbag and Purse) Manufacturing	
	(nonprecious metal personal goods, such as card cases, cigar cases, and comb cases)	339914	Costume Jewelry and Novelty Manufacturing	<p>Any facility whose primary activity is manufacturing nonprecious metal personal goods, such as card cases, cigar cases, and comb cases (SIC 3172 / NAICS 339914) should be regulated under Sector Y, but may continue to be regulated under Sector V, or alternatively, under Sector AD. Sector Y does not apply additional sector-specific requirements to metal buckle manufacturers. Sector V applies additional technology-based limitations comprised of good</p>

					housekeeping measures for material storage areas and employee training. Under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements. Regulatory burden would likely be greater under Sector V.
	3199	Leather Goods, Not Elsewhere Classified	316999	All Other Leather Good Manufacturing	
Sector W. Furniture and Fixtures					
Sub-sector	SIC Codes		NAICS Codes		Notes
W1	2434	Wood Kitchen Cabinets	337110	Wood Kitchen Cabinet and Countertop Manufacturing	
	2511	Wood Household Furniture, Except Upholstered (except wood box spring frames)	337122	Nonupholstered Wood Household Furniture Manufacturing	
		(wood box spring frames (parts))	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
	2512	Wood Household Furniture, Upholstered	337121	Upholstered Household Furniture Manufacturing	
	2514	Metal Household Furniture (upholstered)	337121	Upholstered Household Furniture Manufacturing	
		(except upholstered metal furniture and metal box spring frames)	337124	Metal Household Furniture Manufacturing	
		(metal box spring frames)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
	2515	Mattresses, Foundations, and Convertible Beds (convertible beds)	337121	Upholstered Household Furniture Manufacturing	
		(mattresses and foundations)	337910	Mattress Manufacturing	
	2517	Wood, Television, Radio, Phonograph, and Sewing Machine Cabinets	337129	Wood, Television, Radio, Phonograph, and Sewing Machine Cabinet Manufacturing	
	2519	Household Furniture, Not Elsewhere Classified	337125	Household Furniture (except Wood and Metal) Manufacturing	
	2521	Wood Office Furniture	337211	Wood Office Furniture Manufacturing	
	2522	Office Furniture, Except Wood	337214	Office Furniture (Except Wood) Manufacturing	

	2531	Public Building and Related Furniture (seats for motor vehicles)	336360	Motor Vehicle Seating and Interior Trim Manufacturing	
		(except motor vehicle seats and blackboards)	337127	Institutional Furniture Manufacturing	
		(blackboards)	339942	Lead Pencil and Art Good Manufacturing	
	2541	Wood Office and Store Fixtures, Partitions, Shelving, and Lockers (counter tops)	337110	Wood Kitchen Cabinet and Countertop Manufacturing	
		(wood lunchroom tables and chairs)	337127	Institutional Furniture Manufacturing	
		(custom architectural millwork)	337212	Custom Architectural Woodwork and Millwork Manufacturing	
		(except custom architectural millwork, counter tops, and lunchroom tables and chairs)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
	2542	Office and Store Fixtures, Partitions, Shelving, and Lockers, Except Wood (lunchroom tables and chairs)	337127	Institutional Furniture Manufacturing	
		(except lunchroom tables and chairs)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
	2591	Drapery Hardware and Window Blinds and Shades	337920	Blind and Shade Manufacturing	
	2599	Furniture and Fixtures, Not Elsewhere Classified (except hospital beds)	337127	Institutional Furniture Manufacturing	
		(hospital beds)	339111	Laboratory Apparatus and Furniture Manufacturing	
Sector X. Printing and Publishing					
Sub-sector	SIC Codes		NAICS Codes		Notes
X1	2711	Newspapers: Publishing, or Publishing and Printing (except Internet newspaper publishing)	511110	Newspaper Publishers	
	2721	Periodicals: Publishing, or Publishing and Printing (except Internet periodical publishing)	511120	Periodical Publishers	
	2731	Books: Publishing, or Publishing and Printing (except Internet book publishing)			
		(except music books)	511130	Book Publishers	
	(music books)	512230	Music Publishers		

2732	Book Printing	323117	Book Printing	
2741	Miscellaneous Publishing (except Internet publishers) (shopping news and advertising periodical publishing or publishing and printing except Internet)	511120	Periodical Publishers	
	(technical manuals and books publishing or publishing and printing, except Internet)	511130	Book Publishers	
	(directory publishers, except Internet publishers)	511140	Directory and Mailing List Publishers	
	(except database, advertising periodicals, shopping news, technical manuals and books, and sheet music publishing or publishing and printing)	511199	All Other Publishers	
	(sheet music publishing or publishing and printing)	512230	Music Publishers	
2752	Commercial Printing, Lithographic (except quick printing)	323110	Commercial Lithographic Printing	
	(quick printing)	323114	Quick Printing	
2754	Commercial Printing, Gravure	323111	Commercial Gravure Printing	
2759	Commercial Printing, NEC (flexographic printing)	323112	Commercial Flexographic Printing	
	(screen printing)	323113	Commercial Screen Printing	
	(digital printing, except quick printing)	323115	Digital Printing	
	(other commercial printing except flexographic, screen, digital, and quick printing)	323119	Other Commercial Printing	
2771	Greeting Cards (except Internet greeting card publishers) (lithographic printing of greeting cards)	323110	Commercial Lithographic Printing	
	(gravure printing of greeting cards)	323111	Commercial Gravure Printing	
	(flexographic printing of greeting cards)	323112	Commercial Flexographic Printing	
	(screen printing of greeting cards)	323113	Commercial Screen Printing	
	(other printing of greeting cards)	323119	Other Commercial Printing	
2782	(publishing greeting cards)	511191	Greeting Card Publishers	
	Blankbooks, Looseleaf Binders and Devices (checkbooks)	323116	Manifold Business Form Printing	
	(except checkbooks)	323118	Blankbook, Loose-leaf Binder, and Device Manufacturing	

	2789	Bookbinding and Related Work	323121	Tradebinding and Related Work	
	2791	Typesetting	323122	Prepress Services	
	2796	Platemaking and Related Services	323122	Prepress Services	
Sector Y. Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries					
Sub-sector	SIC Codes		NAICS Codes		Notes
Y1	3011	Tires and Inner Tubes	326211	Tire Manufacturing (except Retreading)	
	3021	Rubber and Plastics Footwear	316211	Rubber and Plastics Footwear Manufacturing	
	3052	Rubber and Plastics Hose and Belting	326220	Rubber and Plastics Hoses and Belting Manufacturing	
	3053	Gaskets, Packing, and Sealing Devices	339991	Gaskets, Packing, and Sealing Device Manufacturing	
	3061	Molded, Extruded, and Lathe-Cut Mechanical Rubber Goods	326291	Rubber Product Manufacturing for Mechanical Use	
	3069	Fabricated Rubber Products, Not Elsewhere Classified (rubberizing fabric or purchased textile products)	313320	Fabric Coating Mills	
		(bags made from rubberized fabric)	314911	Textile Bag Mills	
		(rubber cut and sew outerwear)	315299	All Other Cut and Sew Apparel Manufacturing	
		(bibs, bathing caps, related rubber accessories)	315999	Other Apparel Accessories and Other Apparel Manufacturing	
		(rubber resilient floor coverings)	326192	Resilient Floor Covering Manufacturing	
		(except rubberized fabric and garments, gloves, life vests, wet suits, accessories, such as bibs and bathing caps, rubber toys, bags made from rubberized fabric, rubber diaper covers, and rubber resilient floor coverings)	326299	All Other Rubber Product Manufacturing	
		(rubber gloves, inflatable rubber life jackets)	339113	Surgical and Appliance and Supplies Manufacturing	
		(wet suits)	339920	Sporting and Athletic Goods Manufacturing	
	(rubber toys, except dolls)	339932	Game, Toy, and Children's Vehicle Manufacturing		
Y2	3081	Unsupported Plastics Film and Sheet	326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	
	3082	Unsupported Plastics Profile Shapes	326121	Unlaminated Plastics Profile Shape Manufacturing	

3083	Laminated Plastics Plate, Sheet, and Profile Shapes	326130	Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing	
3084	Plastics Pipe	326122	Plastics Pipe and Pipe Fitting Manufacturing	
3085	Plastics Bottles	326160	Plastics Bottle Manufacturing	
3086	Plastics Foam Products (polystyrene foam products)	326140	Polystyrene Foam Product Manufacturing	
	(except polystyrene foam products)	326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing	
3087	Custom Compounding of Purchased Plastics Resins	325991	Custom Compounding of Purchased Resins	
3088	Plastics Plumbing Fixtures	326191	Plastics Plumbing Fixture Manufacturing	
3089	Plastics Products, Not Elsewhere Classified			
	(plastics sausage casings)	326121	Unlaminated Plastics Profile Shape Manufacturing	
	(pipe fittings)	326122	Plastics Pipe and Pipe Fitting Manufacturing	
	(except plastics pipe fittings, inflatable plastics life jackets, plastics furniture parts, and plastics sausage casings)	326199	All Other Plastics Product Manufacturing	
	(finished plastic furniture parts)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
(inflatable plastic life jackets)	339113	Surgical Appliance and Supplies Manufacturing		
3931	Musical Instruments	339992	Musical Instrument Manufacturing	
3942	Dolls and Stuffed Toys	339931	Doll and Stuffed Toy Manufacturing	
3944	Games, Toys, and Children's Vehicles, Except Dolls and Bicycles			<p>Any facility whose primary activity is manufacturing metal tricycles (SIC 3944 / NAICS 336991) should be regulated under Sector AB, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector AB applies additional SWPPP requirements. Sector Y does not apply additional sector-specific requirements to metal tricycle manufacturers and under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements.</p> <p>Regulatory burden would be greater under Sector AB.</p>
	(metal tricycles)	336991	Motorcycle, Bicycle, and Parts Manufacturing	

	(except metal tricycles)	339932	Game, Toy, and Children's Vehicle Manufacturing	
3949	Sporting and Athletic Goods, Not Elsewhere Classified	339920	Sporting and Athletic Goods Manufacturing	
3951	Pens, Mechanical Pencils, and Parts	339941	Pens, Mechanical Pencil Manufacturing	
3953	Marking Devices	339943	Marking Device Manufacturing	
3955	Carbon Paper and Inked Ribbons	339944	Carbon Paper and Inked Ribbon Manufacturing	
3961	Costume Jewelry and Costume Novelties, Except Precious Metal (except cuff links)	339914	Costume Jewelry and Novelty Manufacturing	
	(nonprecious cuff links)	339993	Fastener, Button, Needle, and Pin Manufacturing	
3965	Fasteners, Buttons, Needles, and Pins	339993	Fastener, Button, Needle, and Pin Manufacturing	
3991	Brooms and Brushes	339994	Broom, Brush, and Mop Manufacturing	
3993	Signs and Advertising Specialties	323113	Commercial Screen Printing	<p>Any facility whose primary activity is screen printing purchased advertising specialties (SIC 3993 / NAICS 323113) should be regulated under Sector X, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector X applies additional technology-based effluent limits comprised of good housekeeping measures for material storage areas, and additional SWPPP requirements. Sector Y does not apply additional requirements to these facilities and under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements.</p> <p>Regulatory burden would be greater under Sector X.</p>
	(screen printing purchased advertising specialties ³⁴)			
	(signs)			
3995	Burial Caskets	339995	Burial Casket Manufacturing	
3996	Linoleum, Asphalted-Felt-Base, and Other Hard Surface Floor Coverings, Not Elsewhere Classified	326192	Resilient Floor Covering Manufacturing	

	3999	Manufacturing Industries, Not Elsewhere Classified			Any facility whose primary activity is fur dressing and finishing (SIC 3999 / NAICS 316110) should be regulated under Sector Z, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector Z applies additional technology-based effluent limits comprised of good housekeeping measures for material storage areas and handling areas, and additional SWPPP requirements. Sector Y does not apply additional requirements to these facilities and under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements.
		(fur dressing and finishing)	316110	Leather and Hide Tanning and Finishing	Regulatory burden would be greater under Sector Z.
		(burnt wood articles)	321999	All Other Miscellaneous Wood Product Manufacturing	Any facility whose primary activity is burnt wood articles (SIC 3999 / NAICS 321999) should be regulated under Sector A, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector A applies additional technology-based effluent limits comprised of good housekeeping measures, additional SWPPP requirements, and benchmark monitoring for COD and TSS. Sector Y does not apply additional requirements to these facilities and under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements.
		(matches and match books manufacturing)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	Regulatory burden would be greater under Sector A. Any facility whose primary activity is matches and match books manufacturing (SIC 3999 / NAICS

				<p>325998) should be regulated under Sector C, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sectors C and Y do not require additional sector-specific requirements. EPA could establish additional facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden is not expected to differ between Sectors C and Y.</p>
	(plastics products such as combs, hair curlers, etc.)	326199	All Other Plastics Product Manufacturing	
	(hand operated hair clippers for humans)	332211	Cutlery and Flatware (except Precious) Manufacturing	<p>Any facility whose primary activity is manufacturing hand operated hair clippers for humans (SIC 3999 / NAICS 332211) should be regulated under Sector AA, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector AA applies additional technology-based effluent limits comprised of good housekeeping measures, spill prevention and response procedures, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector Y does not require additional sector-specific requirements. EPA could establish additional facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden would be greater under Sector AA.</p>
	(tape measures)	332212	Hand and Edge Tool Manufacturing	<p>Any facility whose primary activity is manufacturing tape measures (SIC 3999 / NAICS 332212) should be regulated under Sector AA, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector AA applies additional</p>

				<p>technology-based effluent limits comprised of good housekeeping measures, spill prevention and response procedures, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector Y does not require additional sector-specific requirements. EPA could establish additional facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden would be greater under Sector AA.</p>
	(flocking metal products for the trade)	332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	<p>Any facility whose primary activity is manufacturing flocking metal products for the trade (SIC 3999 / NAICS 332812) should be regulated under Sector AA, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector AA applies additional technology-based effluent limits comprised of good housekeeping measures, spill prevention and response procedures, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector Y does not require additional sector-specific requirements. EPA could establish additional facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden would be greater under Sector AA.</p>
	(other miscellaneous metal products, such as combs, hair curlers, etc.)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	<p>Any facility whose primary activity is manufacturing other miscellaneous metal products, such as combs, hair curlers, etc. (SIC 3999 / NAICS 332999) should be regulated under Sector AA, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector</p>

				<p>AA applies additional technology-based effluent limits comprised of good housekeeping measures, spill prevention and response procedures, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector Y does not require additional sector-specific requirements. EPA could establish additional facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden would be greater under Sector AA.</p>
	(beauty and barber shop equipment, except chairs)	333319	Other Commercial and Service Industry Machinery Manufacturing	
	(lamp shades of paper or textile)	335121	Residential Electric Lighting Fixture Manufacturing	
	(electric hair clippers for humans)	335211	Electric Housewares and Household Fan Manufacturing	<p>Any facility whose primary activity is manufacturing electric hair clippers for humans (SIC 3999 / NAICS 335211) should be regulated under Sector AC, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sectors Y and AC do not apply sector-specific requirements to facilities manufacturing electric hair clippers for humans. EPA may establish facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden is not expected to differ between Sectors Y and AC.</p>
	(beauty and barber chairs)	337127	Institutional Furniture Manufacturing	<p>Any facility whose primary activity is manufacturing beauty and barber chairs (SIC 3999 / NAICS 337127) should be regulated under Sector W, but may continue to be regulated under Sector Y, or alternatively, under Sector AD. Sector W applies additional SWPPP requirements to facilities manufacturing beauty and</p>

				barber chairs. Sector Y applies no additional requirements and under Sector AD EPA could establish additional facility-specific monitoring and reporting requirements. Regulatory burden would be greater under Sector W.	
		(embroidery kits)	339932	Game, Toy, and Children's Vehicle Manufacturing	
		(other miscellaneous products not specially provided for previously)	339999	All Other Miscellaneous Manufacturing	
Sector Z. Leather Tanning and Finishing					
Sub-sector	SIC Codes		NAICS Codes		Notes
Z1	3111	Leather Tanning and Finishing	316110	Leather and Hide Tanning and Finishing	
Sector AA. Fabricated Metal Products					
Sub-sector	SIC Codes		NAICS Codes		Notes
AA1	3411	Metal Cans	332431	Metal Can Manufacturing	
	3412	Metal Shipping Barrels, Drums, Kegs, and Pails	332439	Other Metal Container Manufacturing	
	3421	Cutlery (except hedge shears and trimmers, tinners' snips, and similar nonelectric hand tools)	332211	Cutlery and Flatware (except Precious) Manufacturing	
		(hedge shears and trimmers, tinners snips, and similar nonelectric hand tools)	332212	Hand and Edge Tool Manufacturing	
	3423	Hand and Edge Tools, Except Machine Tools and Handsaws	332212	Hand and Edge Tool Manufacturing	
	3425	Saw Blades and Handsaws	332213	Saw Blade and Handsaw Manufacturing	
	3429	Hardware, Not Elsewhere Classified (vacuum and insulated bottles, jugs, and chests)	332439	Other Metal Container Manufacturing	
		(except fire hose nozzles, hose couplings, vacuum and insulated bottles, jugs and chests, fireplace fixtures, time locks, turnbuckles, pulleys, tackle blocks, luggage and utility racks, sleep sofa mechanisms and chair glides, traps, handcuffs and	332510	Hardware Manufacturing	

	leg irons, ladder jacks, and other like metal products)			
	(turnbuckles and hose clamps)	332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	
	(fire hose nozzles and hose couplings)	332919	Other Metal Valve and Pipe Fitting Manufacturing	
	(fireplace fixtures, traps, handcuffs and leg irons, ladder jacks, and other like metal products)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
	(pulleys, tackle blocks, block and tackle assemblies)	333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	
	(time locks)	334518	Watch, Clock, and Part Manufacturing	
	(luggage and utility racks)	336399	All Other Motor Vehicle Parts Manufacturing	
	(sleep sofa mechanisms and chair glides)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
3431	Enameled Iron and Metal Sanitary Ware	332998	Enameled Iron and Metal Sanitary Ware Manufacturing	
3432	Plumbing Fixture Fittings and Trim (except shower rods, lawn hose nozzles, and lawn sprinklers)	332913	Plumbing Fixture Fitting and Trim Manufacturing	
	(lawn hose nozzles and lawn sprinklers)	332919	Other Metal Valve and Pipe Fitting Manufacturing	
	(metal shower rods)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
3443	Fabricated Plate Work (Boiler Shops) (fabricated plate work and metal weldments)	332313	Plate Work Manufacturing	
	(power boilers and heat exchangers)	332410	Power Boiler and Heat Exchanger Manufacturing	
	(heavy gauge tanks)	332420	Metal Tank (Heavy Gauge) Manufacturing	
	(metal cooling towers)	333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing (metal cooling towers)	
3444	Sheet Metal Work (stamped metal skylights)	332321	Metal Window and Door Manufacturing	
	(except sheet metal bins and vats, skylights, and sheet metal cooling towers)	332322	Sheet Metal Work Manufacturing	
	(metal bins and vats)	332439	Other Metal Container Manufacturing	
	(cooling towers, sheet metal)	333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	

	3446	Architectural and Ornamental Ironwork	332323	Ornamental and Architectural Metal Work Manufacturing	
	3448	Prefabricated Metal Buildings and Components	332311	Prefabricated Metal Building and Component Manufacturing	
	3449	Miscellaneous Structural Metal Work (custom roll forming)	332114	Custom Roll Forming	
		(fabricated bar joists and concrete reinforcing bars)	332312	Fabricated Structural Metal Manufacturing	
		(curtain wall and metal plaster bases and lath)	332323	Ornamental and Architectural Metal Work Manufacturing	
	3451	Screw Machine Products	332721	Precision Turned Product Manufacturing	
	3452	Bolts, Nuts, Screws, Rivets, and Washers	332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	
	3462	Iron and Steel Forgings	332111	Iron and Steel Forging	
	3463	Nonferrous Forgings	332112	Nonferrous Forging	
	3465	Automotive Stampings	336370	Motor Vehicle Metal Stamping	
	3466	Crowns and Closures	332115	Crown and Closure Manufacturing	
	3469	Metal Stampings, Not Elsewhere Classified (except kitchen utensils, pots and pans for cooking, coins, and stamped metal boxes)	332116	Metal Stamping	
		(kitchen utensils, pots, and pans for cooking)	332214	Kitchen Utensil, Pot, and Pan Manufacturing	
		(stamped metal tool, cash, mail, and lunch boxes)	332439	Other Metal Container Manufacturing	
	3471	Electroplating, Plating, Polishing, Anodizing, and Coloring	332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	
AA2	3479	Coating, Engraving, and Allied Services, Not Elsewhere Classified (except jewelry, silverware, and flatware engraving and etching)	332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	
		(precious metal jewelry engraving and etching)	339911	Jewelry (except Costume) Manufacturing	
		(silver and plated ware engraving and etching)	339912	Silverware and Holloware Manufacturing	
		(costume jewelry engraving and etching)	339914	Costume Jewelry and Novelty Manufacturing	
AA1	3482	Small Arms Ammunition	332992	Small Arms Ammunition Manufacturing	
	3483	Ammunition, Except for Small Arms	332993	Ammunition (except for Small Arms) Manufacturing	
	3484	Small Arms	332994	Small Arms Manufacturing	

3489	Ordinance and Accessories, Not Elsewhere Classified	332995	Other Ordinance and Accessories Manufacturing	
3491	Industrial Valves	332911	Industrial Valve Manufacturing	
3492	Fluid Power Valves and Hose Fittings	332912	Fluid Power Valve and Hose Fitting Manufacturing	
3493	Steel Springs, Except Wire	332611	Spring (Heavy Gauge) Manufacturing	
3494	Valves and Pipe Fittings, Not Elsewhere Classified (except metal pipe hangers and supports)	332919	Other Metal Valve and Pipe Fitting Manufacturing	
	(metal pipe hangers and supports)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
3495	Wire Springs (except watch and clock springs)	332612	Spring (Light Gauge) Manufacturing	
	(clock and watch springs)	334518	Watch, Clock, and Part Manufacturing	
3496	Miscellaneous Fabricated Wire Products (potato mashers)	332214	Kitchen Utensil, Pot, and Pan Manufacturing	
	(except shopping carts and potato mashers)	332618	Other Fabricated Wire Product Manufacturing	
	(shopping carts made from purchased wire)	333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	
3497	Metal Foil and Leaf (laminated aluminum foil rolls and sheets for flexible packaging uses)	322225	Laminated Aluminum Foil Manufacturing for Flexible Packaging Uses	
	(foil and foil containers)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
3498	Fabricated Pipe and Pipe Fittings	332996	Fabricated Pipe and Pipe Fitting Manufacturing	
3499	Fabricated Metal Products, Not Elsewhere Classified (powder metallurgy)	332117	Powder Metallurgy Part Manufacturing	
	(metal boxes)	332439	Other Metal Container Manufacturing	
	(safe and vault locks)	332510	Hardware Manufacturing	
	(metal aerosol valves)	332919	Other Metal Valve and Pipe Fitting Manufacturing	
	(other metal products)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
	(metal automobile seat frames)	336360	Motor Vehicle Seating and Interior Trim Manufacturing	
	(metal furniture frames)	337215	Showcase, Partition, Shelving, and Locker Manufacturing	
3911	Jewelry, Precious Metal	339911	Jewelry (except Costume) Manufacturing	

	3914	Silverware, Plated Ware, and Stainless Steel Ware (cutlery and flatware, nonprecious and precious plated)	332211	Cutlery and Flatware (except Precious) Manufacturing	
		(precious metal plated hollowware)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
		(except nonprecious and precious plated metal cutlery, flatware, and hollowware)	339912	Silverware and Holloware Manufacturing	
	3915	Jewelers Findings and Materials and Lapidary Work			Any facility whose primary activity is manufacturing watch jewels (SIC 3915 / NAICS 334518) should be regulated under Sector AC, but may continue to be regulated under Sector AA, or alternatively, under Sector AD. Sector AA applies additional technology-based effluent limits comprising good housekeeping measures, spill prevention and response, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector AC does not apply additional sector-specific requirements and EPA may establish facility-specific monitoring and reporting requirements under Sector AD. Regulatory burden would be greater under Sector AA.
	(watch jewels)	334518	Watch, Clock, and Part Manufacturing		
	(except watch jewels)	339913	Jewelers' Material and Lapidary Work Manufacturing		
Sector AB. Transportation Equipment, Industrial or Commercial Machinery					
Sub-sector	SIC Codes		NAICS Codes		Notes
AB1	3511	Steam, Gas, and Hydraulic Turbines, and Turbine Generator Set Units	333611	Turbine and Turbine Generator Set Units Manufacturing	
	3519	Internal Combustion Engines, Not Elsewhere Classified	333618	Other Engine Equipment Manufacturing	
		(except stationary engine radiators) (stationary engine radiators)	336399	All Other Motor Vehicle Parts Manufacturing	

3523	Farm Machinery and Equipment (hand hair clippers for animals)	332212	Hand and Edge Tool Manufacturing	
	(corrals, stalls, and holding gates)	332323	Ornamental and Architectural Metal Work Manufacturing	
	(except corrals, stalls, holding gates, hand clippers for animals, and farm conveyors/elevators)	333111	Farm Machinery and Equipment Manufacturing	
	(farm conveyors and elevators)	333922	Conveyor and Conveying Equipment Manufacturing	
3524	Lawn and Garden Tractors and Home Lawn and Garden Equipment (nonpowered lawnmowers)	332212	Hand and Edge Tool Manufacturing	
	(except nonpowered lawnmowers)	333112	Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing	
3531	Construction Machinery and Equipment (except railway track maintenance equipment; winches, aerial work platforms; and automotive wrecker hoists)	333120	Construction Machinery Manufacturing	
	(winches, aerial work platforms, automobile wrecker hoists, locomotive cranes, and ship cranes)	333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	
	(railway track maintenance equipment)	336510	Railroad Rolling Stock Manufacturing	
3532	Mining Machinery and Equipment, Except Oil and Gas Field Machinery and Equipment	333131	Mining Machinery and Equipment Manufacturing	
3533	Oil and Gas Field Machinery and Equipment	333132	Oil and Gas Field Machinery and Equipment Manufacturing	
3534	Elevators and Moving Stairways	333921	Elevators and Moving Stairway Manufacturing	
3535	Conveyors and Conveying Equipment	333922	Conveyors and Conveying Equipment Manufacturing	
3536	Overhead Traveling Cranes, Hoists, and Monorail Systems	333923	Overhead Traveling Cranes, Hoists, and Monorail System Manufacturing	
3537	Industrial Trucks, Tractors, Trailers, and Stackers (metal air cargo containers)	332439	Other Metal Container Manufacturing	
	(metal pallets)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	

	(except metal pallets and metal air cargo containers)	333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	
3541	Machine Tools, Metal Cutting Types	333512	Machine Tool (Metal Cutting Types) Manufacturing	
3542	Machine Tools, Metal Forming Types	333513	Machine Tool (Metal Forming Types) Manufacturing	
3543	Industrial Patterns	332997	Industrial Pattern Manufacturing	
3544	Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds (industrial molds)	333511	Industrial Mold Manufacturing	
	(except molds)	333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	
3545	Cutting Tools, Machine Tool Accessories, and Machinist Precision Measuring Devices (precision measuring devices)	332212	Hand and Edge Tool Manufacturing	
	(except precision measuring devices)	333515	Cutting Tool and Machine Tool Accessory Manufacturing	
3546	Power-Driven Handtools	333991	Power-Driven Handtool Manufacturing	
3547	Rolling Mill Machinery and Equipment	333516	Rolling Mill Machinery and Equipment Manufacturing	
3548	Electric and Gas Welding and Soldering Equipment (except transformers for arc-welding)	333992	Welding and Soldering Equipment Manufacturing	
	(transformers for arc-welders)	335311	Power, Distribution, and Specialty Transformer Manufacturing	
3549	Metalworking Machinery, Not Elsewhere Classified	333518	Other Metalworking Machinery Manufacturing	
3552	Textile Machinery	333292	Textile Machinery Manufacturing	
3553	Woodworking Machinery	333210	Sawmill and Woodworking Machinery Manufacturing	
3554	Paper Industries Machinery	333291	Paper Industry Machinery Manufacturing	
3555	Printing Trades Machinery and Equipment	333293	Printing Machinery and Equipment Manufacturing	
3556	Food Products Machinery	333294	Food Product Machinery Manufacturing	
3559	Special Industry Machinery, Not Elsewhere Classified (nuclear control rod drive mechanisms)	332410	Power Boiler and Heat Exchanger Manufacturing	
	(cotton ginning machinery)	333111	Farm Machinery and Equipment Manufacturing	
	(rubber and plastics manufacturing machinery)	333220	Plastics and Rubber Industry Machinery Manufacturing	

	(semiconductor machinery manufacturing)	333295	Semiconductor Machinery Manufacturing	
	(except rubber and plastics manufacturing machinery, semiconductor manufacturing machinery, and automotive maintenance equipment)	333298	All Other Industrial Machinery Manufacturing	
	(automotive maintenance equipment)	333319	Other Commercial and Service Industry Machinery Manufacturing	
3561	Pumps and Pumping Equipment	333911	Pump and Pumping Equipment Manufacturing	
3562	Ball and Roller Bearings	332991	Ball and Roller Bearing Manufacturing	
3563	Air and Gas Compressors	333912	Air and Gas Compressor Manufacturing	
3564	Industrial and Commercial Fans and Blowers and Air Purification Equipment (air purification equipment)	333411	Air Purification Equipment Manufacturing	
	(fans and blowers)	333412	Industrial and Commercial Fan and Blower Manufacturing	
3565	Packaging Machinery	333993	Packaging Machinery Manufacturing	
3566	Speed Changers, Industrial High-Speed Drives, and Gears	333612	Speed Changer, Industrial High-Speed Drives, and Gear Manufacturing	
3567	Industrial Process Furnaces and Ovens	333994	Industrial Process Furnace and Oven Manufacturing	
3568	Mechanical Power Transmission Equipment, Not Elsewhere Classified	333613	Mechanical Power Transmission Equipment Manufacturing	
3569	General Industrial Machinery and Equipment, Not Elsewhere Classified (textile fire hose)	314999	All Other Miscellaneous Textile Product Mills	
	(electric swimming pool heaters)	333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	
	(except fire hoses and electric swimming pool heaters)	333999	All Other Miscellaneous General Purpose Machinery Manufacturing	
3581	Automatic Vending Machines	333311	Automatic Vending Machine Manufacturing	
3582	Commercial Laundry, Drycleaning, and Pressing Machines	333312	Commercial Laundry, Drycleaning, and Pressing Machine Manufacturing	
3585	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment			
	(except motor vehicle air-conditioning)	333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	
	(motor vehicle air-conditioning)	336391	Motor Vehicle Air-Conditioning Manufacturing	

3586	Measuring and Dispensing Pumps	333913	Measuring and Dispensing Pump Manufacturing	
3589	Service Industry Machinery, Not Elsewhere Classified	333319	Other Commercial and Service Industry Machinery Manufacturing	
3592	Carburetors, Pistons, Piston Rings, and Valves	336311	Carburetor, Piston, Piston Ring, and Valve Manufacturing	
3593	Fluid Power Cylinders and Actuators	333995	Fluid Power Cylinder and Actuator Manufacturing	
3594	Fluid Power Pumps and Motors	333996	Fluid Power Pumps and Motors Manufacturing	
3596	Scales and Balances, Except Laboratory	333997	Scale and Balance (except Laboratory) Manufacturing	
3599	Industrial and Commercial Machinery and Equipment, Not Elsewhere Classified			
	(machine shops)	332710	Machine Shops	
	(grinding castings for the trade)	332813	Electroplating, Plating, Polishing, Anodizing and Coloring	
	(flexible metal hose)	332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	
	(carnival amusement park equipment)	333319	Other Commercial and Service Industry Machinery Manufacturing	
	(other industrial and commercial machinery and equipment)	333999	All Other Miscellaneous General Purpose Machinery Manufacturing	
	(water leak detectors)	334519	Other Measuring and Controlling Device Manufacturing	
3711	Motor Vehicles and Passenger Car Bodies			
	(automobiles)	336111	Automobile Manufacturing	
	(light trucks and utility vehicles)	336112	Light Truck and Utility Vehicle Manufacturing	
	(heavy duty trucks)	336120	Heavy Duty Truck Manufacturing	
	(kit car and other passenger car bodies)	336211	Motor Vehicle Body Manufacturing	
(military armored vehicles)	336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing		
3713	Truck and Bus Bodies	336211	Motor Vehicle Body Manufacturing	
3714	Motor Vehicle Parts and Accessories (dump truck lifting mechanisms and fifth wheels)	336211	Motor Vehicle Body Manufacturing	
	(gasoline engines and engine parts including rebuilt)	336312	Gasoline Engine and Engine Parts Manufacturing	

	(wiring harness sets, other than ignition; block heaters and battery heaters; instrument board assemblies; permanent defrosters; windshield washer-wiper mechanisms; cruise control mechanisms; and other electrical equipment for internal combustion engines)	336322	Other Motor Vehicle Electrical and Electronic Equipment Manufacturing	
	(steering and suspension parts)	336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	
	(brake and brake systems, including assemblies)	336340	Motor Vehicle Brake System Manufacturing	
	(transmissions and power train parts, including rebuilding)	336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	
	(except truck and bus bodies, trailers, engine and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, and motor vehicle transmission and power train parts)	336399	All Other Motor Vehicle Parts Manufacturing	
3715	Truck Trailers	336212	Truck Trailer Manufacturing	
3716	Motor Homes	336213	Motor Home Manufacturing	
3721	Aircraft (except research and development not producing prototypes)	336411	Aircraft Manufacturing	
3724	Aircraft Engines and Engine Parts (except research and development not producing prototypes)	336412	Aircraft Engine and Engine Parts Manufacturing	
3728	Aircraft Parts and Auxiliary Equipment, Not Elsewhere Classified (fluid power aircraft subassemblies)	332912	Fluid Power Valve and Hose Fitting Manufacturing	
	(target drones)	336411	Aircraft Manufacturing	
	(except fluid power aircraft subassemblies, target drones, and research and development not producing prototypes)	336413	Other Aircraft Part and Auxiliary Equipment Manufacturing	
3743	Railroad Equipment (locomotive fuel lubricating or cooling medium pumps)	333911	Pump and Pumping Equipment Manufacturing	
	(except locomotive fuel lubricating or cooling medium pumps)	336510	Railroad Rolling Stock Manufacturing	

	3751	Motorcycles, Bicycles, and Parts	336991	Motorcycle, Bicycle, and Parts Manufacturing	
	3761	Guided Missiles and Space Vehicles (except research and development not producing prototypes)	336414	Guided Missile and Space Vehicle Manufacturing	
	3764	Guided Missile and Space Vehicle Propulsion Units and Propulsion Unit Parts (except research and development not producing prototypes)	336415	Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing	
	3769	Guided Missile and Space Vehicle Parts and Auxiliary Equipment, Not Elsewhere Classified (except research and development not producing prototypes)	336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	
	3792	Travel Trailers and Campers	336214	Travel Trailer and Camper Manufacturing	
	3795	Tanks and Tank Components	336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing	
	3799	Transportation Equipment, Not Elsewhere Classified			
		(wheelbarrows)	333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	
		(automobile, boat, utility and light truck trailers)	336214	Travel Trailer and Camper Manufacturing	
		(trailer hitches)	336399	All Other Motor Vehicle Parts Manufacturing	
		(except automobile, boat, utility light truck trailers, trailer hitches, and wheelbarrows)	336999	All Other Transportation Equipment Manufacturing	
Sector AC. Electronic, Electrical, Photographic and Optical Goods					
Sub-sector	SIC Codes		NAICS Codes		Notes
AC1	3571	Electronic Computers	334111	Electronic Computer Manufacturing	
	3572	Computer Storage Devices	334112	Computer Storage Device Manufacturing	
	3575	Computer Terminals	334113	Computer Terminal Manufacturing	
	3577	Computer Peripheral Equipment, Not Elsewhere Classified (except plotter controllers and magnetic tape head cleaners)	334119	Other Computer Peripheral Equipment Manufacturing	
		(plotter controllers)	334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	
(magnetic tape head cleaners)		334613	Magnetic and Optical Recording Media Manufacturing		

3578	Calculating and Accounting Machinery, Except Electronic Computers (change making machines)	333311	Automatic Vending Machine Manufacturing
	(except point of sales terminals, change making machines and funds transfer devices)	333313	Office Machinery Manufacturing
	(point of sale terminals and fund transfer devices)	334119	Other Computer Peripheral Equipment Manufacturing
3579	Office Machines, Not Elsewhere Classified (except timeclocks, time stamps, pencil sharpeners, stapling machines, etc.)	333313	Office Machinery Manufacturing
	(time clocks and other time recording devices)	334518	Watch, Clock, and Part Manufacturing
	(pencil sharpeners, staplers and other office equipment)	339942	Lead Pencil and Art Good Manufacturing
3612	Power, Distribution, and Specialty Transformers	335311	Power, Distribution, and Specialty Transformer Manufacturing
3613	Switchgear and Switchboard Apparatus	335313	Switchgear and Switchboard Apparatus Manufacturing
3621	Motors and Generators	335312	Motors and Generator Manufacturing
3624	Carbon and Graphite Products	335991	Carbon and Graphite Product Manufacturing
3625	Relays and Industrial Controls	335314	Relay and Industrial Control Manufacturing
3629	Electrical Industrial Apparatus, Not Elsewhere Classified	335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing
3631	Household Cooking Equipment	335221	Household Cooking Appliance Manufacturing
3632	Household Refrigerators and Home and Farm Freezers	335222	Household Refrigerator and Home Freezer Manufacturing
3633	Household Laundry Equipment	335224	Household Laundry Equipment Manufacturing
3634	Electric Housewares and Fans (wall and baseboard heating units for permanent installation)	333414	Heating Equipment (except Warm Air Furnaces) Manufacturing
	(except wall and baseboard heating units for permanent installation, electronic cigarette lighters, and wall mount restroom hand dryers)	335211	Electric Housewares and Household Fan Manufacturing
	(electronic cigarette lighters)	339999	All Other Miscellaneous Manufacturing
3635	Household Vacuum Cleaners	335212	Household Vacuum Cleaner Manufacturing
3639	Household Appliances, Not Elsewhere Classified (household sewing machines)	333298	All Other Industrial Machinery Manufacturing

	(floor waxing and floor polishing machines)	335212	Household Vacuum Cleaner Manufacturing	
	(except floor waxing and floor polishing machines, and household sewing machines)	335228	Other Major Household Appliance Manufacturing	
3641	Electric Lamp Bulbs and Tubes	335110	Electric Lamp Bulbs and Part Manufacturing	
3643	Current-Carrying Wiring Devices	335931	Current-Carrying Wiring Device Manufacturing	
3644	Noncurrent-Carrying Wiring Devices			Any facility whose primary activity is manufacturing fish wire, electrical wiring tool (SIC 3644 / NAICS 332212) should be regulated under Sector AA, but may continue to be regulated under Sector AC, or alternatively, under Sector AD. Sector AA applies additional technology-based effluent limits comprising good housekeeping measures, spill prevention and response, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector AC does not apply additional sector-specific requirements and EPA may establish facility-specific monitoring and reporting requirements under Sector AD. Regulatory burden would be greater under Sector AA.
	(fish wire, electrical wiring tool)	332212	Hand and Edge Tool Manufacturing	
	(except fishwire, electrical wiring tool)	335932	Noncurrent-Carrying Wiring Device Manufacturing	
3645	Residential Electric Lighting Fixtures	335121	Residential Electric Lighting Fixture Manufacturing	
3646	Commercial, Industrial, and Institutional Electric Lighting Fixtures	335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	
3647	Vehicular Lighting Equipment	336321	Vehicular Lighting Equipment Manufacturing	
3648	Lighting Equipment, Not Elsewhere Classified	335129	Other Lighting Equipment Manufacturing	
3651	Household Audio and Video Equipment	334310	Audio and Video Equipment Manufacturing	

3652	Phonograph Records and Prerecorded Audio Tapes and Disks (reproduction of all other media except video)	334612	Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	
3661	Telephone and Telegraph Apparatus (except consumer external modems)	334210	Telephone Apparatus Manufacturing	
	(consumer external modems)	334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	
3663	Radio and Television Broadcasting and Communications Equipment	334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	
3669	Communications Equipment, Not Elsewhere Classified	334290	Other Communications Equipment Manufacturing	
3671	Electron Tubes	334411	Electron Tube Manufacturing	
3672	Printed Circuit Boards	334412	Bare Printed Circuit Board Manufacturing	
3674	Semiconductors and Related Devices	334413	Semiconductor and Related Device Manufacturing	
3675	Electronic Capacitors	334414	Electronic Capacitor Manufacturing	
3676	Electronic Resistors	334415	Electronic Resistor Manufacturing	
3677	Electronic Coils, Transformers, and Other Inductors	334416	Electronic Coil, Transformer, and Other Inductor Manufacturing	
3678	Electronic Connectors	334417	Electronic Connector Manufacturing	
3679	Electronic Components, Not Elsewhere Classified			
	(antennas)	334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	
	(radio headphones)	334310	Audio and Video Equipment Manufacturing	
	(printed circuit/electronic assembly manufacturing)	334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	
	(other electronic components)	334419	Other Electronic Component Manufacturing	
3691	Storage Batteries	335911	Storage Battery Manufacturing	
3692	Primary Batteries, Dry and Wet	335912	Primary Battery Manufacturing	
3694	Electrical Equipment for Internal Combustion Engines	336322	Other Motor Vehicle Electrical and Electronic Equipment Manufacturing	
3695	Magnetic and Optical Recording Media	334613	Magnetic and Optical Recording Media Manufacturing	
3699	Electrical Machinery, Equipment, and Supplies, Not Elsewhere Classified (electronic teaching machines and flight simulators)	333319	Other Commercial and Service Industry Machinery Manufacturing	
	(outboard electric motors)	333618	Other Engine Equipment Manufacturing	Any facility whose primary activity is manufacturing outboard electric

					motors (SIC 3699 / NAICS 333618) should be regulated under Sector AB, but may continue to be regulated under Sector AC, or alternatively, under Sector AD. Sector AB applies additional sector-specific SWPPP requirements. Sector AC does not apply additional sector-specific requirements and EPA may establish facility-specific monitoring and reporting requirements under Sector AD. Regulatory burden would be greater under Sector AB.
	(laser welding and soldering equipment)	333992	Welding and Soldering Equipment Manufacturing		
	(Christmas tree lighting sets, electric insect lamps, electric fireplace logs, and trouble lights)	335129	Other Lighting Equipment Manufacturing		
	(other electrical industrial apparatus)	335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing		
3812	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Systems and Instruments	334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing		
3821	Laboratory Apparatus and Furniture	339111	Laboratory Apparatus and Furniture Manufacturing		
3822	Automatic Controls for Regulating Residential and Commercial Environments and Appliances	334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use		
3823	Industrial Instruments for Measurement, Display, and Control of Process Variables; and Related Products	334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables		
3824	Totalizing Fluid Meters and Counting Devices	334514	Totalizing Fluid Meter and Counting Device Manufacturing		
3825	Instruments for Measuring and Testing of Electricity and Electrical Signals				
	(automotive ammeters and voltmeters)	334514	Totalizing Fluid Meter and Counting Device Manufacturing		
	(except automotive instruments)	334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals		

3826	Laboratory Analytical Instruments	334516	Analytical Laboratory Instrument Manufacturing	
3827	Optical Instruments and Lenses	333314	Optical Instruments and Lens Manufacturing	
3829	Measuring and Controlling Devices, Not Elsewhere Classified			
	(motor vehicle gauges)	334514	Totalizing Fluid Meter and Counting Device Manufacturing	
	(electronic chronometers)	334518	Watch, Clock, and Part Manufacturing	
	(except medical thermometers, electronic chronometers and motor vehicle gauges)	334519	Other Measuring and Controlling Device Manufacturing	
	(medical thermometers)	339112	Surgical and Medical Instrument Manufacturing	
3841	Surgical and Medical Instruments and Apparatus			<p>Any facility whose primary activity is manufacturing tranquilizer guns (SIC 3841 / NAICS 332994) should be regulated under Sector AA, but may continue to be regulated under Sector AC, or alternatively, under Sector AD. Sector AA applies additional technology-based effluent limits comprising good housekeeping measures, spill prevention and response, and spills and leaks; additional SWPPP requirements; and additional inspection requirements. Sector AC does not apply additional sector-specific requirements and EPA may establish facility-specific monitoring and reporting requirements under Sector AD.</p> <p>Regulatory burden would be greater under Sector AA.</p>
	(tranquilizer guns)	332994	Small Arms Manufacturing	
	(operating room tables)	339111	Laboratory Apparatus and Furniture Manufacturing	
	(except tranquilizer guns and operating room tables)	339112	Surgical and Medical Instrument Manufacturing	

3842	Orthopedic, Prosthetic, and Surgical Appliances and Supplies (incontinent pads and bed pads)	322291	Sanitary Paper Product Manufacturing	Any facility whose primary activity is manufacturing incontinent pads and bed pads (SIC 3842 / NAICS 322291) should be regulated under Sector B, but may continue to be regulated under Sector AC, or alternatively, under Sector AD. Sectors B and AC do not apply additional sector-specific requirements. EPA may require additional facility-specific monitoring and reporting requirement under Sector AD. Regulatory burden is not expected to differ between Sectors B and AC.
	(electronic hearing aids)	334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	
	(except electronic hearing aids, incontinent pads, anatomical models, and bed pads)	339113	Surgical Appliance and Supplies Manufacturing	
	(anatomical models)	339999	All Other Miscellaneous Manufacturing	
3843	Dental Equipment and Supplies	339114	Dental Equipment and Supplies Manufacturing	
3844	X-Ray Apparatus and Tubes and Related Irradiation Apparatus	334517	Irradiation Apparatus Manufacturing	
3845	Electromedical and Electrotherapeutic Apparatus (except CT and CAT scanners)	334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	
	(CT and CAT Scanners)	334517	Irradiation Apparatus Manufacturing	
3851	Ophthalmic Goods (intraocular lenses, i.e., surgical implants)	339113	Surgical Appliance and Supplies Manufacturing	
	(except intraocular lenses)	339115	Ophthalmic Goods Manufacturing	
3861	Photographic Equipment and Supplies (photographic films, paper, plates and chemicals)	325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	
	(except photographic film, paper, plates, and chemicals)	333315	Photographic and Photocopying Equipment Manufacturing	
3873	Watches, Clocks, Clockwork Operated Devices, and Parts	334518	Watch, Clock, and Part Manufacturing	

Sector AD. Non-Classified Facilities

Sub-Sector	Narrative Description	Notes
AD1	Other stormwater discharges designated by the Director as needing a permit (see 40 CFR 122.26(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any of Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.	

Appendix O - Summary of Reports Permit Submittals

Permit Section	Report/Submittal	Frequency	Due Date(s)	Where to Submit
Part 1.1.4.5	Endangered and Threatened Species Appendix E Criterion C Eligibility Form (Applicable only for operators seeking coverage under Part 1.1.4.5 eligibility criterion C).	Once, if applicable	At least 30 days prior to submitting the NOI for permit coverage	Email to msgpesa@epa.gov
Part 1.2	New Discharger: Submittal of Notice of Intent (NOI) for Permit Coverage	Once per permit term	A minimum of 30 days prior to commencing discharge	Electronically using the NPDES eReporting Tool (NeT) for MSGP
Part 1.2	Existing Discharger: Submittal of Notice of Intent (NOI) for Permit Coverage	Once per permit term	No later than September 2, 2015. However, if you have not previously obtained coverage under an NPDES permit, you must submit your NOI immediately.	Electronically using the NPDES eReporting Tool (NeT) for MSGP
Part 1.3	Notice of Termination	Once, if applicable	Within 30 days after: <ul style="list-style-type: none"> a new operator takes over responsibility for the facility; or operations and stormwater discharges have ceased; or for Sector G, H, or J facilities, the applicable termination requirements have been met; or alternative permit coverage has been obtained 	Electronically using the NPDES eReporting Tool (NeT) for MSGP
Part 1.4	Conditional "No Exposure" Certification Form	If eligible, once every 5 years	As necessary	Electronically using the NPDES eReporting Tool (NeT) for MSGP

Permit Section	Report/Submittal	Frequency	Due Date(s)	Where to Submit
Part 3.1.2	Routine Inspection Documentation	At least quarterly	By the end of the quarter.	Reports are kept with SWPPP
Part 3.2.2	Quarterly Visual Assessment Documentation	At least quarterly	By the end of the quarter.	Reports are kept with SWPPP
Part 4.4	Corrective Action Documentation	<ul style="list-style-type: none"> Document existence of corrective action condition within 24 hours of becoming aware of the condition Document corrective actions taken or to be taken within 14 days from the time of discovery of the condition 	As necessary	Reports are kept with SWPPP
Part 5 Part 7.3	Stormwater Pollution Prevention Plan (SWPPP)	<ul style="list-style-type: none"> Provide URL for SWPPP or provide SWPPP information directly on the NOI form. Update the on-site SWPPP as site conditions indicate. At minimum, the SWPPP must be modified based on corrective actions and deadlines required under Part 4.2. 	<p>Develop initial SWPPP prior to the submittal of NOI form.</p> <p>Update the SWPPP information included on URL or on NOI form, at a minimum, no later than 45 days after conducting the final routine facility inspection for the year.</p>	Electronically using the NPDES eReporting Tool (NeT) for MSGP
Part 6 Part 7.4	Discharge Monitoring Reports (DMRs)	<ul style="list-style-type: none"> 1/quarter for benchmark monitoring 1/year for numeric effluent limitation monitoring 1/year for impaired waters monitoring 	Within 30 days of receiving your full laboratory results for all monitored outfalls during the reporting period.	Electronically using NetDMR
Part 7.5	Annual Report	1/year	By January 30th	Electronically using the NPDES eReporting Tool (NeT) for MSGP
Part 7.6	Exceedance Report for Numeric Effluent Limitations	If applicable	30 days after lab results if 30-day follow-up monitoring indicates exceedance	<p>Follow-up monitoring submitted Electronically using NetDMR</p> <p>Exceedance reports submitted directly to the EPA Regional Office listed in Part 7.9.1 of the permit</p>

Permit Section	Report/Submittal	Frequency	Due Date(s)	Where to Submit
Part 7.7	Additional Reporting (Noncompliance endangering health, reportable quantity spills, etc.)	As necessary	Varies – see Part 7.7	

Appendix P - List of Federal CERCLA Sites

Part 1.1.4.10 of the MSGP has special requirements for discharges to a federal CERCLA site.³

If your facility discharges to one of the federal CERCLA sites listed below, you are ineligible for coverage under this permit, unless you notify the EPA Regional Office in advance and the EPA Regional Office determines that you are eligible for permit coverage. In determining eligibility for coverage under Part 1.1.4.10, the EPA Regional Office may evaluate whether you have included appropriate controls and implementation procedures designed to ensure your discharge will not lead to recontamination of aquatic media at the CERCLA Site, such that it would cause or contribute to a water quality standard exceedance. If it is determined that your facility discharges to a CERCLA Site listed below after you have obtained coverage under this permit, you must contact your applicable EPA Regional Office to develop appropriate controls and/or implementation procedures, as necessary, to ensure that your discharges will not lead to recontamination of aquatic media at the CERCLA Site such that they would cause or contribute to a water quality standard exceedance.

EPA Region 10

The CERCLA Sites and the receiving waters associated with these sites to which the requirements of Part 1.1.4.10 apply are listed in the table below. The areas where the permit applies are enumerated in Appendix C of the permit. For maps of CERCLA sites in Region 10 identified within this table, please check the Region 10 Superfund list viewable at <http://yosemite.epa.gov/R10/cleanup.nsf/sites/cleanuolist>.

Operators who discharge / intend to discharge into the receiving waters listed below must first contact the EPA Regional Office before submitting an NOI. Contact information is viewable at: <http://yosemite.epa.gov/r10/water.nsf/Stormwater/industrial/>.

Similarly, if you have received notice from EPA that the facility to be covered under the MSGP is considered a potential source to a clean up site, you must first contact the Regional EPA office before submitting an NOI.

	Waterbody (HUC code/Watershed)	Superfund Sites CERCLIS ID Latitude / Longitude Major Contaminants
ID	St. Joe River; Coeur d'Alene Lake Basin	St. Maries Creosote IDSFN1002095 47.191697 / -116.343000LPAHs, HPAHs

³ "CERCLA site" means a facility as defined in Section 101(9) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601 (9), that is undergoing a remedial investigation and feasibility study, or for which a Record of Decision for remedial action has been issued in accordance with the National Contingency Plan, 40 C.F.R. Part 300.

WA	Commencement Bay, Puget Sound	Commencement Bay, Near Shore/Tide Flats WAD980726368 47.155998 / -122.245998Dioxins, furans, arsenic, copper, lead, zinc, 4-methyl-phenol, Hex-CB, HPAHs, PCBs, PCE, cadmium, mercury, LPAHs
WA	Duwamish Waterway; Elliott Bay; Puget Sound	Harbor Island (Lead) WAD980722839 47.344584 / -122.210792Lead, arsenic, copper, HPAHs, LPAHs, mercury, PCBs, zinc, TBT
WA	Clam Bay; Puget Sound	Old Navy Dump/ Manchester Lab WA8680030931 47.342798 / -122.325298 PCBs, copper, lead, zinc, silver, 2,4-dimethyl-phenol, PCBs
WA	Elliott Bay; Puget Sound	Pacific Sound Resources WAD009248287 47.345639 / -122.215998LMWPAHs, HMWPAHs, PCBs
WA	Columbia River	Upper Columbia River (T2) WASFN1002171 47.5722 / -118.5846
WA	Puget Sound	Puget Sound Naval Shipyard WA2170023418 47.333298 / -122.384999PCBs, mercury
WA	Puget Sound	Wycoff / Eagle Harbor WAD009248295 47.371798 / -122.310012Mercury, LPAHs, HPAHs,
WA	Duwamish Waterway; Elliott Bay; Puget Sound	Lower Duwamish Waterway (T2) WA0002329803 47.321608 / -122.194040PCBs, PAHs, phthalates, inorganics, mercury, semi-VOCs

Appendix B
NOI and Delegation of Authority Letter

Available at LANL Electronic Reading Room at <http://epr.lanl.gov>



2015 NPDES Multi-Sector General Permit For Stormwater Discharges Associated With Industrial Activity (MSGP) Forms

United States Environmental Protection Agency
1200 Pennsylvania Ave, NW Washington, DC 20460

Note: This is a "smart form"; as you fill out the form, additional questions will appear that you will need to answer.

Permit Information

1. What action would you like to take? *

Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in the Facility Operator Information section of this form requests authorization to discharge pursuant to the NPDES Stormwater Multi-Sector General Permit (MSGP) permit number identified in the Permit Information section of this form. Submission of this NOI also constitutes notice that the operator identified in the Facility Operator Information section of this form meets the eligibility conditions of Part 1.1 of the MSGP for the facility identified in the Facility Information section of this form. To obtain authorization, you must submit a complete and accurate NOI form. Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage.

Operator Name (Organization Name) *

Operator Name as Noted by the NOI Preparer

2. Select the state/territory where your facility is located *

3. Is your facility located on Indian Country lands? *

Yes

No

4. Are you requesting coverage as a "federal operator" as defined in Appendix A? *

Yes

No

5. Are you a new discharger or a new source as defined in Appendix A? *

Yes No

5a. Have stormwater discharges from your facility been covered previously under an NPDES permit? *

Yes No

5aa. Provide your most current NPDES ID (i.e., permit tracking number) if you had coverage under EPA's MSGP 2008 or the NPDES permit number if you had coverage under an EPA individual permit *

NMR05GB21

6. Do you directly discharge to any of the waters of the U.S. that are designated by the state or tribal authority under its antidegradation policy as a Tier 3 water (Outstanding Natural Resource Water) (See Appendix L)? Your project will be considered to discharge to a Tier 3 water if the first water of the US to which you discharge is identified by a state, tribe, or EPA as a Tier 3 water. For discharges that enter a storm sewer system prior to discharge, the first water of the US to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system. *

Yes No

7. Does your facility directly discharge to a Federal CERCLA site listed in Appendix P? For the purposes of this permit, a permittee discharges to a Federal CERCLA site if the discharge flows directly into the site through its own conveyance, or through a conveyance owned by others, such as a municipal separate storm sewer system. *

Yes No

8. Has the Stormwater Pollution Prevention Plan (SWPPP) been prepared in advance of filing this NOI, as required? *

Yes No

9. By indicating "Yes", I confirm that I understand that the MSGP only authorizes the allowable stormwater discharges in Part 1.1.2 and the allowable non-stormwater discharges in Part 1.1.3. Any discharges not expressly authorized under the MSGP are not covered by the MSGP and they cannot become authorized by disclosure to EPA and/or a state via this Notice of Intent to be covered by the permit or by any other means (e.g., in the Stormwater Pollution Prevention Plan or during an inspection). If any discharges requiring NPDES permit coverage other than the allowable stormwater and non-stormwater discharges listed in Parts 1.1.2 and 1.1.3 will be discharged, they must be covered under another NPDES permit. *

Yes No

10. Master Permit Number

NMR050000

A: Facility Operator Information

1. Operator Name (Organization Name) *

LOS ALAMOS NATIONAL LABORATORY

2. Street *

PO Box 1663

3. Supplemental Address

MS K490

4. City *

Los Alamos

5. State *

NM

6. Zip Code *

87545

7. Facility County or Similar Govt. Subdivision *

Los Alamos

8. Phone (10-digits, No dashes) *

5056671312

9. Extension

10. E-Mail *

hbenson@lanl.gov

Operator point of contact information

11. First Name *

Holly

12. Middle Initial

13. Last Name *

Wheeler

14. Professional Title *

Environmental Professional

B: Facility Information

1. Facility Name *

Los Alamos National Laboratory

Facility address same as facility operator address

2. Street/Location *

PO Box 1663

3. Supplemental Address

MS K490

4. City *

Los Alamos

5. State *

NM

6. Zip Code *

87545

7. Facility County or Similar Govt. Subdivision *

Los Alamos

Latitude/Longitude for the facility:

8. Latitude (Decimal Degrees) *

+ 35.872777

9. Longitude (Decimal Degrees) *

- 106.321127

10. Latitude/Longitude Data Source *

Other

11. Horizontal Reference Datum

WGS84

12. What is the ownership type of the facility *

Federal Facility (U.S. Government)

13. Estimated area of industrial activity at your facility exposed to stormwater (to the nearest quarter acre) *

126

Identify the applicable sector and subsector of your primary industrial activity (See Appendix D) that best represents the products produced or services rendered for which your facility is primarily engaged, as defined in the MSGP, and the 4-digit Standard Industrial Classification (SIC) code or 2-letter Activity Code:

15. Sector *

SECTOR AA: FABRICATED METAL PRODUCTS

16. Primary SIC Code *

3449: Miscellaneous Metal Work

17. Subsector

AA1: Fabricated Metal Products, Except Machinery and Transportation Equipment, and Coating, Engraving, and Allied Services.

18. Identify the applicable sectors(s) of any co-located industrial activity for which you are requesting permit coverage.

Sector SECTOR P: LAND TRANSPORTATION AND WAREHOUSING	Subsector * P1: Motor Freight Transportation and Warehousing	Delete Sector
Sector SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES	Subsector * K1: Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operati	Delete Sector
Sector SECTOR A: TIMBER PRODUCTS	Subsector * A4: Wood Products, Not Elsewhere Classified	Delete Sector
Sector SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS	Subsector * D1: Asphalt Paving and Roofing Materials	Delete Sector
Sector SECTOR O: STEAM ELECTRIC GENERATING FACILITIES	Subsector * O1: Steam Electric Generating Facilities, including coal handling sites	Delete Sector
Sector SECTOR F: PRIMARY METALS	Subsector * F4: Nonferrous Foundries (Castings)	Delete Sector
Sector SECTOR N: SCRAP RECYCLING FACILITIES	Subsector * N2: Source-separated Recycling Facility	Delete Sector

22. Is your facility presently inactive and unstaffed? *

Yes No

C: Discharge Information

1. Does your facility discharge into any saltwater receiving waters? *

Yes No

2. What is the hardness of your receiving water(s) (see Appendix J) *

50-74.99 mg/L

3. Identify if the following Effluent Limitation Guideline(s) apply to any of your discharges

40 CFR Part/Subpart: Part 423	Eligible Discharges: Coal pile runoff at steam electric generating facilities	Affected MSGP Sector: O	New Source Date: 11/19/1982, 10/8/1974 ¹	Does your facility have any discharges subject to this effluent limitation guideline? * <input type="radio"/> Yes <input checked="" type="radio"/> No
40 CFR Part/Subpart: Part 429, Subpart I	Eligible Discharges: Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Affected MSGP Sector: A	New Source Date: 1/26/1981	Does your facility have any discharges subject to this effluent limitation guideline? * <input type="radio"/> Yes <input checked="" type="radio"/> No
40 CFR Part/Subpart: Part 443, Subpart A	Eligible Discharges: Runoff from asphalt emulsion facilities	Affected MSGP Sector: D	New Source Date: 7/28/1975	Does your facility have any discharges subject to this effluent limitation guideline? * <input checked="" type="radio"/> Yes <input type="radio"/> No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * + B. Latitude (Decimal Degrees) * - C. Longitude (Decimal Degrees) *

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Delete Pollutant

Pollutant

Delete Pollutant

Pollutant

Delete Pollutant

Pollutant

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

Pollutant *

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

003 + 35.876369 - 106.326492

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? * E. Substantially identical to outfall ID *

Yes No 002

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

5. Multiple Receiving Waters were returned for your outfall. Please select the receiving water that is associated with your outfall from this list: *

LOS ALAMOS CANYON (DP CANYON TO UPPER LANL BND)

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

LOS ALAMOS CANYON (DP CANYON TO UPPER LANL BND)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Aluminum, total [as Al]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant

PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

MERCURY

Pollutant *

Mercury, total [as Hg]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes

No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *

005

+

B. Latitude (Decimal Degrees) *

35.873908

-

C. Longitude (Decimal Degrees) *

106.320709

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes

No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect). *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes

No

4. List the pollutants that are causing the impairment:

Pollutant

Aluminum, total [as Al]

Delete Pollutant

Pollutant

Copper, total [as Cu]

Delete Pollutant

Pollutant
Alpha, total

Delete Pollutant

Pollutant
PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * METALS (OTHER THAN MERCURY) Pollutant * Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * 006 B. Latitude (Decimal Degrees) * 35.874002 C. Longitude (Decimal Degrees) * 106.319825

Lookup Receiving Waters Information Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? * Yes No E. Substantially identical to outfall ID * 005

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant
Aluminum, total [as Al]

Delete Pollutant

Pollutant

Copper, total [as Cu]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant

PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *

009

+

B. Latitude (Decimal Degrees) *

35.874951

-

C. Longitude (Decimal Degrees) *

106.319263

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Aluminum, total [as Al]

Delete Pollutant

Pollutant

Copper, total [as Cu]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant

PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *

007

B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? * Yes No E. Substantially identical to outfall ID *

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? * Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Pollutant

Pollutant

Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant *

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

008 + 35.874306 - 106.318891

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

E. Substantially identical to outfall ID *

009

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S. that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Aluminum, total [as Al]

Delete Pollutant

Pollutant

Copper, total [as Cu]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant
PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *
METALS (OTHER THAN MERCURY)

Pollutant *
Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * 010 + B. Latitude (Decimal Degrees) * 35.874014 - C. Longitude (Decimal Degrees) * 106.318428

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

E. Substantially identical to outfall ID *

009

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect). *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant
Aluminum, total [as Al]

Delete Pollutant

Pollutant
Copper, total [as Cu]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant

PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *

011

+

B. Latitude (Decimal Degrees) *

35.875560

-

C. Longitude (Decimal Degrees) *

106.320764

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

E. Substantially identical to outfall ID *

012

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant
Aluminum, total [as Al]

Delete Pollutant

Pollutant
Copper, total [as Cu]

Delete Pollutant

Pollutant
Alpha, total

Delete Pollutant

Pollutant
PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * METALS (OTHER THAN MERCURY) Pollutant * Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * 012 + B. Latitude (Decimal Degrees) * 35.875506 - C. Longitude (Decimal Degrees) * 106.320842

Lookup Receiving Waters Information Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Aluminum, total [as Al]

Delete Pollutant

Pollutant

Copper, total [as Cu]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant

PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * + B. Latitude (Decimal Degrees) * - C. Longitude (Decimal Degrees) *

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * + B. Latitude (Decimal Degrees) * - C. Longitude (Decimal Degrees) *

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to.
(You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Pollutant

Aluminum, total [as Al]

Delete Pollutant

Pollutant

Copper, total [as Cu]

Delete Pollutant

Pollutant

Alpha, total

Delete Pollutant

Pollutant

PCB IN WATER COLUMN

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Thallium, total [as Tl]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

014 + 35.870641 - 106.316865

Lookup Receiving Waters Information
(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

Delete Outfall

D. Substantially Identical to Any Outfalls Listed Above? * E. Substantially identical to outfall ID *

Yes No 018

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

MORTANDAD CANYON (WITHIN LANL)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

METALS (OTHER THAN MERCURY) Aluminum, total [as Al]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

METALS (OTHER THAN MERCURY) Copper, total [as Cu]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

POLYCHLORINATED BIPHENYLS (PCBS) Polychlorinated biphenyls [PCBs]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

RADIATION Alpha, total

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

013 + 35.870783 - 106.317349

Lookup Receiving Waters Information
(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

Delete Outfall

D. Substantially Identical to Any Outfalls Listed Above? * E. Substantially identical to outfall ID *

Yes No 018

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

MORTANDAD CANYON (WITHIN LANL)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

METALS (OTHER THAN MERCURY) Aluminum, total [as Al]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

METALS (OTHER THAN MERCURY) Copper, total [as Cu]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

RADIATION Alpha, total

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

POLYCHLORINATED BIPHENYLS (PCBS) Polychlorinated biphenyls [PCBs]

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

015 + 35.871403 - 106.316276

Lookup Receiving Waters Information
(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

Delete Outfall

D. Substantially Identical to Any Outfalls Listed Above? * E. Substantially identical to outfall ID *

Yes No 018

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

MORTANDAD CANYON (WITHIN LANL)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

METALS (OTHER THAN MERCURY) Aluminum, total [as Al]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

METALS (OTHER THAN MERCURY) Copper, total [as Cu]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

RADIATION Alpha, total

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * **Delete Pollutant**

POLYCHLORINATED BIPHENYLS (PCBS) Polychlorinated biphenyls [PCBs]

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

016 + 35.872553 - 106.316810

Lookup Receiving Waters Information
(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

Delete Outfall

D. Substantially Identical to Any Outfalls Listed Above? * E. Substantially identical to outfall ID *

Yes No 018

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
METALS (OTHER THAN MERCURY)	Aluminum, total [as Al]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
METALS (OTHER THAN MERCURY)	Copper, total [as Cu]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
METALS (OTHER THAN MERCURY)	Thallium, total [as Tl]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
POLYCHLORINATED BIPHENYLS (PCBS)	Polychlorinated biphenyls [PCBs]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
RADIATION	Alpha, total	

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

017 + 35.872752 - 106.317329

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

E. Substantially identical to outfall ID *

018

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S. that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

METALS (OTHER THAN MERCURY) Aluminum, total [as Al]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

METALS (OTHER THAN MERCURY) Copper, total [as Cu]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

METALS (OTHER THAN MERCURY) Thallium, total [as Tl]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

POLYCHLORINATED BIPHENYLS (PCBS) Polychlorinated biphenyls [PCBs]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

RADIATION

Pollutant *

Alpha, total

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *

019

+

B. Latitude (Decimal Degrees) *

35.872668

-

C. Longitude (Decimal Degrees) *

106.318428

Lookup Receiving Waters Information

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

Delete Outfall

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

E. Substantially identical to outfall ID *

018

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Aluminum, total [as Al]

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Copper, total [as Cu]

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

POLYCHLORINATED BIPHENYLS (PCBS)

Pollutant *

Polychlorinated biphenyls [PCBs]

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
METALS (OTHER THAN MERCURY)	Thallium, total [as Tl]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
RADIATION	Alpha, total	

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *	B. Latitude (Decimal Degrees) *	C. Longitude (Decimal Degrees) *	Lookup Receiving Waters Information	Delete Outfall
051	+ 35.830145	- 106.242675		

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

PAJARITO CANYON (IN LANL BELOW ARROYO DE LA DELFE)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
METALS (OTHER THAN MERCURY)	Aluminum, total [as Al]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *	Pollutant *	Delete Pollutant
METALS (OTHER THAN MERCURY)	Copper, total [as Cu]	

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

POLYCHLORINATED BIPHENYLS (PCBS)

Pollutant *

Polychlorinated biphenyls [PCBs]

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID *

072

+

B. Latitude (Decimal Degrees) *

35.832885

-

C. Longitude (Decimal Degrees) *

106.239443

Lookup Receiving Waters Information

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

Delete Outfall

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

CANADA DEL BUEY (WITHIN LANL)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

METALS (OTHER THAN MERCURY)

Pollutant *

Aluminum, total [as Al]

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

POLYCHLORINATED BIPHENYLS (PCBS)

Pollutant *

Polychlorinated biphenyls [PCBs]

Delete Pollutant

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

RADIATION

Pollutant *

Alpha, total

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Outfalls

4. List all of the stormwater outfalls from your facility. Each outfall must be identified by a unique 3-digit ID (e.g., 001, 002) or a 4-digit ID. Also provide the latitude and longitude in decimal degrees for each outfall.

A. Outfall ID * B. Latitude (Decimal Degrees) * C. Longitude (Decimal Degrees) *

020 + 35.872251 - 106.316273

Lookup Receiving Waters Information

Delete Outfall

(This button will prepopulate the receiving water information associated with your outfall on your form. You may edit the information that is returned if you believe it is incorrect)

D. Substantially Identical to Any Outfalls Listed Above? *

Yes No

If for any reason the Lookup Receiving Water Information button does not prepopulate your form with receiving waters information, you must manually enter the information on your form.

Outfall Section

1. Provide the name of the first water of the U.S that receives stormwater directly from the outfall and/or from the MS4 that the outfall discharges to. (You may edit the name of the water of the U.S. that was returned if incorrect.) *

SANDIA CANYON (SIGMA CANYON TO NPDES OUTFALL 001)

2. Is the receiving water listed as impaired on the 303(d) list and in need of a TMDL? *

Yes No

4. List the pollutants that are causing the impairment:

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

METALS (OTHER THAN MERCURY) Aluminum, total [as Al]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

METALS (OTHER THAN MERCURY) Copper, total [as Cu]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

METALS (OTHER THAN MERCURY) Thallium, total [as Tl]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group * Pollutant * Delete Pollutant

POLYCHLORINATED BIPHENYLS (PCBS) Polychlorinated biphenyls [PCBs]

Please select the cause group and pollutant for which the waterbody is impaired:

Cause Group *

RADIATION

Pollutant *

Alpha, total

Delete Pollutant

Add Impairment Pollutant Associated with this Waterbody

3. Has a TMDL been completed for this receiving waterbody? *

Yes No

Add Another Outfall

Provide the following information about your outfall latitude longitude.

5. Latitude/Longitude Data Source *

GPS

6. Horizontal Reference Datum

NAD83

7. Does your facility discharge into a Municipal Separate Storm Sewer System (MS4)? *

Yes No

8. Do you discharge to any of the waters of the U.S. that are designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) (See Appendix L)? *

Yes No

D: Stormwater Pollution Prevention Plan (SWPPP) Information

SWPPP Contact Information

1. First Name *

Holly

2. Middle Initial

3. Last Name *

Wheeler

4. Professional Title *

Environmental Professional

5. Phone (10-digits, No dashes) *

5056671312

6. Extension

7. E-Mail *

hbenson@lanl.gov

8. Your current SWPPP or certain information from your SWPPP must be made available through one of the following two options. Select one of the options and provide the required information. *

Note: You are not required to post any confidential business information (CBI) or restricted information (as defined in Appendix A) (such information may be redacted), but you must clearly identify those portions of the SWPPP that are being withheld from public access.

Option 1: Maintain a Current Copy of your SWPPP on an Internet page (Universal Resource Locator or URL).

Provide the web address URL *

epr.lanl.gov

Option 2: Provide the following information from your SWPPP.

E: Endangered Species Protection

1. Using the instructions in Appendix E of the MSGP, under which endangered species criterion listed in Part 1.1.4.5 are you eligible for coverage under this permit? *

Criterion D – A separate ESA section 7 consultation has been completed

2. Provide a brief summary of the basis for the criterion selected in Appendix E (e.g., communication with U.S. Fish and Wildlife Service or National Marine Fisheries Service to determine no species in action area; implementation of controls approved by EPA and the Services). *

Direct consultation with the U.S. Fish and Wildlife Service and corresponding development and implementation of a facility-specific Habitat Management Plan.

You must attach copies of any letters or other communications with the U.S. Fish and Wildlife Service or National Marine Fisheries Service on the attachments screen after you click "Submit Now"

F: Historic Preservation

1. If your facility is not located in Indian country lands, is your facility located on a property of religious or cultural significance to an Indian tribe? *

Yes No

1a. If yes, provide the name of the Indian tribe associated with the property *

San Ildefonso Pueblo

2. Using the instructions in Appendix F of the MSGP, under which historic properties preservation criterion listed in Part 1.1.4.7 are you eligible for coverage under this permit? *

Criterion B - Subsurface stormwater controls will not affect historic properties

Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. 40 CFR 122.22 (d)

Certifier E-Mail *

ADORRIES@LANL.GOV

Form Action *

Approve



Environmental Protection Division
Environmental Compliance Programs (ENV-CP)
PO Box 1663, K490
Los Alamos, New Mexico 87545
(505) 667-0666

Date: **OCT 29 2015**
Symbol: ENV-DO-15-0309
LA-UR: 15-28383
Locates Action No.: N/A

Mr. Brent Larsen
Water Quality Protection Division (6WQ)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Dear Mr. Larsen:

Subject: National Pollutant Discharge Elimination System (NPDES) Permit Tracking No. NMR053195, Multi-Sector General Permit (MSGP) Notice of Intent (NOI) Reporting Pursuant to Part B.12.H.

In submitting a NOI for coverage under the new NPDES Multi-Sector General Permit, Los Alamos National Security (LANS) experienced significant problems with EPA's NeT NPDES eReporting Tool which resulted in certification of the NOI on September 3 and initial submission of a NOI with incomplete outfall attribute data and incorrect information. During this time LANS staff contacted EPA's NOI Processing Center for support and was given the recommendation to contact Region 6 personnel for further guidance. Per this direction, on September 1, 2015, Terrill Lemke left you a voicemail summarizing the issues and potential impacts of the difficulties experienced with the new electronic reporting system. For additional clarification, the following is a summary of the timeline of events associated with the NOI submission.

- Monday, August 31, 2015
 - Initiated NOI submission using the NeT NPDES eReporting Tool.

- As data was entered into each data field on the NOI form, the Tool was very slow in processing the data and allowing entry into the next field. This created a significant waiting time.
- Upon reaching the fields on the NOI form where outfall attribute data was entered the Tool began to randomly crash, repeatedly deleting all unsaved data.
- Tuesday, September 1, 2015
 - Tool continued to be very slow and randomly crash, repeatedly deleting all unsaved data.
 - For each outfall, when listing the constituents associated with impaired waters, the Tool's auto population feature initially displayed incorrect data which required additional editing and then eventually stopped functioning and caused the Tool to crash.
 - Much of the outfall attribute data had to be reentered multiple times before it was possible to successfully save it to the system.
 - After each save or Tool crash the eReporting Tool would close the NOI form. The time required for the Tool to repeatedly reopen the form made data entry very time consuming.
 - LANS staff contacted the EPA NOI Processing Center on the afternoon of Sept 1 for technical support:
 - NOI Processing Center staff stated that they had been "flooded" with calls over the past week on Tool problems.
 - LANS staff expressed their concern about the length of time being required to enter data and the potential inability to complete the NOI form by the Sept 2 deadline. No solution was available.
 - LANS staff explained the difficulty with entering outfall information for 73 outfalls and NOI Processing Center staff stated that they had received numerous calls on problems with entering outfall data and that some permittees couldn't even enter 20 outfalls.
 - NOI Processing Center staff recommended contacting Regional personnel to notify them of the situation and to seek additional guidance.
 - The eReporting Tool went down at approximately 3:30 pm MDT and remained down until after 9 pm MDT. This eliminated the opportunity to input data during normal business hours.
- Wednesday, September 2, 2015
 - Continued decrease in the performance of the eReporting Tool.
 - Increase in the time for the Tool to process information after entry of each item of data.
 - Increased frequency in the Tool crashing.
 - For each outfall, when listing the constituents associated with impaired waters, the form had to be saved after entry of each individual constituent. Entry of more than one constituent without saving would cause the Tool to crash.

- With the decreased performance of the eReporting Tool LANS staff contacted the EPA NOI Processing Center for direction and Processing Center staff stated the following:
 - They were aware of the problems with the Tool but could provide no solutions or technical direction.
 - They had been reporting daily to EPA on the problems and EPA was definitely aware of the issues.
 - When asked about taking the Tool down at 3:30 MDT on Sept. 1, staff stated that they thought the programmers may have taken the system down to assess the problems.
 - Stated again that they had received many calls about technical issues with the Tool.
 - The more data that was entered the slower the Tool would get.
 - When asked again about the possibility that LANS may not be able to get all information into the NOI, staff stated that LANS would be able to access the submitted NOI to modify/add data after the 30 day waiting period.
- eReporting Tool went down again at 3:30 pm MDT and did not come back up until after 10 pm MDT, again eliminating the opportunity to input data during normal business hours.
- The LANS NOI with all information except some remaining outfall attribute data was submitted by the Preparer at 10:50 pm MDT.
 - The LANS NOI certification signatory was prepared to certify the NOI at this time but didn't get notification that the NOI was ready for certification until 9:37 am MDT on Sept. 3, almost 11 hours later.
 - The NOI was certified on Sept 3, 2015.

Additionally, the NeT NPDES eReporting Tool did not provide dissolved Thallium as a constituent option, but only allowed the selection of total Thallium as an impaired water pollutant under a "Cause Group" when "Metals (other than Mercury)" was selected from the drop down menu. This resulted in LANS having to enter total Thallium as an impaired water pollutant in error for the following outfalls: 002, 005, 006, 007, 008, 009, 010, 011, 012, 016, 017, 018, 019, and 020. LANS appreciates any assistance you may have relative to the total Thallium vs. dissolved Thallium issue. During a subsequent quality assurance evaluation, LANS staff also determined that total Copper was erroneously entered as an impaired water pollutant for outfall 051 and needs to be deleted from the NOI.

LANS is committed to maintaining compliance with the MSGP requirements. Per Section B.12.H of the MSGP, the LANS NOI will be modified to include the remaining outfall attribute data that could not be included on the initial submission and to delete Copper as an impaired water pollutant for outfall 051. LANS coverage under the 2015 MSGP became effective on October 3, 2015, and with the NOI now accessible, actions to update the NOI have been initiated.

Mr. Brent Larsen
ENV-DO-15-0309

- 4 -

Any additional direction or guidance you may have would be appreciated. Please contact Terrill W. Lemke at (505) 665-2397 of the Environmental Compliance Programs (ENV-CP) if you have any questions.

Sincerely,



Anthony R. Grieggs
Group Leader
Environmental Compliance Programs (ENV-CP)
Los Alamos National Security, LLC

ARG:MTS:TWL:HLW/lm

Cy: Nasim Jahan, USEPA/Region 6, Dallas, TX, (E-File)
Bruce Yurdin, NMED/SWQB, Santa Fe, NM, (E-File)
Gene E. Turner, LASO-NS-LP, (E-File)
Jordan Arnsward, LASO-NS-PI, (E-File)
Kirsten Laskey, EM-LA, (E-File)
Craig Leasure, PADOPS, (E-File)
Amy E. De Palma, PADOPS, (E-File)
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
Alison M. Dorries, ENV-DO, (E-File)
Michael T. Saladen, ENV-CP, (E-File)
Terrill W. Lemke, ENV-CP, (E-File)
Holly L. Wheeler, ENV-CP, (E-File)
Timothy A. Dolan, LC-ESH, (E-File)
lasomailbox@nnsa.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
env-correspondence@lanl.gov

From: [Lemke, Terrill W](#)
To: [Wheeler, Holly Lynn](#); [Grieggs, Tony](#)
Subject: FW: EPA Multi-Sector General Permit (MSGP) Authorization is Active – Los Alamos National Laboratory, NPDES ID: NMR053195, NeT Submission ID: MSGP-3095
Date: Monday, October 05, 2015 8:22:15 AM
Attachments: [AcceptedNewNOIReceipt.pdf](#)

Terrill Lemke, PE, CPESC, CISEC
Environmental Compliance Programs
Los Alamos National Laboratory
Los Alamos, NM
Office: 505-665-2397
Cell: 505-699-0725

From: NeT@epa.gov [mailto:NeT@epa.gov]
Sent: Saturday, October 03, 2015 5:48 PM
To: Dorries, Alison Marie
Cc: Lemke, Terrill W; lee.won@epa.gov; lescure.nasrin@epa.gov; emily@avanticorporation.com; farris.erika@epa.gov; Christiane@avanticorporation.com; bius.catherine@epa.gov
Subject: EPA Multi-Sector General Permit (MSGP) Authorization is Active – Los Alamos National Laboratory, NPDES ID: NMR053195, NeT Submission ID: MSGP-3095

2015-10-03

Your Notice of Intent (NOI) requesting coverage for Los Alamos National Laboratory, PO Box 1663 MS K490 Los Alamos NM 87545 under EPA's Multi-Sector General Permit (MSGP) has been accepted and authorization to discharge under the MSGP became effective at the conclusion of your 30-day waiting period, on 2015-10-03.

For tracking purposes, the following NPDES ID has been assigned to your NOI: NMR053195. Attached to this email, you will find a copy of your completed NOI form. To access your NOI in NeT, please visit: https://cdx.epa.gov/epa_home.asp.

As you know, the MSGP requires you to have developed a Stormwater Pollution Prevention Plan (SWPPP) prior to submitting your NOI. The MSGP also includes specific requirements for implementing control measures (e.g., minimize exposure, good housekeeping, maintenance, spill prevention and response), conducting self-inspections and visual assessments of your discharges, taking corrective actions, and conducting staff training. You must comply with any specific requirements applicable to your industrial sector(s) in Part 8 and any state/tribal-specific requirements in Part 9 (see <http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>). You are also required to submit an Annual Report in accordance with Part 7.5 of the MSGP that will contain the results from your past year's routine facility inspections, quarterly visual assessments, and corrective actions. Annual Reports must be submitted to EPA through NeT.

The MSGP includes five types of required analytical monitoring, one or more of which may apply to your discharge:

- Quarterly benchmark monitoring (see Part 6.2.1 and Part 8);
- Annual effluent limitations guidelines monitoring (see Part 6.2.2 and Part 8);
- State- or tribal-specific monitoring (see Part 6.2.3 and Part 9);
- Impaired waters monitoring (see Part 6.2.4); and
- Other monitoring as required by EPA (see Part 6.2.5).

Monitoring requirements in the MSGP (i.e., parameters required to be monitored and sample frequency) will be prepopulated on your electronic Discharge Monitoring Report (DMR) in EPA's NetDMR system, which is accessed at <http://www.epa.gov/netdmr/>. Where you have determined that no monitoring requirements apply to your discharge, there is no need to access the NetDMR system. In order to obtain access to this system, you must complete the electronic signature process. Please refer to the following guidance for information about submitting monitoring reports through NetDMR:

<http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-eNOI-System-for-EPAs-MultiSector-General-Permit.cfm>.

Please note that this email does not represent a determination by EPA regarding the validity of the information you provided in your NOI. Your eligibility for coverage under this permit is based on the validity of the certification you provided. Your electronic signature on the NOI form certifies that you have read, understood, and are implementing all of the applicable requirements. An important aspect of this certification requires that you have correctly determined whether you are eligible for coverage under this permit.

The 2014 MSGP and additional guidance are available at:

<http://water.epa.gov/polwaste/npdes/stormwater/EPA-Multi-Sector-General-Permit-MSGP.cfm>. Please contact your EPA Regional permitting authority at lee.won@epa.gov; lescure.nasrin@epa.gov; emily@avanticorporation.com; farris.erika@epa.gov; Christiane@avanticorporation.com; bius.catherine@epa.gov for more information.

This is an automated response; please do not reply to this email.



Associate Director for ESH

ADESH

P. O. Box 1663, MS K491

Los Alamos, New Mexico 87545

505-667-4218/Fax 505-665-3811

Date: AUG 14 2013

Symbol: ADESH-13-041

LAUR: 13-25954

Mr. Ron Curry, Regional Administrator
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Mail Code: 6RA
Dallas, TX 75202-2733

Dear Mr. Curry:

SUBJECT: NOTIFICATION OF LOS ALAMOS NATIONAL SECURITY, LLC SIGNATORY OFFICIAL AND AUTHORIZED REPRESENTATIVES FOR NPDES STORMWATER GENERAL PERMITS AND LANL INDUSTRIAL POINT SOURCE OUTFALL PERMIT (NPDES PERMIT NO. NM0028355)

The purpose of this letter is to provide an update to the Environmental Protection Agency (EPA) Region 6 on the signatory authority for the operator of Los Alamos National Laboratory (LANL) NPDES permits. Los Alamos National Security, LLC (LANS) has been the Laboratory's management and operation contractor since June 1, 2006 and is also a co-permittee with the Department of Energy under the LANL Industrial Point Source Outfall Permit (NPDES Permit No. NM0028355).

The positions of Associate Director of Environmental, Safety, and Health (ADESH), Deputy Associate Director, and Division Leader of the Environmental Protection Division (ENV-DO) are hereby identified as LANS's primary signatory officials under 40 CFR 122.22(a) for certifying and signing permit applications and reports required under the LANL Industrial Point Source Outfall Permit (NPDES Permit No. NM0028355) and the NPDES Stormwater Construction and Multi-Sector General Permits.

The following positions are hereby designated as authorized representatives under 40 CFR 122.22(b) to sign reports, Storm Water Pollution Prevention Plans, and any other compliance documentation required by the permits:

Construction General Permit:

- Group Leader of the Laboratory's Environmental Compliance Programs Group.
- Cognizant Project Manager, Project or Field Engineer, or Subcontractor Technical Representative for the regulated construction activity.

- Responsible Facility Operations Director (FOD), Deputy FOD, or Operations Manager responsible for the overall operation of the regulated facility or construction activity.

Multi-Sector General Permit (No. NMR05GB21) & Industrial Point Source Outfall Permit (No. NM0028355):

- Group Leader of the Laboratory's Environmental Compliance Programs Group.
- Division Leader, Deputy Division Leader, or Group Leader of the LANL division responsible for the overall operation of the regulated facility or activity.
- Responsible FOD, Deputy FOD or Operations Manager responsible for the overall operation of the regulated facility or activity.
- Group Leader in the ESH Deployed Services Division assigned to the regulated facility.

This letter supersedes and replaces the signatory authority letter dated March 2, 2009 (See Enclosure 1) with respect to the LANL Industrial Point Source Outfall Permit, the Construction General Permit, and the Multi-Sector General Permit, and is submitted to notify the EPA of the current authorized representatives pursuant to 40 CFR 122.22(c).

Please contact Alison M. Dorries, Division Leader for the Environmental Protection Division, at (505) 665-6592, if you have questions.

Sincerely,



Michael T. Brandt, DrPH, CIH
Associate Director
Environment, Safety & Health

MTB:AMD:MTS/lm

Enclosure:

1. Delegation of "Authorized Representative" for the Clean Water Act (CWA) and NPDES Storm Water Permits and Industrial Outfall Permit by Los Alamos National Security, LLC (LANS) Memo

CY: Diana McDonald, USEPA, Region 6, Dallas, TX
Isaac Chen, USEPA, Region 6, Dallas, TX
Jan Walker, USEPA, Region 6, Dallas, TX
Brent E. Larsen, USEPA, Region 6, Dallas, TX
Bruce Yurdin, NMED/SWQB, Santa Fe, NM
Gene Tuner, NA-OO-LA, (E-File)
David Sosinski, LC-DO, (E-File)
Carl A. Beard, PADOPS, A102
Alison M. Dorries, ENV-DO, (E-File)

Appendix C

Maps

Stormwater Pollution Prevention Plan (SWPPP)
 TA-60-002 Salvage and Warehouse Area
 Los Alamos National Laboratory

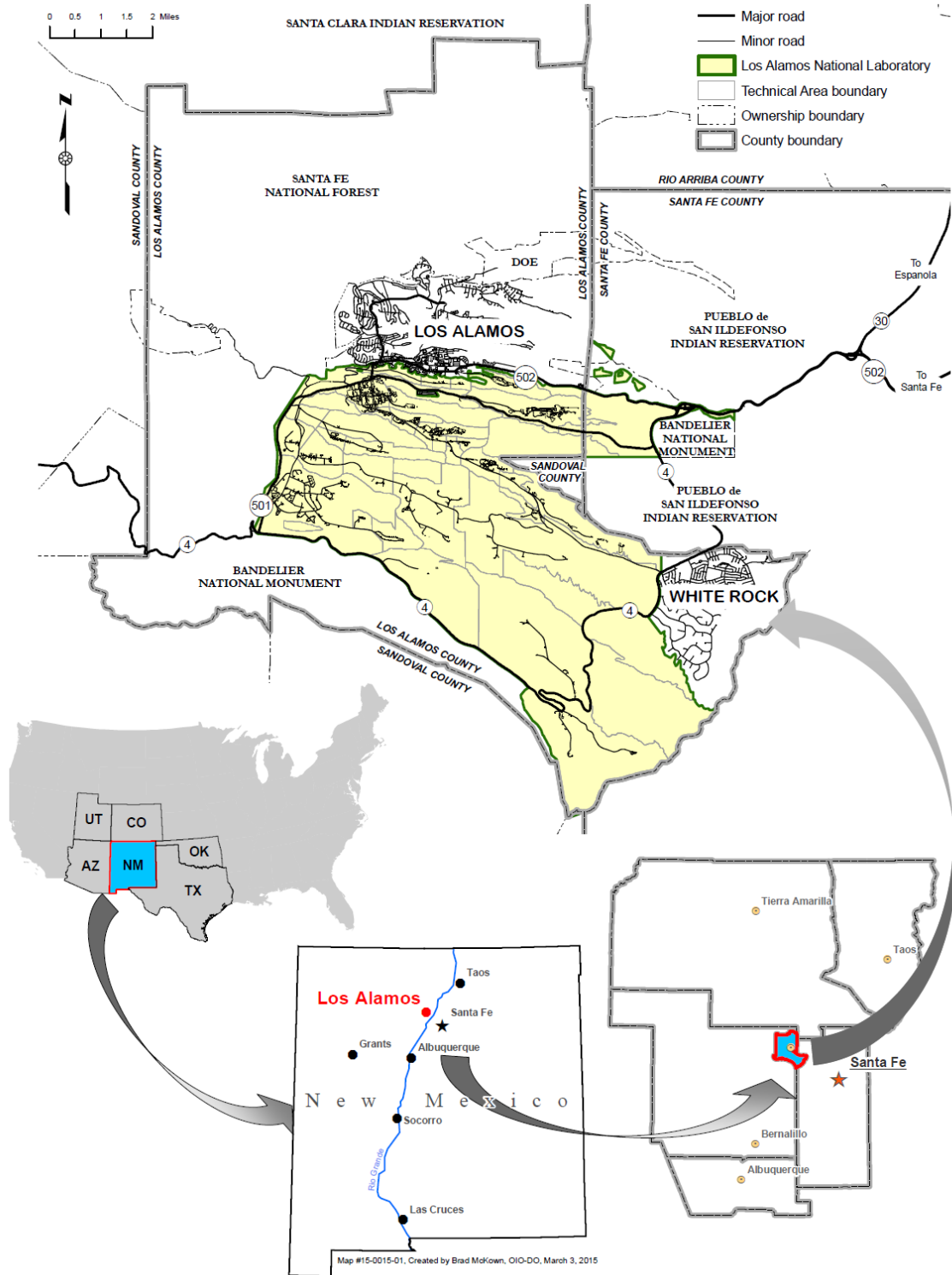
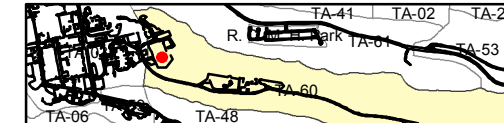


Figure C-1, General Location Map

**TA-60 SALVAGE YARD
WAREHOUSE AREAS
OPERATIONAL SWPPP**
6.01 acres, <95% impervious surface
TA-60



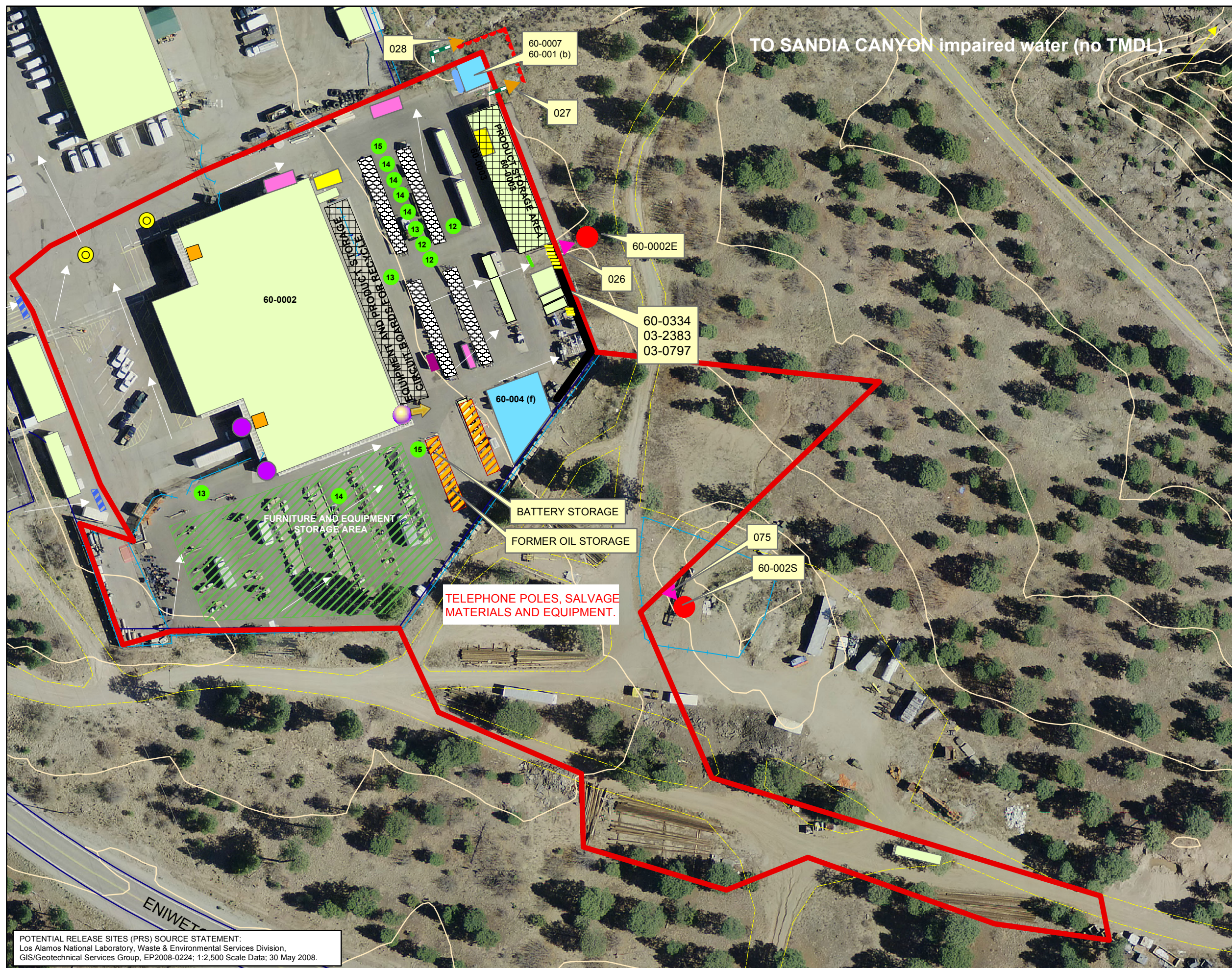
LEGEND

	OUTFALL_Substantially Identical
	MONITORED OUTFALL
	MSGP SAMPLER
	SPILL (WITH YEAR)
	DRAIN EXIT
	MANHOLE
	STORM DRAIN
	ROOF DRAIN
	DRAINAGE PATTERN
	DIRECTION OF FLOW
	EARTHEN BERM
	FACILITY BOUNDARY
	PAVED ROADS (ASPHALT)
	FENCES
	20 FT CONTOURS
	CULVERT
	SLOTTED DRAIN
	ECO-BLOCKS
	ROCK LINING IN OUTFALLS
	COVERED/CANOPIED STORAGE
	LOAD / UNLOADING AREA
	METAL PRODUCT STORAGE
	RUN ON POINT
	GRAVEL BAGS
	DUMPSTER
	SALT STORAGE
	PRS
	SECONDARY CONTAINMENT
	STRUCTURES



U12031 Rev.1

Classification: U Reviewer: Harold Salazar Date: 12-17-15



POTENTIAL RELEASE SITES (PRS) SOURCE STATEMENT:
Los Alamos National Laboratory, Waste & Environmental Services Division,
GIS/Geotechnical Services Group, EP2008-0224; 1:2,500 Scale Data; 30 May 2008.

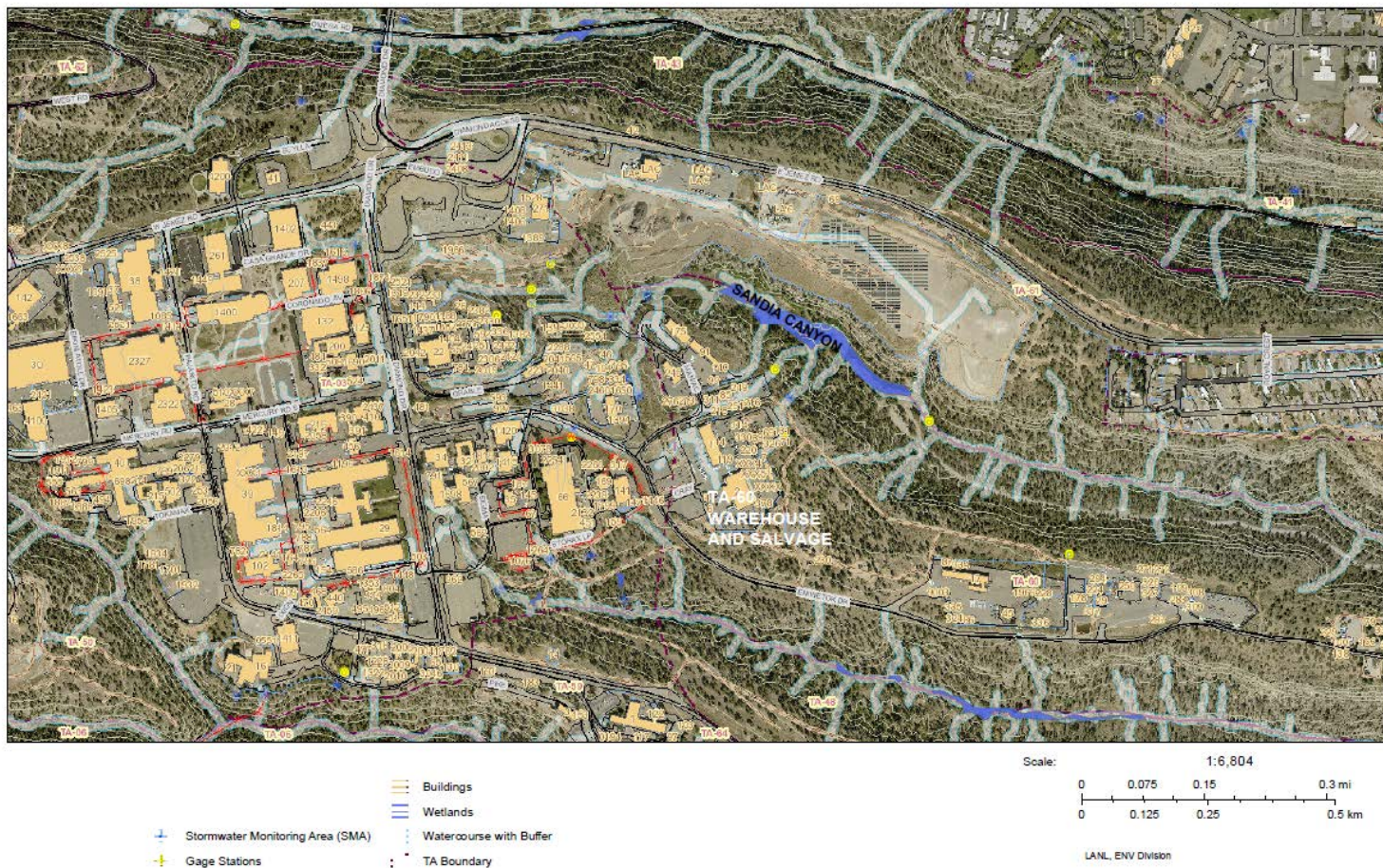


Figure C-3, TA-60-002 Salvage and Warehouse Area Receiving Waters

Appendix D

Non-Storm Water Discharge Assessment and Certification

NON-STORM WATER DISCHARGE TA 60-0002 Salvage / Warehouse					Completed by: <u>Cliff Heintschel</u>	
ASSESSMENT AND CERTIFICATION					Title: <u>DEP</u>	
					Date: <u>8/25/15</u>	
Date of Evaluation	Outfall Directly Observed During the Test (Location)	Identify Potential Significant Sources of Non- Storm Water	Method Used to Test or Evaluate Discharge	Is Non-Storm Water Present?	How Often?	Describe Results from Test for the Presence of Non-Storm Water Discharge
<u>8/25/15</u>	<u>026</u>	<u>None</u>	<u>Visual</u>	<u>No</u>	<u>N/A</u>	<u>Negative</u>
<p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and completed. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <p>Name & Official Title: <u>Russell Stone ESH Manager U.S. FOD</u></p> <p>Signature: <u>Russell Stone</u> Date Signed: <u>8/25/2015</u></p>						

Appendix E

Monitoring Data

Salvage and Warehouse Area Stormwater Sampling Data 2009-2015

Location ID	Date Sampled	Parameter Name	Report Result	Report Units	Detected
60-0002E	04/20/2010	Mercury	0.066	ug/L	N
60-0002E	04/20/2010	Gross alpha	15.8	pCi/L	Y
60-0002E	04/20/2010	Aroclor-1242	0.037	ug/L	N
60-0002E	04/20/2010	Aluminum	6840	ug/L	Y
60-0002E	04/20/2010	Aroclor-1016	0.037	ug/L	N
60-0002E	04/20/2010	Aroclor-1262	0.037	ug/L	N
60-0002E	04/20/2010	Aroclor-1221	0.037	ug/L	N
60-0002E	04/20/2010	Aroclor-1254	0.037	ug/L	N
60-0002E	04/20/2010	Aroclor-1260	0.037	ug/L	N
60-0002E	04/20/2010	Aroclor-1232	0.037	ug/L	N
60-0002E	04/20/2010	Aroclor-1248	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1248	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1232	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1221	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1260	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1254	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1262	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1242	0.037	ug/L	N
60-0002E	08/28/2010	Aroclor-1016	0.037	ug/L	N
60-0002E	08/28/2010	Aluminum	217	ug/L	Y
60-0002E	08/28/2010	Gross alpha	3.74	pCi/L	N
60-0002E	08/28/2010	Mercury	0.066	ug/L	N
60-0002E	04/07/2011	Copper	70.4	ug/L	Y
60-0002E	05/05/2015	Thallium	0.45	ug/L	N

Appendix F
Maintenance/Repair Records

Table for Tracking Past and Future Spills

Date	Spill Location	What Spilled	Quantity Spilled	Corrective Action Taken	Plans to Prevent Recurrence

Appendix G
Training Records

2015 MSGP Corrective Actions

Presented by
Terrill Lemke and Holly Wheeler

Environmental Protection Division
Compliance Programs (ENV-CP)

December 01, 2015

Agenda

- Definition of Corrective Action
- What triggers a corrective action
- Examples of issues requiring corrective actions
- Timeframes to address corrective actions
- 45 Day Extension
- Corrective action process
- Results of initial inspection
- Suggestions
- Expectations and questions
- Request for other topics

Corrective Action

Definition: “Any action taken, or required to be taken, to

- (1) repair, modify, or replace any stormwater control used at the site;
- (2) clean up and dispose of spills, releases, or other deposits found on the site;
- (3) remedy a permit violation.

What Triggers A Corrective Action?

- Unauthorized release or discharge
- Discharge that violated a numeric effluent limit
- Control measures that are not stringent enough to ensure stormwater discharges meet Water Quality Standards.
 - These are the threshold values in your SWPPPs
- Visual assessment that shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam)
- Failure to meet any permit condition or those specified in the site specific SWPPP

Examples of Issues Requiring Corrective Action



Examples of Issues Requiring Corrective Action (continued)



Operated by Los Alamos National Security, LLC for NNSA



Timeframes to address new corrective actions

- Shall Immediately take action upon identification of an issue
 - Immediately is the **same day a condition is found**
 - If found after 3:00 pm, action must be taken **the next work day**
- If follow-up action is needed – before the next storm event or within 14 calendar days
- If finalization of CA is not feasible within 14 days the following is required
 - Documentation of why it is not feasible to close the CA within this timeframe
 - A formal schedule for completion of the action A.S.A.P. **but no longer than 45 days after discovery**

45 Day Extension

- If a CA is expected to exceed the 45 day timeframe (as identified above) the DEP shall provide ENV-CP the following information
 - Rationale for an extension (e.g., a defensible position that does not put LANS at risk)
 - Provide a realistic completion date
 - Take the minimum additional time necessary to complete the corrective action.
- Where a corrective action results in a change to any control measure or procedure the SWPPP must be modified within 14 calendar days of the day the CA was closed.

Corrective Action Process

- Identification of an issue either during routine operations or during an inspection
 - Notify the Deployed Environmental Professional
 - Take immediate action
 - Record the issue and corrective action
 - Enter the issue into the MSGP Corrective Action Report (CAR) Database
 - Propose a completion date
 - System notifies FOD, DSESH Manager, and ENV-CP of new CA
 - Follow-up and completion of corrective action
 - Perform work and record completed activities and date of completion in the database
 - Database automatically sends e-mail notifications to key personnel every 30 days until corrective actions are closed (process may change/compress in the future)

Corrective Action Process (continued)

- Follow-up and completion of corrective action (continued)
 - If CA is expected to exceed 14 days, enter a schedule for completion in the database
 - At about day 30, ENV-CP will be contacting the DEP for the following information:
 - Rationale for a 45 day extension
 - Realistic completion date taking the minimum amount of time necessary
 - Letter will be sent to Region 6 EPA **prior** to the 45th day.
 - ENV-CP will track progress according to the schedule provided in the 45 day extension letter
 - If timeframes in the letter are exceeded, it is a permit non-compliance.

Results of initial inspection

- Started with 40 corrective actions with potential to exceed 45 day timeframe
- Corrective action initiated well into the 45-day period (not started immediately)
- Three CA's reported to Region 6 EPA with rationale and completion dates.
 - Took numerous phone calls and discussions up the management chain to the AD level to accomplish this
 - Not efficient use of resources
 - Must strive for proactivity, not reactivity
- One was closed within identified timeframe
- One has exceeded the completion date reported to EPA
- One must be addressed by this Friday
- EPA will consider the appropriateness and promptness of corrective action in determining enforcement response to permit violations

Suggestions for Improvements?

- How does the institution speed up the corrective action process?
 - Improve the FSR system?
 - Flag compliance driven work
 - Allow compliance driven work to move through system without cost code or automatically be assigned a specific cost code
 - Use Maintenance Connection to push out work order to DEPs with deadline and notification to managers
 - What are the barriers you face in taking immediate action and/or completing work within 14 days?
 - How do we improve this? Ideas?

Expectations

- Be timely and diligent in implementing 2015 MSGP requirements at your facilities
 - **Plan ahead for budget & resources**
- Look for opportunities to streamline and improve processes
- Ask for help



Questions?

Requests for Other Topics?

ENV-CP

Training Topic: 2015 MSGP Corrective Action Training

Date: December 1, 2015

Place: TA-59-116-117

Training Called By: Sue Terp, ENV-ES DEP Monthly Meeting

Training Given By: Holly Wheeler and Terrill Lemke, ENV-CP

<u>Name</u>	<u>Z#</u>	<u>Organization</u>	<u>Mail Stop</u>	<u>Phone</u>	<u>Cell</u>	<u>Pager</u>
Stephen Cossey	122057	DSESH-TASS	K571	5-8893	500-6614	4-5791
David Paulson	193689	DSESH-LFO	H418	5-8884	930-7347	—
Summit Cohen	296203	ENV-ES		5-8866	231-5385	—
SUSAN TERP	097044	ENV-ES	K478 ⁵⁹⁷⁸	5-8889	—	—
STEPHANIE RECHMAN	104588	DSESH-DO	K481	7-4779	699-0727	
Bill O'Neill	240098	DSESH-UI		412-5705	→	
Pattie Baucom	206967	DSESH-LFO	H418	7-3905		
Lauren Massengill	292621	DSESH-STO	'	7-2964		
Kari Schoenberg	243198	DSESH-STO		7-1623		
Marc Gallegos	172470	DSESH-STO	K478	5-9050	500-2466	—

Appendix H

Inspection Forms

Stormwater Pollution Prevention Plan (SWPPP)
TA-60-002 Salvage and Warehouse Area
Los Alamos National Laboratory

MSGP Quarterly Visual Assessment Form

Complete a separate form for each outfall you assess. When adverse weather conditions prevent the collection of a sample during the quarter, a substitute sample must be taken during the next qualifying storm event. Maintain this document in your SWPPP).

Name/Location of Facility:	Permit Number: NMR05GB21	Inspection Quarter: <input type="checkbox"/> Apr-May <input type="checkbox"/> Jun-July <input type="checkbox"/> Aug-Sep <input type="checkbox"/> Oct-Nov
----------------------------	-----------------------------	---

Outfall ID:	"Substantially Identical Outfall"? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES identify other Outfalls in the Group:
-------------	---	--

Person(s) collecting sample (PRINT):	Signature :
PPT Member? <input type="checkbox"/> Yes <input type="checkbox"/> No	

Person(s) examining sample (PRINT):	Signature :
PPT Member? <input type="checkbox"/> Yes <input type="checkbox"/> No	

Date & Time Discharge Began:	Date & Time Sample Collected:	Date & Time Sample Examined:
------------------------------	-------------------------------	------------------------------

Substitute Sample? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, identify quarter/year when sample was originally scheduled to be collected:
---	---

Was the sample collected in the first 30 minutes? Yes No If No, explain why not:

Nature of Discharge: Rainfall. Amount _____ inches Snowmelt. Amount _____ inches

Previous Storm Ended > 72 hours Before Start of This Storm? <input type="checkbox"/> Yes <input type="checkbox"/> No	If No, Explain: *
--	-------------------

PARAMETERS

Color	<input type="checkbox"/> None <input type="checkbox"/> Other	If Other describe:
Odor	<input type="checkbox"/> None <input type="checkbox"/> Musty <input type="checkbox"/> Sewage <input type="checkbox"/> Sulfur <input type="checkbox"/> Sour <input type="checkbox"/> Solvents <input type="checkbox"/> Petroleum/Gas <input type="checkbox"/> Other	If Other, describe the odor:
Clarity:		
<input type="checkbox"/> Clear <input type="checkbox"/> Slightly Cloudy <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque <input type="checkbox"/> Other (describe):		
Floating Solids:	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, describe if raw or waste materials(s):
Settled Solids:**	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, are solids Fine <input type="checkbox"/> Coarse <input type="checkbox"/> If Other describe:
Suspended Solids:	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, are solids Fine <input type="checkbox"/> Coarse <input type="checkbox"/> If Other describe:
Foam (gently shake sample):	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, on the surface <input type="checkbox"/> or <input type="checkbox"/> in the water. Describe color:
Oil Sheen <input type="checkbox"/> Yes <input type="checkbox"/> No	Color of Sheen:	Thickness: Flecks <input type="checkbox"/> Globs <input type="checkbox"/> Describe if other:
Other Obvious Indicators of Pollution Present in the sample? Yes <input type="checkbox"/> No <input type="checkbox"/>		If YES describe:

SITE OBSERVATIONS

Potential pollutants found during visual examination? Yes No If Yes, list pollutant(s) and if possible indicate the source: If source is identified during collection of sample, please notify Holly Wheeler @ 667-1312

Pollutant	Source	Pollutant	Source
-----------	--------	-----------	--------

Stormwater Pollution Prevention Plan (SWPPP)
TA-60-002 Salvage and Warehouse Area
Los Alamos National Laboratory

NOTE: A clean up of the site should be conducted if the pollutant source is known. Was proper Notification made? Yes No

If Yes, indicate who was notified:

CORRECTIVE ACTION

If storm water contamination was identified in this sample through visual assessment, was a Corrective Action Form filled out within 24 hrs of observation? Yes No If No, explain why not:

Was a Corrective Action Plan identified within 14 days of the observation? Yes No If No, explain why not:

Other Relevant Information: Yes No

Use the back of this form to list any concerns, comments, and/or descriptions of pictures taken, (attach additional sheets as necessary).

* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Stormwater Industrial Routine Facility Inspection Report

General Information			
Facility Name	TA-60-002 Salvage and Warehouse Area		
NPDES Tracking No.	Insert Tracking No.		
Date of Inspection	Insert Date	Start/End Time	Insert Start/End Time
Inspector's Name(s)	Insert Name		
Inspector's Title(s)	Insert Title		
Inspector's Contact Information	Insert Contact Info		
Inspector's Qualifications	Insert qualifications or add reference to the SWPPP		
Weather Information			
Weather at time of this inspection?			
<input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds			
<input type="checkbox"/> Other: _____ Temperature: _____			
Have any previously unidentified discharges of pollutants occurred since the last inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, describe: Describe			
Are there any discharges occurring at the time of inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, describe: Describe			

Control Measures

- *Number the structural stormwater control measures identified in your SWPPP on your site map and list them below (add as many control measures as are implemented on-site). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required control measures at your facility.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

Stormwater Pollution Prevention Plan (SWPPP)
TA-60-002 Salvage and Warehouse Area
Los Alamos National Laboratory

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1	60-0002 Canopy	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
2	60-0003 Canopy	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
3	Secondary Containment	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
4	Earthen berm	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
5	Tarps on roll-off bins(s)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
6	Lids on metal containers	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
7	Drip pans under leaky equipment or vehicles	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
8	De-icer (not under canopy) covered	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
9	Drummed oil on secondary containment	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
10	De-icer and soda ash on pallets and no bags breached	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
12	Metal storage covered	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
13	Condition of outfall 026, gravel bags, rock lining, erosion, sediment levels	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
14	Condition of outfall 027, rock lining, erosion, sediment levels	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
15	Condition of outfall 028, slotted drain, rock lining, erosion, sediment levels	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions
16	Sampler condition and sample point and hosing condition	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Describe Corrective Actions

Areas of Industrial Materials or Activities exposed to stormwater

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	Material loading/unloading areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
2	Equipment operations & maintenance areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
3	Waste Handling & disposal areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
4	Erodible areas / construction	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
5	Salt storage piles or pallets containing salt – stored under cover and uncovered	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
6	Uncovered storage areas including batteries	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
7	Covered storage areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
8	Access roads	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
9	Spill areas for 2012 - 2015	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
10	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
11	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	Describe Corrective Actions

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

[Describe Non-compliance](#)

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

[Describe Additional Controls Needed](#)

Notes

Use this space for any additional notes or observations from the inspection:

[Additional Notes](#)

CERTIFICATION STATEMENT

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name and title: _____

Signature: _____ **Date:** _____

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (Identify needed maintenance and repairs, or any failed control measures that need replacement)
3	Salt Storage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Just received large shipment of salt; work in process and being covered.
4	Tarps on Metals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Need to determine how to get metals covered.
5	Outfalls 026-028	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
6		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
11		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	

Areas of Industrial Materials or Activities exposed to stormwater

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	Material loading/unloading and storage areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2	Equipment operations and maintenance areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3	Fueling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Outdoor vehicle and equipment washing areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Waste handling and disposal areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
6	Erodible areas/construction	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7	Non-stormwater/ illicit connections	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Salt storage piles or pile containing salt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Just received large shipment of salt; work in process and being covered.
9	Dust generation and vehicle tracking	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements: Need to determine how to get metals covered.

Notes

Use this space for any additional notes or observations from the inspection:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: Cliff Heintschel DEP

Signature: Cliff Heintschel Date: 10/22/15

Russell Stone DHSIS - UIS Group Leader

Russell Stone 10/22/15

Stormwater Industrial Routine Facility Inspection Report

General Information			
Facility Name	Salvage Warehouse		
NPDES Tracking No.	NMR05000		
Date of Inspection	Nov. 20, 2015	Start/End Time	9:45 AM/10:15 AM
Inspector's Name(s)	Cliff Heintschel		
Inspector's Title(s)	Deployed Environmental Professional		
Inspector's Contact Information	699-1605		
Inspector's Qualifications	CISEC		
Weather Information			
Weather at time of this inspection?			
<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds <input type="checkbox"/> Other: Temperature: 40 F			
Have any previously unidentified discharges of pollutants occurred since the last inspection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If yes, describe:			
Are there any discharges occurring at the time of inspection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If yes, describe:			

Control Measures

- Number the structural stormwater control measures identified in your SWPPP on your site map and list them below (add as many control measures as are implemented on-site). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required control measures at your facility.
- Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1	Covered Metal Dumpster @ Mid Yard	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
2	Secondary Containment @ S Yard	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
3	Salt Storage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance	

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
			<input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
4	Tarps on Metals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
5	Outfalls 026-028	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
6	Eco Bloks along E fence line.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
11		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	

Areas of Industrial Materials or Activities exposed to stormwater

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	Material loading/unloading and storage areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2	Equipment operations and maintenance areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3	Fueling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Outdoor vehicle and equipment washing areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Waste handling and disposal areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
6	Erodible areas/construction	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7	Non-stormwater/ illicit connections	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Salt storage piles or pile containing salt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9	Dust generation and vehicle tracking	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements: CA # 847 issued for SWPPP boundary adjustment.

Notes

Use this space for any additional notes or observations from the inspection;

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: Cliff Heintschel
Signature: Cliff Heintschel Date: 12/22/15

Russell Stone DRESH-UI GC
Russell Stone 12/22/15

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
			<input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
4	Tarps on Metals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Metals have been covered.
5	Outfalls 026-028	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
6	Eco Bloks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	Added Eco Bloks along E fence line.
7		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
11		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Replacement	

Areas of Industrial Materials or Activities exposed to stormwater

Below are some general areas that should be assessed during routine inspections. Customize this list as needed for the specific types of industrial materials or activities at your facility.

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	Material loading/unloading and storage areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2	Equipment operations and maintenance areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3	Fueling areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Outdoor vehicle and equipment washing areas	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Waste handling and disposal areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
6	Erodible areas/construction	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7	Non-stormwater/ illicit connections	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Salt storage piles or pile containing salt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9	Dust generation and vehicle tracking	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/> Yes <input type="checkbox"/> No	

	Area/Activity	Inspected?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes

Non-Compliance

Describe any incidents of non-compliance observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements: Working on revision of SWPPP boundary due to utility poles. Meeting next week to determine space needed for poles. SWPPP boundary has been adjusted to satisfy CA, but may be readjusted later after meeting with linemen manager.

Notes

Use this space for any additional notes or observations from the inspection:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

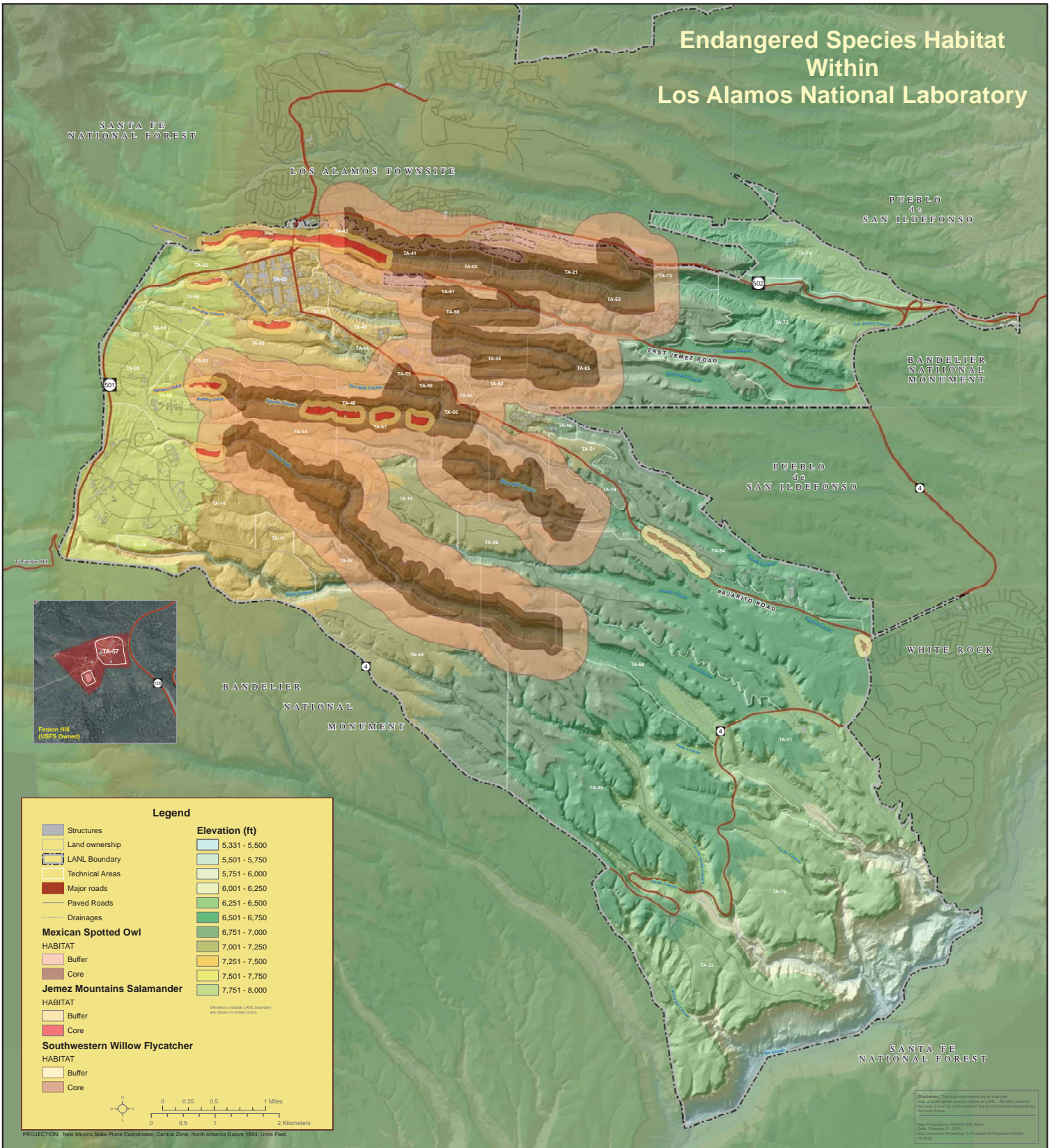
Print name and title: Cliff Heintschel DEP

Signature:  Date: 11/20/15

Russell Stone DEESH-UII GL
Russell Stone 11/20/15

Appendix I
Endangered Species Documentation

Endangered Species Habitat Within Los Alamos National Laboratory

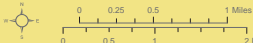


Legend

- Structures
 - Land ownership
 - LANL Boundary
 - Technical Areas
 - Major roads
 - Paved Roads
 - Drainages
- Mexican Spotted Owl**
- HABITAT
- Buffer
 - Core
- Jemez Mountains Salamander**
- HABITAT
- Buffer
 - Core
- Southwestern Willow Flycatcher**
- HABITAT
- Buffer
 - Core

Elevation (ft)	
	5,331 - 5,500
	5,501 - 5,750
	5,751 - 6,000
	6,001 - 6,250
	6,251 - 6,500
	6,501 - 6,750
	6,751 - 7,000
	7,001 - 7,250
	7,251 - 7,500
	7,501 - 7,750
	7,751 - 8,000

Drainages outside LANL boundary are shown in muted colors.



PROJECTION: New Mexico State Plane Coordinates, Central Zone, North America Datum 1983, Units Feet.

Disclaimer: This map was created as an overview map of endangered species habitat at LANL. All other uses for this map should be coordinated with the Environmental Stewardship Service Group.
Map Produced by CH2D-Hill Group
Date: February 11, 2014
Map Document Reference: A-Proposed-14-Proposed-14-0001-14-0001



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

December 9, 2013

Cons. #02ENNM00-2014-I-0014

Geoffrey L. Beausoleil, Acting Manager
National Nuclear Security Administration, Los Alamos Field Office
Department of Energy
Los Alamos, New Mexico 87544

Dear Mr. Beausoleil:

Thank you for your biological assessment entitled, "Biological Assessment of the Effects of Implementing the Jemez Mountains Salamander Site Plan on Federally Listed Threatened and Endangered Species at Los Alamos National Laboratory" (BA); the request for informal consultation and conferencing received on July 25, 2013 and supplemental information supplied in the "Jemez Mountains Salamander (*Plethodon neomexicanus*) Los Alamos National Laboratory (LANL) Site Plan" (Site Plan); and emails dated November 19 and December 3, 2013. The Department of Energy (DOE) requested concurrence with the determination of effects for the endangered Jemez Mountains salamander (*Plethodon neomexicanus*) (salamander) pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. § 1531 *et seq.*). Your proposed action consists of implementing the Site Plan, and includes of the incorporation of this Site Plan into LANL's Habitat Management Plan (HMP). The HMP was consulted upon in 1999 (Consultation #2-22-981-336) as the primary mechanism to ensure compliance with the ESA at LANL. The actions described in the Site Plan and analyzed in the BA, and supplemental emails are hereby incorporated by reference. You determined that implementing the Site Plan "may affect, is not likely to adversely affect" the salamander, and includes placing restrictions on certain types of work in areas identified as core habitat for the salamander on LANL property with the purpose of ensuring that effects to the salamander from those actions identified in the Site Plan are insignificant and discountable.

The Site Plan does not include any areas within designated salamander critical habitat, indicating that no critical habitat will be affected. The Site Plan has modeled and field validated the model to identify the areas on LANL property with the highest potential to be occupied by salamanders based on habitat features for the salamander. Each area identified by the modeling is termed "Area of Environmental Interest" (AEI) and consists of a "core area" and a "buffer area". The core area habitat is defined as suitable habitat where the salamander occurs or may occur at LANL. The core area habitat consists of sections of north-facing slope that contain the required

micro-habitat to support salamanders. The buffer area is 328 feet (100 meters) wide extending outward from the edge of the core area. Only the Los Alamos Canyon AEI is known to be occupied based on surveys. Surveys for the salamander are known to have a very low detection rate for occupied areas and DOE has assumed that all AEIs at LANL are occupied at all times by the salamander.

Within the Site Plan, DOE has assessed activities that could cause habitat alteration and includes any action that alters the soil structure, vegetative components necessary to the species, water quality, or hydrology in undeveloped areas of an AEI. If an activity were to take place outside of the AEI the activity will be assessed if it will have effects inside the AEI core. Within the core areas, only activities specified within the Site Plan and those that have no effect in the core areas (e.g. no habitat alterations or effects within the core areas) will be conducted without further consultation with the Service. Habitat alterations also include soil pits for soil samples deeper than 6 inches (15.2 centimeters) using either hand or mechanized augers. Within the Site Plan, DOE is proposing fuels management practices to reduce wildfire risk and maintenance of utility corridors within the AEIs. The likelihood that salamanders may be affected by the actions in the Site Plan is very low. To ensure that effects to the salamander are insignificant and discountable, the Site Plan incorporates the following conservation measures as restrictions to the identified work:

Fuels Management Practices to Reduce Wildfire Risk

- a. Within undeveloped core areas, thinning trees to a level of 80% canopy cover or higher may occur; tree thinning below 80% canopy cover is not part of the action under this consultation.
- b. Large logs on the ground will be left in place and not chipped.
- c. Large trees that are felled will be left as large logs on the ground
- d. When appropriate, smaller trees and understory shrubs that may be thinned will be dispersed and left on-site to aid in soil moisture retention.
- e. In buffer areas, thinning of trees may occur to the current LANL-approved prescription level; clear-cutting will not occur.
- f. Thinning activities will not occur during the rainy season when salamanders are surface active, between July 1 – October 31. Thinning activities may occur earlier in October if freezing temperatures are present.
- g. In the unlikely event that a salamander is observed surface active during thinning activities, all activities shall cease, and the Service will be notified.

Utility Corridors

- a. Cutting trees that threaten power lines may occur within 26 feet (8 meters) of either side of an existing utility line at LANL
- b. New utility lines and utility lines requiring clearance of a right-of-way greater than 52 feet (16 meters) total in core habitat is not part of the action under this consultation.


Habitat alterations other than the fuels management practices and utility corridor maintenance described above will not occur in undeveloped core areas under the guidelines of the Site Plan or this consultation. The Service concurs with DOE's determination regarding the salamander for the following reasons:

Within the Site Plan, DOE has placed the above detailed restrictions to ensure that any effects to the salamander and its habitat remain insignificant and discountable. Canopy cover will remain at 80% or greater in undeveloped core areas and fire management actions will occur outside of the salamander surface activity period. Maintaining utility line corridors in areas with existing infrastructure (the utility lines) by removing individual hazard trees is not expected to have any measurable effect on salamanders or their potential habitat. Consequently, we concur that potential effects to the salamander from the proposed action will be insignificant and discountable.

This concludes section 7 consultation regarding the proposed action. If monitoring or other information results in modification or the inability to complete all aspects of the proposed action, consultation should be reinitiated. Please contact the Service if: 1) future surveys detect listed, proposed or candidate species in habitats where they have not been previously observed; 2) the proposed action changes or new information reveals effects of the proposal to listed species that have not been considered in this analysis; or 3) a new species is listed or critical habitat designated that may be affected by the action.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. In future correspondence regarding this project, please refer to consultation #02ENNM00-2014-I-0014. If you have any questions, please contact Michelle Christman of my staff at (505) 761-4715.

Sincerely,


Wally Murphy
Field Supervisor

cc:

Wildlife Biologist, Cuba Ranger District, Cuba, NM (Attn: Ramon Borrego)
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

MSGP

IPaC Trust Resource Report

Generated July 27, 2015 07:29 PM MDT



US Fish & Wildlife Service

IPaC Trust Resource Report



Project Description

NAME

MSGP

PROJECT CODE

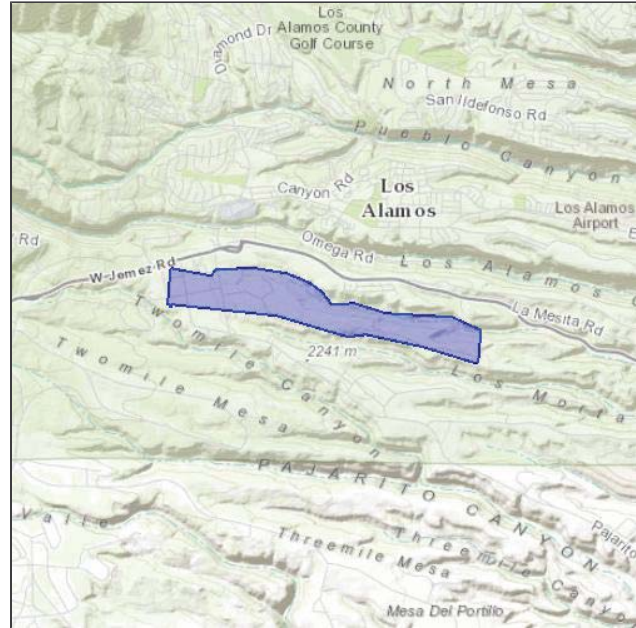
LXATM-TI5EJ-BAJEQ-3NC5E-SOGYTE

LOCATION

Los Alamos County, New Mexico

DESCRIPTION

Facilities that discharge to Sandia Canyon within TA-3 and TA-60. Industrial facilities subject to the MSGP. July, 2015.



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

New Mexico Ecological Services Field Office

2105 Osuna Road Ne

Albuquerque, NM 87113-1001

(505) 346-2525

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the [Endangered Species Program](#) and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under [Section 7](#) of the Endangered Species Act, which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." This requirement applies to projects which are conducted, permitted or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section.

Amphibians

Jemez Mountains Salamander *Plethodon neomexicanus* **Endangered**

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=D019>

Birds

Mexican Spotted Owl *Strix occidentalis lucida* **Threatened**

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B074>

Southwestern Willow Flycatcher *Empidonax traillii extimus* **Endangered**

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B094>

Yellow-billed Cuckoo *Coccyzus americanus* **Threatened**

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=B06R>

Mammals

New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* **Endangered**

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

<https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=A0BX>

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

<p>Bald Eagle <i>Haliaeetus leucocephalus</i> Season: Wintering https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008</p>	Bird of conservation concern
<p>Bendire's Thrasher <i>Toxostoma bendirei</i> Season: Breeding</p>	Bird of conservation concern
<p>Brewer's Sparrow <i>Spizella breweri</i> Season: Migrating https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=BOHA</p>	Bird of conservation concern
<p>Brown-capped Rosy-finch <i>Leucosticte australis</i> Season: Wintering</p>	Bird of conservation concern
<p>Burrowing Owl <i>Athene cunicularia</i> Season: Breeding</p>	Bird of conservation concern
<p>Cassin's Finch <i>Carpodacus cassinii</i> Year-round</p>	Bird of conservation concern
<p>Flammulated Owl <i>Otus flammeolus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DK</p>	Bird of conservation concern
<p>Fox Sparrow <i>Passerella iliaca</i> Season: Wintering</p>	Bird of conservation concern
<p>Golden Eagle <i>Aquila chrysaetos</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DV</p>	Bird of conservation concern
<p>Grace's Warbler <i>Dendroica graciae</i> Season: Breeding</p>	Bird of conservation concern
<p>Juniper Titmouse <i>Baeolophus ridgwayi</i> Year-round</p>	Bird of conservation concern
<p>Lewis's Woodpecker <i>Melanerpes lewis</i> Year-round</p>	Bird of conservation concern
<p>Loggerhead Shrike <i>Lanius ludovicianus</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY</p>	Bird of conservation concern

Mountain Plover <i>Charadrius montanus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B078	Bird of conservation concern
Olive-sided Flycatcher <i>Contopus cooperi</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AN	Bird of conservation concern
Peregrine Falcon <i>Falco peregrinus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU	Bird of conservation concern
Pinyon Jay <i>Gymnorhinus cyanocephalus</i> Year-round	Bird of conservation concern
Prairie Falcon <i>Falco mexicanus</i> Year-round https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0ER	Bird of conservation concern
Swainson's Hawk <i>Buteo swainsoni</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B070	Bird of conservation concern
Williamson's Sapsucker <i>Sphyrapicus thyroideus</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FX	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> Season: Breeding https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6	Bird of conservation concern

Refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

There are no refuges within this project area

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area

LA-UR-14-21863

*Approved for public release;
distribution is unlimited.*

Title: **Threatened and Endangered Species
Habitat Management Plan for
Los Alamos National Laboratory**

Author(s): Environmental Protection Division
Resources Management Team

Intended for: Reference purposes

Date: March 2014



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ACRONYMS

AEI	Area of Environmental Interest
BA	biological assessment
Bd	Batrachochytrium dendrobatidis
BSL-3	Biosafety Level 3
COPCs	chemicals of potential concern
DARHT	Dual-Axis Radiographic Hydrodynamic Test (Facility)
dB	Decibel
DDT	(dichloro-diphenyl-trichloroethane)
DOE	U.S. Department of Energy
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
fc	foot candles
FR	Federal Register
GIS	geographic information system
HMP	Threatened and Endangered Species Habitat Management Plan
HVAC	heating, ventilation, and air conditioning
LANL	Los Alamos National Laboratory
NEPA	National Environmental Policy Act
NMED	New Mexico Environment Department
NPDES	National Pollutant Discharge Eliminations System
PCBs	polychlorinated biphenyls
PR-ID	Permits and Requirements Identification
SME	subject matter expert
USFWS	U.S. Fish and Wildlife Service

I. THREATENED AND ENDANGERED SPECIES HABITAT MANAGEMENT PLAN GENERAL OVERVIEW

1.0 INTRODUCTION

Los Alamos National Laboratory's (LANL) Threatened and Endangered Species Habitat Management Plan (HMP) was prepared to fulfill a commitment made in the U.S. Department of Energy's (DOE) "Final Environmental Impact Statement for the Dual-Axis Radiographic Hydrodynamic Test Facility Mitigation Action Plan" (DOE 1996). The HMP received concurrence from the U.S. Fish and Wildlife Service (USFWS) in 1999 (USFWS consultation numbers 2-22-98-I-336 and 2-22-95-I-108). In this 2014 update, we retained the management guidelines from the 1999 HMP for listed species, updated some descriptive information, and added the Jemez Mountains salamander (*Plethodon neomexicanus*), which was federally listed in September 2013 (USFWS consultation number 02ENNM00-2014-I-0014).

2.0 ROLE OF SITE PLANS IN THE HMP

The purpose of the HMP is to provide a management strategy for the protection of threatened and endangered species and their habitats on LANL property. The HMP consists of site plans for federally listed threatened or endangered species with a moderate or high probability of occurring at LANL. The following federally listed threatened or endangered species currently have site plans at LANL: Mexican Spotted Owl (*Strix occidentalis lucida*), Southwestern Willow Flycatcher (*Empidonax trailii extimus*), and the Jemez Mountains salamander. Site plans provide guidance to ensure that LANL operations do not adversely affect threatened or endangered species or their habitats.

3.0 DESCRIPTION OF AREAS OF ENVIRONMENTAL INTEREST

Suitable habitats for federally listed threatened and endangered species have been designated as Areas of Environmental Interest (AEIs). AEIs are geographical units at LANL that are managed for the protection of federally listed species and consist of core habitat areas and buffer areas. The purpose of the core habitat is to protect areas essential for the existence of the specific threatened or endangered species. This includes the appropriate habitat type for breeding, prey availability, and micro-climate conditions. The purpose of buffer areas is to protect core areas from undue disturbance and habitat degradation.

Site plans identify restrictions on activities within the AEIs. Allowable activities are activities that the USFWS has reviewed and provided concurrence that these activities are not likely to adversely affect federally listed species. Activities discussed in site plans include day-to-day activities causing disturbance (hereafter referred to as "disturbance activities"), such as access into an AEI, and long-term impacts, such as habitat alteration.

3.1 Definition and Role of Developed Areas in AEI Management

Summary: Habitat alteration is not restricted in developed areas unless it impacts undeveloped core areas of an AEI (e.g., noise and light impacts on a core area). Current ongoing disturbance activities are not restricted in developed areas. Disturbance activities not currently ongoing are

restricted when impacts occur to undeveloped core areas of an AEI that are occupied by a threatened or endangered species.

Developed areas include all building structures, paved roads, improved gravel roads, paved and unpaved parking lots, and firing sites. The extent of developed areas in each AEI was determined using two methods. First, LANL geographic information system (GIS) analysts placed a 15 m (49 ft) border around all buildings and parking lots. For paved and improved gravel roads, the developed area was defined as the area to a roadside fence, if one exists within 9 m (30 ft) of the road, or 5 m (15 ft) on each side of the road, if there is no fence within 9 m (30 ft). If an area of highly fragmented habitat was enclosed by roads, a security fence, or connected buildings, that area was also classified as developed. Developed areas at firing sites were defined as a circle with a 91-m (300-ft) radius from the most centrally located firing pad. Second, LANL GIS analysts overlaid scanned orthophotos onto a map of the Los Alamos area and digitized all areas that appeared developed. These two information sources were overlaid and combined, so that areas classified as developed by either method were considered developed in final maps and analyses. Some areas were confirmed by ground surveys, such as the firing sites. Developed areas are contained in the HMP GIS database.

Developed areas are located in the core and/or buffer of some AEIs. However, developed areas do not constitute suitable habitat for federally listed species. Current ongoing activities in developed areas constitute a baseline condition for the AEIs and are not restricted. New activities including further development within already existing developed areas are not restricted unless they impact undeveloped portions of an AEI core. For example, if light or noise from a new office building in a developed area were to raise levels in an undeveloped core area, those light and noise levels would be subject to the guidelines on habitat alterations. If a proposed action within a developed area does not meet site plan guidelines, it must be individually reviewed for compliance with the Endangered Species Act of 1973 (ESA).

Building a new structure or clearing land within a previously designated developed area in an AEI core does not add to the size of the developed area. New structures in core areas will not be given any developed-area border unless they are individually reviewed for ESA compliance.

Development occurring in the developed area in an AEI buffer can be given a 15 m (49 ft) developed-area border at the discretion of the project leader or facility manager. To expand the size of a developed area in a buffer based on new developments, please contact a LANL biological resources subject matter expert (SME) (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

3.2 General Description of Buffer Areas and Allowable Buffer Area Development

Summary: Limited future development is allowed in the currently undeveloped DOE-controlled buffer area under the guidelines of this HMP as long as it does not alter habitat in the undeveloped AEI core (including light and noise guidelines). Development beyond the cap established for each AEI, or greater than 2 ha (5 ac) in size including the developed-area border, requires independent review for ESA compliance.

The purpose of buffer areas is to protect core areas from undue disturbance or habitat degradation. The current levels of development in buffer and core areas represent baseline conditions for this

HMP. No further development is allowed in the core area under the guidelines of this HMP. A limited amount of development is allowed in buffer areas. Under the guidelines of this HMP, individual development projects are limited to 2 ha (5 ac) in size, including a 15 m (49 ft) developed-area border around structures and a 5 m (15 ft) developed-area border around paved and improved gravel roads. Projects greater than 2 ha (5 ac) in area require individual review for ESA compliance (see exceptions for fuels management activities and utility corridor maintenance). New development projects in AEI buffer areas must be reported to LANL biological resources SMEs for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>). Descriptions of each of the AEIs give the total area in each buffer area available for development.

3.3 Emergency Actions

Summary: Contact DOE and LANL biological resources SMEs as soon as possible.

If safety and/or property is immediately threatened by something occurring within an AEI (for example, wildfire, water line breakage, etc.) managers may activate emergency actions. Contact a LANL biological resources SME (<http://int.lanl.gov/environment/bio/controls/index.shtml>), the Environmental Stewardship Group (1-505-665-8855), or the DOE Los Alamos Field Office (Field Office; 1-505-667-6819) as soon as possible. If the emergency occurs outside of regular business hours, contact the Emergency Management Office (1-505-667-6211). This office will then communicate with the appropriate LANL and DOE Field Office personnel.

4.0 IMPLEMENTATION OF SITE PLANS

4.1 Roles and Responsibilities

Summary: LANL's facility managers and operational staff are responsible for ensuring that activities are reviewed for compliance with all applicable site plans. Figure 1 illustrates the process for utilizing site plans. If activities follow approved guidance, there is no requirement for additional ESA regulatory compliance. However, additional National Environmental Policy Act (NEPA), cultural resources, wetlands, or other regulatory compliance actions may be required.

If an activity or project occurs outside of all LANL AEIs and will not impact habitat within an AEI, it does not have to be reviewed for ESA compliance, unless it is a large project. Projects that are larger than 2 ha (5 ac) or cost more than \$5 million require an individual ESA compliance review, even if they are not located within an AEI.

LANL's facility managers are responsible for determining if operations within their geographic and/or programmatic area of responsibility comply with the guidelines in these site plans. Submission of a Permits and Requirements Identification (PR-ID) for a new or modified project is required under Program Description 400 (LANL 2013) and allows managers to identify the requirements within their project area. Deployed environmental professionals and core LANL biological resources SMEs are available to support facility managers. If activities follow site plan guidelines, they do not require any additional ESA regulatory compliance action. However, NEPA, cultural resources, wetlands, or other regulatory compliance actions are not addressed in site plans and additional compliance actions may be required. It is the responsibility of the project leader or facility management staff to ensure that all requirements are satisfied. If you have

questions, contact biological, cultural, NEPA, or other environmental SMEs. Contacts can be found at <http://int.lanl.gov/environment/compliance/ier/index.shtml>.

A single facility may have one or more AEIs within its boundary and the AEIs may be for different species. Some AEIs overlap. In areas where overlap occurs, project managers must follow the guidelines for AEIs of all involved species.

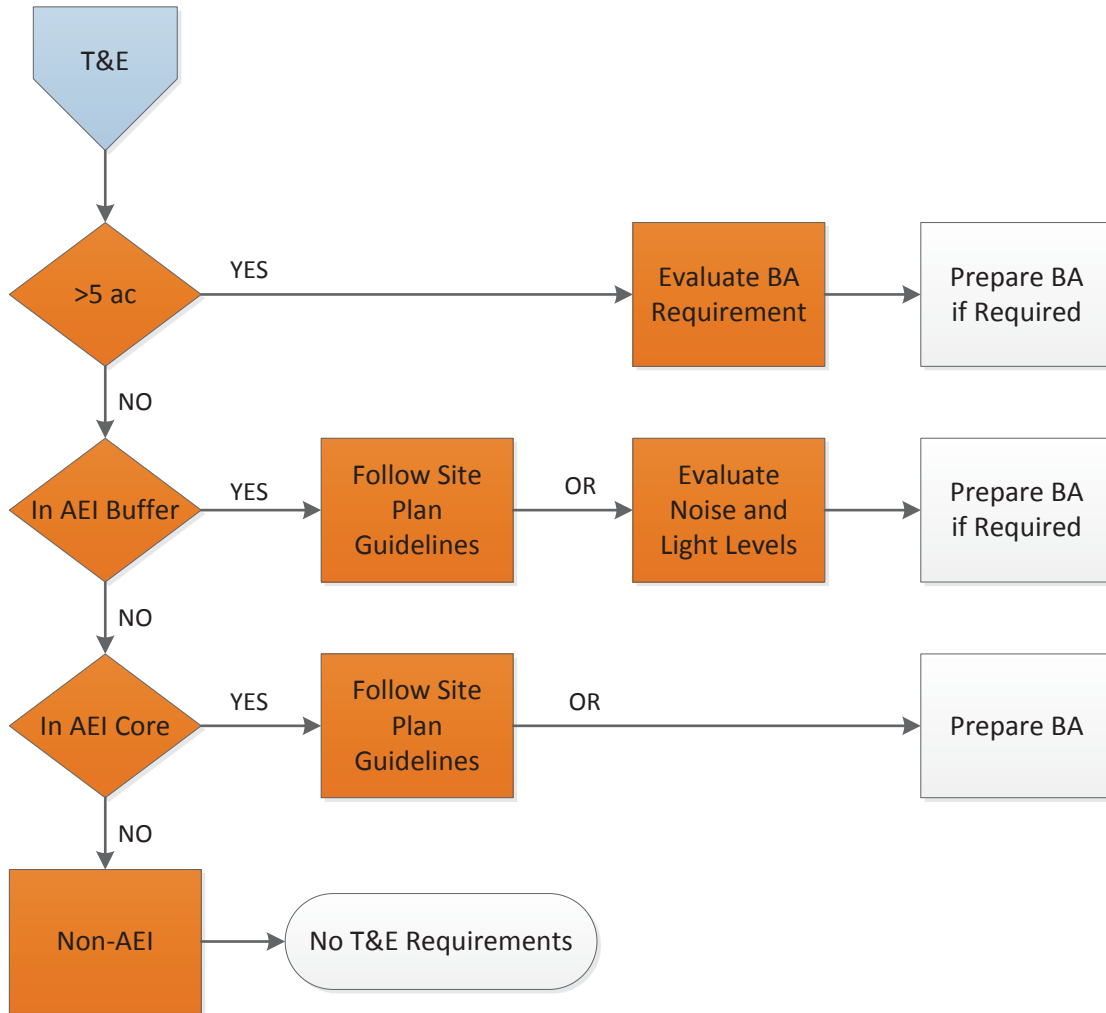


Figure 1. Process flowchart for determining site plan requirements.

4.2 If an Activity Does Not Meet Site Plan Guidelines

Summary: Activities or projects that do not meet all applicable site plan guidelines must be evaluated individually for compliance with the ESA.

If a project reviewer determines that an activity or project cannot meet the guidelines in applicable site plans, LANL biological resources SMEs evaluate that activity individually for compliance with the ESA. Results of the evaluation of potential impacts allow LANL biological resources SMEs to make recommendations to the DOE Field Office Biological Resources Program Manager

regarding the need for USFWS consultation. An evaluation may result in 1) a DOE Field Office determination that there is no possibility of adverse effects and the activity can proceed, 2) a DOE Field Office suggestion for modifications of the action to avoid adverse effects so that it can proceed, or 3) a DOE Field Office decision to prepare a biological assessment (BA) for the activity and submit it to the USFWS for concurrence. Fieldwork and preparation of a BA can take a few months with an additional 2 to 12 months for DOE Field Office review and then final USFWS concurrence.

4.3 Dissemination of Information

Although information about threatened and endangered species is not classified, it is considered sensitive information. It is in the best interest of threatened and endangered species to restrict specific knowledge about their locations. Habitat locations of threatened and endangered species are not considered sensitive.

5.0 CHANGES IN THE HMP SINCE IMPLEMENTATION

The HMP received concurrence from USFWS and was first implemented in 1999. Since that time, both the Peregrine Falcon (*Falco peregrinus*) and the Bald Eagle (*Haliaeetus leucocephalus*) have been delisted. Site plans for those species have been removed from LANL's HMP. Both species are protected at LANL under the Migratory Bird Treaty Act, and the Bald Eagle is also protected under the Bald and Golden Eagle Protection Act.

The black-footed ferret (*Mustela nigripes*) is federally listed as endangered. However, no sightings of black-footed ferrets have been reported in Los Alamos County for more than 50 years. In addition, no large prairie dog towns, which are prime habitat for black-footed ferrets, have been observed on DOE property around LANL. Therefore, there is no site plan for this species.

In 2005, the USFWS concurred with DOE's proposal for new Mexican Spotted Owl habitat boundaries based on a revised analysis of Mexican Spotted Owl habitat quality within DOE property around LANL (USFWS consultation number 22420-2006-I-0010).

In 2012, the USFWS concurred with DOE's proposal to modify the habitat boundaries for the Los Alamos Canyon Mexican Spotted Owl AEI due to changes from the fire response activities after the Las Conchas wildfire (USFWS consultation number 02ENNM00-2012-IE-0088).

In 2013, the USFWS concurred with the DOE's new site plan for the Jemez Mountains salamander and its addition to LANL's HMP (USFWS consultation number 02ENNM00-2014-I-0014).

6.0 DATA MANAGEMENT

The data used in the implementation of the HMP is stored in a GIS database at LANL.

II. AREA OF ENVIRONMENTAL INTEREST SITE PLAN FOR THE MEXICAN SPOTTED OWL

1.0 SPECIES DESCRIPTION—MEXICAN SPOTTED OWL

1.1 Status

In 1993, the USFWS determined the Mexican Spotted Owl to be a threatened species under the authority of the ESA, as amended (58 Federal Register [FR] 14248). In 1995, the USFWS released its final recovery plan for the owl (USFWS 1995), which was revised in 2012 (USFWS 2012). The USFWS most recently designated critical habitat for Mexican Spotted Owl in 2004 (69 FR 53181).

1.2 General Biology

The Mexican Spotted Owl is found in northern Arizona, southeastern Utah, and southwestern Colorado south through New Mexico, west Texas, and into Mexico. It is the only subspecies of Spotted Owl recognized in New Mexico (USFWS 1995).

The Mexican Spotted Owl generally inhabits mixed conifer and ponderosa pine (*Pinus ponderosa*; Lawson & C. Lawson) - Gambel oak (*Quercus gambelli*; Nutt.) forests in mountains and canyons. High canopy closure, high stand diversity, multilayered canopy resulting from an uneven-aged stand, large, mature trees, downed logs, snags, and stand decadence as indicated by the presence of mistletoe are characteristic of Mexican Spotted Owl habitat. Some owls have been found in second-growth forests (i.e., younger forests that have been logged); however, these areas were found to contain characteristics typical of old-growth forests. Mexican Spotted Owls in the Jemez Mountains seem to prefer cliff faces in canyons for their nest sites (Johnson and Johnson 1985). The recovery plan for the Mexican Spotted Owl recommends that mixed conifer and pine-oak woodland types on slopes greater than 40 percent be protected for the conservation of this owl.

A mated pair of adult Spotted Owls may use the same home range and general nesting areas throughout their lives. A pair of owls requires approximately 800 ha (1,976 ac) of suitable nesting and foraging habitat to ensure reproductive success. Incubation is carried out by the female. The incubation period is approximately 30 days, and most eggs hatch by the end of May. Most owlets fledge in June, 34 to 36 days after hatching (USFWS 1995). The owlets are “semi-independent” by late August or early September, although juvenile begging calls have been heard as late as September 30. Young are fully independent by early October. The non-breeding season runs from September 1 through February 28. Although seasonal movements vary among owls, most adults remain within their summer home ranges throughout the year.

The diet of Mexican Spotted Owls nesting in canyons consists primarily of woodrats (*Neotoma* spp.) and mice (*Peromyscus* spp.) with lesser amounts of rabbits, birds, reptiles, and arthropods (Willey 2013). The relative abundance of prey types in Mexican Spotted Owl pellets collected at LANL are listed in Table A-1 in the Appendix. Ganey and Balda (1994) found core areas of individuals (i.e., where owls spent 60 percent of their time) averaged 134 ha (331 ac), and core areas for pairs averaged 160 ha (395 ac).

1.3 Threats

The Mexican Spotted Owl was listed as threatened because of destruction and modification of habitat caused by timber harvest and fires, increased predation on owls associated with habitat fragmentation, and a lack of adequate protective regulations.

2.0 IMPACT OF HUMAN ACTIVITIES

2.1 Introduction

The primary threats to Mexican Spotted Owls on DOE property around LANL property are 1) impacts to habitat quality from LANL operations and 2) disturbance of nesting owls. This section provides a review and summary of scientific knowledge of the effects of various types of human activities on the Mexican Spotted Owl and provides an overview of the current levels of activities at LANL.

2.2 Impacts on Habitat Quality

2.2.1 Development

The type of habitat used by Mexican Spotted Owls, late seral stage forests with large trees, are usually not found in large quantities near developed areas or near areas that have had recent agricultural or forest product extraction land uses. Therefore, Mexican Spotted Owls are generally not found near developments. Whether it is the development itself or a lack of suitable habitat that discourages colonization of these areas by Mexican Spotted Owls is unknown.

Areas of LANL vary from remote undeveloped areas to heavily developed and/or industrialized facilities. Most LANL facilities are situated atop mesas, primarily in the northern and western portion of the DOE property. LANL is bounded by developed residential, industrial, and retail areas along its northern boundary (the town of Los Alamos) and by residential and retail development along a portion of its eastern boundary (the town of White Rock). Three major paved roads traverse LANL from northeast to southwest. Sandia, Pajarito, and Los Alamos canyons have paved roads within AEIs, and several AEIs have dirt roads along at least a portion of the canyon bottom. AEIs containing paved or dirt roads in the canyon bottoms have not been occupied at LANL (Hathcock et al. 2010).

2.2.2 Ecological Risk

There is no specific information on the impact of chemicals on the Mexican Spotted Owl, although experience with other raptor species suggests that exposure to polychlorinated biphenyls (PCBs), dichloro-diphenyl-trichloroethane (DDT) and its derivatives, and other organophosphate or organochlorine pesticides would probably be harmful. Exposure to other chemicals could also be harmful (Cain 1988).

LANL completed three ecological risk assessments that included the Mexican Spotted Owl between 1997 and 2009. The ecological risk assessment process involves using computer modeling to assess potential effects to animals from chemicals of potential concern (COPCs) that have been detected in the environment. All of the following ecological risk assessments concluded that, on average, no appreciable impact is expected to Mexican Spotted Owls from COPCs (Gallegos et al. 1997; Gonzales et al. 2004; Gonzales et al. 2009).

2.2.3 Disturbance

2.2.3.1 Pedestrians and Vehicles

Based on work with other raptors, LANL biological resources SMEs assume that Mexican Spotted Owls would likely be disturbed by the approach of either pedestrians or vehicles. At an equal distance, pedestrians are frequently more disturbing to raptors than vehicles (Grubb and King 1991). Brown and Stevens (1997) reported that during surveys in Grand Canyon National Park, 22 times more Bald Eagles were found in canyon reaches with low human recreational use compared to reaches with moderate to high human recreational use. Human activity 100 m (328 ft) from Bald Eagle nests in Alaska caused clear and consistent changes in behavior of breeding eagles (Steidl and Anthony 2000).

Swarthout and Steidl (2001) found that both juvenile and adult roosting Mexican Spotted Owls were unlikely to alter their behavior in the presence of a single hiker at distances greater than 55 m (180 ft). Swarthout and Steidl (2003) concluded that cumulative effects of high levels of short-duration recreational hiking near Mexican Spotted Owl nests may be detrimental.

Many canyon bottoms and mesa tops at LANL have dirt roads traversing them. Most of these roads are gated. However, these roads are accessible to LANL employees and some of them are accessible to the public on foot or by bike. LANL biological resources SMEs have found that AEIs are occupied less often if there is recreational access into a canyon (Hathcock et al. 2010).

2.2.3.2 Aircraft

Ground-based disturbances appear to impact raptor reproductive success more than aerial disturbances (Grubb and King 1991). Grubb and Bowerman (1997) concluded that an exclusion of aircraft within 600 m (1,968 ft) of Bald Eagle nest sites would limit Bald Eagle response frequency to 19 percent.

Delaney et al. (1999) found for Mexican Spotted Owls that chainsaws consistently elicited higher response rates than helicopters at similar distances. Owl flush rates did not differ between nesting and non-nesting seasons. No owls flushed when noise stimuli (helicopter or chainsaws) were at distances greater than 105 m (344 ft). Distance was generally a better predictor of owl response to helicopter overflights than sound level.

LANL is restricted airspace, and planes infrequently fly less than 609 m (2,000 ft) above ground level. The County of Los Alamos operates an airport along the northern edge of LANL. The airport is located on the southern rim of Pueblo Canyon. Most flights approach and depart to the east of the airport, over the Rio Grande.

2.2.3.3 Explosives

There is no specific information on the reaction of Mexican Spotted Owls to explosives detonation currently available. Explosive blasts set off 120 to 140 m (393 to 459 ft) from active Prairie Falcon (*Falco mexicanus*) nests caused perched Prairie Falcons to flush from perches 79 percent of the time, and, in 26 percent of the cases, caused incubating Prairie Falcons to flush from nests. Measured sound levels at aerie entrances during blasts ranged from 129 to 141 decibel (dB) (Holthuijzen et al. 1990). Explosives blasting for dam construction 560 to 1,000 m (1,837 to 3,280 ft) from active Prairie Falcon nests caused a change in behavior 26 percent of the time, and

birds flushed in 17 percent of all cases. No incubating birds flushed (Holthuijzen et al. 1990). Brown et al. (1999) found little activity change in roosting or nesting Bald Eagles and no population-level impacts from weapons detonations at the Aberdeen Proving Ground. Holthuijzen et al. (1990) found that a 167-g (5.89-oz) charge of Kinestik produced noise levels between 138 and 141 dB at 100 m (328 ft), and that a 500-g (17.6-oz) charge of TNT produced noise levels between 144 and 146 dB at 100 m (328 ft). A 20-kg (44-lb) charge of TNT produced noise levels that measured 163 dB at 100 m (328 ft) (Paakkonen 1991).

Measurements of noise levels during explosives testing were conducted at three locations at LANL using quantities of high explosives ranging from 4.5 to 67.5 kg (10 to 148 lb) of TNT during six shots. Noise levels increased during the test from a background level of 31 dB(A)¹ to a range between 64 and 71 dB(A) during shots at a distance of 1.8 km (1.1 mi). At a distance of 4.3 km (2.67 mi), noise levels rose from a background range of 35 to 64 dB(A) to a range of 60 to 63 dB(A) (Vigil 1995). At a distance of 6.7 km (4.16 mi), noise levels rose from a background range of 38 to 51 dB(A) to a range of 60 to 71 dB(A) (Burns 1995). LANL biological resources SMEs estimated that the noise from a shot at the Dual-Axis Radiographic Hydrodynamic Test (DARHT) Facility would be 150 dB(A) at the source and 80 dB(A) at 400 m (1,312 ft) (Keller and Risberg 1995). LANL biological resources SMEs found that Mexican Spotted Owl AEIs located within the explosives testing buffer area were occupied more frequently than AEIs in other locations (Hathcock et al. 2010). This is likely due to the strict access control in explosives areas which limit human activity and development in the canyon bottoms.

2.2.3.4 Other Sources of Noise

Major noise-producing activities at LANL include automobile and truck traffic and noise associated with office buildings, construction activities, a live-fire range, and explosives testing. Also, there is noise associated with aircraft traffic at the Los Alamos County airport. Construction and maintenance activities involved with operations at LANL are fairly common. In addition, implementation of the 2005 Compliance Order on Consent (NMED 2005) issued by the New Mexico Environmental Department (NMED) has resulted in an increased frequency of drilling groundwater monitoring wells in protected habitat at LANL. Also, forest fuels management operations use chainsaws, chippers, and other noise-generating equipment. The 2010 National Pollutant Discharge Elimination System (NPDES) Individual Permit (EPA 2010) issued by the Environmental Protection Agency (EPA) requires sediment control features such as berms and small rock check dams to be installed at various sites with stormwater runoff; these are sometimes installed in protected habitat. LANL biological resources SMEs conducted a study of noise levels in canyons and found that the primary sources of noise exceeding 55 dB(A) were cars and trucks. Readings taken near flowing water were up to 11 dB(A) higher than readings taken elsewhere. The average dB(A) in canyons near paved roads ranged from 41 to 62, with maximum values ranging from 62 to 74. Away from paved roads 1.6 km (1 mi) or more, average dB(A) in canyons ranged from 37 to 50, with all but one average below 45. Maximum dB(A) away from paved roads ranged from 38 to 76 [76 dB(A) was measured during a thunder clap] (Huchton et al. 1997).

¹ Sound can be measured as decibels (dB), C-weighted dB [dB(C)], or A-weighted dB [dB(A)]. The dB(A) measurement best resembles the response of the human ear by filtering out lower and higher frequency sound not normally heard by the human ear.

Noise measurements were conducted by LANL biological resources SMEs at the Los Alamos County airport and in Bayo and Pueblo canyons, including the Los Alamos County Sewage Treatment Facility, in December 1997. Sound levels near the airport runway during the maximum use time (6:30 to 7:30 am) had background values averaging 54 dB(A). Noise during plane arrivals ranged from 47 to 63 dB(A). No measurements were collected during plane take-off. Sound measurements conducted in the bottoms of Pueblo and Bayo canyons ranged from 37 to 40 dB(A) in most areas of the canyon. At the sewage treatment facility parking lot during a working day, the average dB(A) during a three-minute period was 46 (range 45 to 49). At the intersection of the road going into Pueblo Canyon with State Road 502, the average dB(A) during a three-minute period was 60 (range 41 to 70).

LANL biological resources SMEs conducted sound measurements at successive distances from an industrial area near a canyon rim, into the canyon, and to the opposite rim, using a C-weighted decibel scale (Keller and Foxx 1997). Measurements of noise levels using the C-weighted decibel scale are greater than if measured using A-weighted decibels. The average background noise on the mesa was 65.8 dB(C) [with a range of 43–81 dB(C)]. The average background noise in the canyon bottom was 62.3 dB(C) [with a range of 54–78 dB(C)]. The average background noise at the bottom of the north-facing slope was 53.8 dB(C) [with a range of 48–64 dB(C)]. Measurements were taken mid-day.

LANL biological resources SMEs measured sound levels from various pieces of construction equipment used at project sites at LANL over 5-minute intervals at distances of 6 to 31 m (20 to 100 ft) (Knight and Vrooman 1999). Average values ranged from 58.5 dB(A) to 80.9 dB(A). Peak values ranged from 75.7 to 155.4 dB(A). Additional data were collected by other LANL operators on specific pieces of construction equipment and on the Security Computer Complex construction site fence perimeter at Technical Area 3 before and during construction (Knight and Vrooman 1999). The average noise levels before construction began was 56.6 dB(A), and the average during construction was 82.1 dB(A).

LANL biological resources SMEs conducted a series of sound measurements at LANL to investigate background noise levels around AEIs (Vrooman et al. 2000). Background noise levels were significantly higher in daytime than in nighttime. AEIs with greater than 10 percent developed area in their buffers had significantly higher levels of background noise than undeveloped AEIs. Mean background sound levels were 51.3 dB(A) in developed AEIs and 39.6 dB(A) in undeveloped AEIs. The LANL biological resources project review process uses the individual AEI background measurements from Vrooman et al. (2000) to screen project activities for increases more than 6 dB(A) above background.

LANL biological resources SMEs took sound level measurements of heavy equipment use associated with concrete recycling on Sigma Mesa at LANL in 2004 (Hansen 2004). At this location, background noise levels at two different locations were 55.2 and 58.8 dB(A). Operation of a dump truck hauling and dumping concrete increased noise levels above background by a mean of 22.7 dB(A) at 30 m (98 ft) and 2.4 dB(A) at 80 m (262 ft). Additional sound level measurements were taken in the same general area on Sigma Mesa in 2005 as part of a BA for the operation of an asphalt batch plant (Hansen 2005). Measurements were taken on the north rim of Mortandad Canyon (south of the asphalt batch plant at distances of approximately 30 to 122 m (100 to 400 ft), at the bottom of Mortandad Canyon, approximately 183 to 244 m (600 to 800 ft) from the asphalt

batch plant, and on the south rim of Mortandad Canyon approximately 305 m (1,000 ft) from the asphalt batch plant. Background noise levels at the various locations ranged from 41.1 to 48.7 dB(A). The only locations with increases greater than 3 dB(A) during operation of the asphalt batch plant were the locations on the north rim of Mortandad Canyon, within 122 m (400 ft) of the asphalt batch plant. Noise from the operation of the asphalt batch plant was not detected in the bottom of Mortandad Canyon or on the south rim.

LANL biological resources SMEs took sound level measurements around the LANL Biosafety Level 3 (BSL-3) Laboratory with the heating, ventilation, and air conditioning (HVAC) system on and with it off (Hansen 2009). The area to the north of the BSL-3 is developed, the area to the south is not. Background noise levels north of the facility ranged from 53.6 to 57.6 dB(A). Background noise levels south of the facility ranged from 41.6 to 49.7 dB(A). Noise from the HVAC system was detected at 25 m (82 ft) from the facility on both sides, but was not detected at 81 m (266 ft) on the north side, or at 107 m (351 ft) on the south side.

Overall, these studies appear to show that areas adjacent to or within developed areas or paved roads are likely to have daytime average background noise levels between 45 and 63 dB(A). Less disturbed areas are likely to have average background noise levels between 37 and 50 dB(A).

2.2.3.5 Artificially Produced Light

There is no information available on the effects of artificially produced light on Mexican Spotted Owls. Under the Los Alamos County Code, commercial site development plans are reviewed to ensure that lighting serves the intended use of the site while minimizing adverse impacts to adjacent residential property (Section 16-276). Section 16-276 of the County Code includes light source measurement limitations by zoning district. The code allows off-site light to be 0.5 foot candles (fc) in residential areas. By comparison, full moonlight measures 0.1 fc, and a crescent moon was measured at 0.01 fc. Table A-2 in the Appendix presents preliminary light measurements in fc.

Preliminary surveys were conducted for light levels within Los Alamos Canyon at the Omega Reactor (Keller and Foxx 1997). The Omega Reactor was brightly lit for purposes of security; therefore, total light intensity was greater than the average street lighting. Measurements were conducted at a light pole with an open parking lot at the reactor as the source. Trees did not obscure the area. Using the relationship of light intensity reducing as a square of the distance, calculations using the field data indicated that at 30 m (98 ft) from the source the light levels would be equivalent or nearly equivalent to full moonlight.

3.0 AEI GENERAL DESCRIPTION FOR MEXICAN SPOTTED OWL

An AEI consists of two areas—a core and a buffer. The core of the habitat is defined as suitable canyon habitat from rim to rim and 100 m (328 ft) out from the top of the canyon rim. The buffer area is 400 m (1,312 ft) wide extending outward from the edge of the core area. Although adult Mexican Spotted Owls may be found within their home range anytime throughout the year, the primary threat from disturbance to the owls is during the breeding season when owl pairs are tied to their nest sites. Therefore, management of disturbance in Mexican Spotted Owl AEIs is concentrated on the breeding season.

3.1 Method for Identifying a Mexican Spotted Owl AEI

The original location of each Mexican Spotted Owl AEI was identified using a habitat model developed by Johnson (1998) that classified nesting and roosting habitat for Mexican Spotted Owls using topographic characteristics and vegetative diversity. LANL biological resources SMEs compared the results from the Johnson (1998) model to a different model identifying slopes >40 percent in mixed conifer and ponderosa pine cover types at LANL. Areas identified from the Johnson (1998) model application to LANL that were over five contiguous 30 × 30 m (97 × 98 ft) pixels in size, were above 1,980 m (6,496 ft) in elevation, and that had mixed conifer or ponderosa pine forest cover, were considered suitable Mexican Spotted Owl habitat. Where suitable habitat was identified, AEI core area boundaries were established to include the canyons and 100 m (328 ft) outward from the canyon rims.

A new Mexican Spotted Owl habitat model was developed and refined for application on LANL following the Cerro Grande wildfire (Hathcock and Haarmann 2008). This model incorporated finer-scale vegetation characteristics into the Mexican Spotted Owl habitat quality assessment. This model was used to redelineate the boundaries of the Mexican Spotted Owl AEIs at LANL in 2005 following wildfire, drought, and a regional bark beetle outbreak (USFWS consultation number 22420-2006-I-0010).

The new core boundaries were delineated with an area approximately 0.4 km (0.25 mi) from the edge of the nearest suitable habitat, up and down canyon. Core boundaries were established along readily recognizable geologic features or anthropogenic features in the terrain wherever possible to facilitate the ease of identification of core boundaries when in the field.

3.2 Location and Number of Mexican Spotted Owl AEIs

There are currently five Mexican Spotted Owl AEIs on LANL, each encompassing one or more canyons. In general, the AEI cores are centered in canyons on the western side of LANL. The canyons with AEIs are Cañon de Valle, Water, Pajarito, Los Alamos, Sandia, Mortandad, and Three-Mile. AEI boundaries are maintained in the LANL biological resources program GIS database.

4.0 AEI MANAGEMENT

4.1 Overview

This AEI management section provides guidelines for LANL operations to reduce or eliminate the threats to Mexican Spotted Owls from 1) habitat alterations that reduce habitat quality and 2) disturbance of breeding or potentially breeding owls. Habitat alterations are considered for all AEIs and for both core and buffer areas. Disturbance activities to owls are considered only for occupied AEIs and only for impacts on core areas. Developed areas (see Part I, Section 3.1) that have ongoing baseline levels of activities and are not suitable habitat for Mexican Spotted Owls have different restrictions than undeveloped core or buffer areas. Therefore, the location of the disturbance activity within the AEI, the occupancy status of the AEI, and the type of activity all affect whether or not the activity is allowable. AEIs for different species may overlap, and an activity must meet the guidelines of all applicable site plans to be allowable.

4.2 Definition and Role of Occupancy in AEI Management

Summary: The occupancy status of an AEI affects what disturbance activities are allowable in different areas (core, buffer, developed) of the AEI. All Mexican Spotted Owl AEIs are considered occupied during March 1 through August 31 or until surveys show the AEI to be unoccupied. See the Activity Table (Table 1, Section 4.5.2) for restrictions on occupied undeveloped core and buffer areas, and Part I, Section 3.1 for restrictions on developed areas.

Occupancy simply refers to whether or not an AEI is occupied during a species' period of sensitivity. For Mexican Spotted Owls, LANL is primarily concerned with protecting the owls from disturbance during the breeding season. Because individuals may colonize suitable habitat, all Mexican Spotted Owl AEIs are treated as though they are occupied from March 1 through August 31 or until surveys show an AEI to be unoccupied. Mexican Spotted Owl surveys are conducted from late March through June. In general, surveys in areas with ongoing or proposed projects are completed by May 15. If a nest is located during surveys, then the AEI can be treated as unoccupied except for the area within a 400 m (1,312 ft) radius of the nest site. Because owls are not as sensitive to disturbance during the non-breeding season, Mexican Spotted Owl AEIs are treated as unoccupied from September 1 to February 28.

The occupancy status of an AEI affects what activities are allowable in the AEI. Although activities causing habitat alterations are restricted in all AEIs, disturbance activities are restricted only in occupied AEIs. The Activity Table (Table 1, Section 4.5.2) provides dates and levels of allowable disturbance activities within occupied Mexican Spotted Owl AEIs under the guidelines of this site plan. Contact a LANL biological resources SME to find out the current occupancy status of an AEI (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.3 Introduction to AEI Management Guidelines

Summary: The habitat alterations section and the activities section give the guidelines for habitat alteration and disturbance activities, respectively, for Mexican Spotted Owl AEIs. The flow chart (see Figure 1) provides a quick reference to determine what, if any, guidelines need to be consulted for a specific activity. Protective measures give management practices that should be applied when working or considering work in AEIs. LANL biological resources SMEs are available to answer questions and provide advice (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Sections 4.4 and 4.5 provide the guidelines for habitat alterations and allowable activities in AEI core and buffer areas. Section 4.4 describes what and where habitat alterations are allowed under the guidelines of this site plan. Section 4.5 describes what, when, and where disturbance activities are allowed in occupied AEIs under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance. This site plan only provides guidelines for Mexican Spotted Owl AEIs. If an activity is desired in an area with overlapping AEIs, all applicable site plans must be consulted. AEI maps show the location of all AEIs in an area. Section 4.6 describes management practices that should be applied when working or considering work in an AEI. LANL biological resources SMEs are available to answer questions and provide advice (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.4 Definition of and Restrictions on Habitat Alterations

4.4.1 Definition of Habitat Alterations

Habitat alteration includes any action that alters the soil structure, vegetative components necessary to the species, prey quality and quantity, water quality, hydrology, or noise or light levels in undeveloped areas of an AEI. Long-term means the alteration lasts for more than one year. For physical disturbances, in general, any activity that can be accomplished by one person with a hand tool is generally not considered habitat alteration; any activity that requires mechanized equipment on a landscape is habitat alteration. An actual activity may take place outside of the AEI and will be considered habitat alteration if consequences of the activity have effects inside the AEI core.

The habitat components most important to Mexican Spotted Owls include vegetative structure, food quality and quantity, and disturbance levels, including noise and light. The forest structure within a canyon designated as a Mexican Spotted Owl AEI is important because it provides roost sites and a suitable habitat for nesting and foraging. Trees along the canyon rim are used for foraging and territorial calling, and they shelter the canyon interior from light and noise disturbances.

A long-term change in light or noise levels within the undeveloped core of an AEI is considered to be a habitat alteration if it increases average noise levels by ≥ 6 dB(A) during any portion of the 24-hour day, or it increases average light levels by ≥ 0.05 fc at night. Changes in noise and light levels are measured at the core area boundary if the source is outside the core area, or at 10 m (33 ft) from the source if the source is inside the undeveloped core area. Impacts of changes in developed areas on undeveloped cores are measured at the developed area boundary if it is within the core, or at the core area boundary if the developed area is outside of the core.

4.4.2 Fuels Management Practices to Reduce Wildfire Risk

The recovery plan for the Mexican Spotted Owl lists stand-replacing wildfires as a primary threat to their habitat and encourages land managers to reduce fuel levels and abate fire risks in ways compatible with owl presence on the landscape (USFWS 1995). Within undeveloped core areas, on slopes >40 percent, in the bottoms of steep canyons, and within 30 m (100 ft) of a canyon rim, thinning of trees <22 cm (9 in) diameter at breast height, treatment of fuels, and prescribed and natural prescribed fires are allowed. Exceptions allowing trees >22 cm (9 in) to be thinned within 30 m (100 ft) of buildings are granted to protect facilities. Large logs (>30 cm [11.8 in] midpoint diameter) and snags should be retained. Thinning within core areas not meeting the characteristics listed above, and in buffer areas, may include trees of any size to achieve 8 m (25 ft) spacing between tree crowns. However, clear cutting is not allowed in undeveloped core areas.

For health and safety reasons, any trees within 30 m (100 ft) of buildings, but outside a developed area, may be thinned to achieve 8 m (25 ft) spacing between crowns. Habitat alterations including thinning are not restricted in developed areas. However, LANL biological resources SMEs encourage the retention of trees and snags along canyon rims if the rim is in a developed area. Because of the extreme fire danger associated with firing sites and the potential impact of a fire on Mexican Spotted Owl habitat, firing sites and burn areas are treated separately for the purposes of fuels management. Trees within 380 m (1,246 ft) of firing sites and burn areas in both core and

buffer areas may be thinned to a 15 m (49 ft) spacing between trees everywhere except on slopes >40 percent or in the bottoms of steep canyons. Any tree over 22 cm (9 in) diameter at breast height within 380 m (1,246 ft) of a firing site may be delimited to a height of 2 m (6 ft) to help prevent crown fires.

In historically occupied core areas, fuels treatment may not exceed 10 percent of the undeveloped core area and is not allowed within 400 m (1,312 ft) of nesting areas. In occupied core areas, forest management activities must take place during the nonbreeding season (September 1 to February 28) (USFWS 1995). Fuels management activities that are allowable in core areas have to be reported to LANL biological resources SMEs for tracking.

4.4.3 Utility Corridors

Habitat alterations such as cutting down trees that threaten power lines are allowed within 8 m (26 ft) of either side of an existing utility line in all areas of an AEI (Trujillo and Racinez 1995). New utility lines and utility lines requiring clearance of a right-of-way greater than 16 m (52 ft) total must be individually reviewed for ESA compliance. Disturbance activities must follow the guidelines given in the Activities Table (Table 1, Section 4.5.2) for occupied AEIs.

4.4.4 Restrictions on Habitat Alterations

Summary: Habitat alterations other than fuels management practices and utility corridor maintenance are not allowed in undeveloped core areas. Habitat alterations in buffer areas are restricted to 2 ha (5 ac) per project, with a maximum cap on development in the buffer for each AEI. Habitat alterations other than fuels management and utility corridor maintenance must be reported to LANL biological resources SMEs for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Habitat alterations other than the fuels management practices and utility corridor maintenance described above are not allowed in undeveloped core areas under the guidelines of this site plan. If a project or activity is planned that would alter habitat in an undeveloped core area, it must be individually evaluated for ESA compliance. Habitat alterations in undeveloped buffer areas other than the fuels management activities and utility corridor maintenance described above are restricted to 2 ha (5 ac) in area per project and are subject to other restrictions including light and noise effects in the core (see Section 2.2.3). Projects in the buffer over 2 ha (5 ac) in size will require individual ESA compliance review.

Habitat alterations in a buffer area other than the fuels management and utility corridor maintenance described above must be reported to LANL's biological resources SMEs for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>). There is a cumulative maximum area that can be developed in each AEI's buffer. Once that cumulative area is reached, all habitat alterations in a buffer will require individual ESA reviews for compliance.

4.5 Definition of and Restrictions on Disturbance Activities

4.5.1 Definitions of Disturbance Activities

LANL biological resources SMEs considered six categories of activities that might cause disturbance in an AEI. Most of the categories were first identified in the document "Peregrine

Falcon Habitat Management in the National Forests of New Mexico,” prepared for the United States Forest Service (Johnson 1994). LANL biological resources SMEs added explosives detonation, other light production, and other noise production to provide the most comprehensive list of activities possible, thereby reducing the need for individual review of activities for ESA compliance. The categories of activities are people, vehicles, aircraft, other light production, other noise production, and explosives detonation. LANL biological resources SMEs have defined low, medium, and high levels of impact for these activities except for explosives detonation. Activity levels for explosives detonation have been designed to follow the guidelines agreed upon by LANL, DOE, and USFWS in the DARHT BA (Keller and Risberg 1995). Restrictions on explosives detonation are described in the definition of the activity, but are not included in the Activity Table (Table 1, Section 4.5.2). These six categories of activities are restricted only in AEIs that are classified as occupied.

People—includes any entry of people into an AEI on foot.

- Low impact is the presence of three or fewer people per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of people or the duration criteria.
- High impact is the exceedance of both the number of people and the duration criteria.

Vehicles—includes the entry of any two-axle highway vehicle, all-terrain vehicle, or motorized machinery into an AEI by any route other than a paved road or an improved gravel road.

- Low impact is the presence of two or fewer vehicles per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of vehicles or the duration criteria.
- High impact is the exceedance of both the number of vehicles and the duration criteria.

Aircraft—includes the operation of any aircraft below an elevation of 600 m (2,000 ft) above the highest ground level in the local vicinity.

- Low impact is the presence of one single-engine airplane and the duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of aircraft or the duration criteria.
- High impact is the exceedance of both the number of aircraft and the duration criteria.

Any use of helicopters, jet airplanes, and propeller airplanes with two or more engines is classified as medium impact or above, depending on duration.

Other Light Production—includes any activity not previously listed that causes additional light to occur in an AEI core area. For example, plans for construction of a new building at the edge of a developed area may call for lighting at night to facilitate nighttime work that impacts an undeveloped core area.

- Low impact is the increase of light intensity by ≤ 0.05 fc and a duration of one night or less per project per breeding season.
- Medium impact is the exceedance of either the intensity or duration criteria.
- High impact is the exceedance of both the intensity and duration criteria.

Measurements for increases in light are taken at the AEI core area boundary closest to the light source if the source is outside the core and at 10 m (33 ft) from the source if the source is inside the core. Light measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core or at the closest core boundary if the developed area is outside of an AEI core.

Other Noise Production—includes any activity not previously listed except for explosives detonation that causes additional noise to occur in an AEI. For example, operation of machinery creates noise.

- Low impact is increasing noise levels in an AEI core by 6 dB(A) or less for one day or less per project per breeding season.
- Medium impact is the exceedance of either the level or the duration criteria.
- High impact is the exceedance of both the level and the duration criteria.

Measurements for increases in noise are taken at the AEI core boundary closest to the noise source if the source is outside the core and at 10 m (33 ft) from the source if the source is inside the core. Noise measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core or at the closest core boundary if the developed area is outside of an AEI core.

Explosives Detonation—includes the use of high explosives for any purpose. LANL biological resources SMEs did not define low, medium, and high levels of this activity because of the difficulty of determining levels for a shot before actually doing the shot. For the purpose of explosives detonation near Mexican Spotted Owl AEIs, occupied habitat is defined as the area within 400 m (1,312 ft) of the current year's nest/roost sites or the previous year's nest site if a current site has not been identified. No explosives detonation will take place within 400 m (1,312 ft) of nest/roost sites in occupied habitat between March 1 and August 31. Explosives detonation at night at sites within 400 to 800 m (1,312 to 2,624 ft) of a nest site in occupied habitat is restricted to once a month from March 1 and August 31. There are no restrictions on daytime explosives testing between 400 and 800 m (1,312 to 2,624 ft). There are no restrictions between September 1 and February 28 or in unoccupied habitat. Explosives detonation adjacent to AEIs that have not previously been recorded by LANL as occupied will have no restrictions unless surveys detect Mexican Spotted Owls. Explosives tests not allowed under the guidelines of this site plan must be individually reviewed for ESA compliance.

4.5.2 Activity Table

The dates shown in the Activity Table (Table 1) are the dates between which the activity in the row is restricted under the guidelines of this site plan. All AEIs are considered occupied from March 1 to August 31 or until surveys show an AEI to be unoccupied. If owls are detected, AEIs

are considered occupied until August 31 within 400 m (1,312 ft) of the nest site. Consult with LANL biological resources SMEs to find out occupancy status of AEIs and what locations are within 400 m (1,312 ft) of nest sites (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Table 1. Restrictions on Activities in Undeveloped Occupied Mexican Spotted Owl AEIs

	Core	Buffer
<i>People</i>		
Low	No Restrictions*	No Restrictions
Medium	March 1 to August 31	No Restrictions
High	March 1 to August 31	No Restrictions
<i>Vehicles</i>		
Low	No Restrictions	No Restrictions
Medium	March 1 to August 31	No Restrictions
High	March 1 to August 31	No Restrictions
<i>Aircraft</i>		
Low	March 1 to August 31	No Restrictions
Medium	March 1 to August 31	March 1 to May 15
High	March 1 to August 31	March 1 to August 31
<i>Other Light Production</i>		
Low	March 1 to August 31	No Restrictions**
Medium	March 1 to August 31	No Restrictions**
High	March 1 to August 31	No Restrictions**
<i>Other Noise Production</i>		
Low	March 1 to August 31	No Restrictions**
Medium	March 1 to August 31	No Restrictions**
High	March 1 to August 31	No Restrictions**
<i>Explosives Detonation (see text in Section 4.5.1)</i>		

*Entry is restricted in core areas that are occupied within 400 m (1,312 ft) of the nest site from March 1 to August 31. If the current nest has not been located, entry is restricted within 400 m (1,312 ft) of the previous year's nest site.

**Noise or light production in the buffer is restricted if the activity would violate core area restrictions on noise or light.

4.6 Protective Measures

Summary: This section provides a list of management practices to apply in Mexican Spotted Owl AEIs.

- Timing of projects must take into account that projects in core areas or projects that violate restrictions for occupied buffer areas must stop on February 28 each year until occupancy status of the AEI is determined.
- Every reasonable effort should be made to reduce the noise from explosives testing within 800 m (2,624 ft) of occupied habitat. Methods to reduce noise could include contained shots, noise shields in the direction of AEI cores, etc. For night shots, every reasonable effort should be made to limit the amount of light directed into AEI core areas.

- Put signs on dirt roads and trails leading into AEIs labeling them as restricted access areas and providing a number to contact for access restrictions.
- Keep disturbance and noise to a minimum.
- Avoid unnecessary disturbance to vegetation (e.g., excessive parking areas or equipment storage areas, off-road travel, materials storage areas, crossing of streams or washes).
- Avoid removal of vegetation along drainage systems and stream channels.
- Avoid all vegetation removals not absolutely necessary.
- Appropriate erosion and runoff controls should be employed to reduce soil loss. The controls must be put in place and periodically checked throughout the life of projects.
- All exposed soils must be revegetated as soon as feasible after construction to minimize erosion.
- In the Los Alamos Canyon AEI, development should be focused away from undeveloped areas on the western end of the AEI.

5.0 LEVELS OF DEVELOPMENT IN AEI CORE AND BUFFERS

5.1 Allowable Habitat Alteration in the Buffer Areas

The following quantifications of development and guidance for allowable habitat alteration in buffer areas were published and consulted on in the 1999 version of the HMP. Most AEIs changed in dimensions during the 2005 redelination of the habitats, and many have experienced additional development. Development in buffer habitat was not addressed during the 2005 consultation. Many projects were reviewed and received USFWS concurrence between 1999 and 2014.

LANL biological resources SMEs have provided the current development status for each of the AEIs at the end of each paragraph. The percent developed numbers were derived with the original size of the AEIs.

Cañon de Valle—In 1999, 16.3 ha (40.3 ac, 2.9 percent) of the core was developed and 52.2 ha (129 ac, 6.8 percent) of the DOE-controlled buffer was developed. For this AEI, it was recommended that only an additional 25.30 ha (62.5 ac) of the AEI buffer be developed. The 1999 HMP stated that once this cap is reached or a large-scale project is proposed, additional consultation with USFWS would be required. By 2011, 28 ha (69.2 ac) of the core and 84 ha (207.5 ac) of the buffer had been developed.

Pajarito—In 1999, there were 6.7 ha (16.5 ac, 5.5 percent) of the core developed and 75.1 ha (186.5 ac, 16.7percent) developed in the buffer. LANL biological resources SMEs recommended only an additional 35 ha (86.4 ac) of the buffer be developed before additional USFWS consultations take place. The 1999 HMP stated that once the cap is reached or a single large-scale project is proposed, additional consultation would be required. By 2011, 27 ha (66.7 ac) of the core and 89 ha (220 ac) of the buffer had been developed.

Los Alamos—In 1999, there were 77.16 ha (190 ac) of the core developed and 167.2 ha (413.1 ac) developed in the buffer. For this AEI, LANL biological resources SMEs recommended only an

additional 28.6 ha (70.6 ac, 5.9 percent) of the DOE-owned buffer be developed before additional USFWS consultations take place.

Because this AEI is so heavily developed, additional development was restricted to a few selected areas within the buffer. Development outside of these areas requires individual review for ESA compliance. A large percentage of this AEI was removed in the 2005 and 2013 BAs. By 2011, 94 ha (232.2 ac) of the core and 181 ha (447.3 ac) of the buffer had been developed.

Sandia-Mortandad—In 1999, 98.4 ha (243.2 ac) of this AEI on DOE lands were developed, including 29 ha (71.7 ac, 10.7 percent) of the core and 75.1 ha (185.6 ac, 16.7 percent) of the buffer. For this AEI, LANL biological resources SMEs recommended only an additional 38.1 ha (94.1 ac) of the buffer be developed before additional USFWS consultations take place. Once this cap is reached or a single large-scale project is proposed, additional consultation will be required. By 2011, 45 ha (111.2 ac) of the core and 83 ha (205.1 ac) of the buffer had been developed.

Three Mile—In 1999, 25.3 ha (62.5 ac) of this AEI on DOE lands were developed, including 3.8 ha (9.4 ac, 2.8 percent) of the core and 21.5 ha (51.1 ac, 7.3 percent) of the buffer. For this AEI, LANL biological resources SMEs recommended only 64.3 ha (158.8 ac) additional area of buffer be developed before additional USFWS consultations take place. Once this cap is reached or a single large-scale project is proposed, additional consultation will be required. By 2011, 12 ha (29.6 ac) of the core and 37 ha (91.4 ac) of the buffer had been developed.

III. AREA OF ENVIRONMENTAL INTEREST SITE PLAN FOR THE SOUTHWESTERN WILLOW FLYCATCHER

1.0 SPECIES DESCRIPTION—SOUTHWESTERN WILLOW FLYCATCHER

1.1 Status

In 1995, the USFWS designated the Southwestern Willow Flycatcher as a federally endangered species (60 FR 10693). The USFWS most recently designated critical habitat for the Southwestern Willow Flycatcher in 2005 (70 FR 60885). The most recent recovery plan was published for Southwestern Willow Flycatcher in 2002 (USFWS 2002).

1.2 General Biology

The Southwestern Willow Flycatcher is one of four subspecies of the Willow Flycatcher. The historic range of the Southwestern Willow Flycatcher included Arizona, California, Colorado, New Mexico, Texas, Utah, and Mexico. Currently, this flycatcher breeds in riparian habitats from southern California to Arizona and New Mexico, plus southern Colorado, Utah, Nevada, and far western Texas. In winter it is found in southern Mexico, Central America, and northern South America (USFWS 2002).

Southwestern Willow Flycatchers are present in New Mexico from early May through mid-September and breed from late May through late July (Finch and Kelly 1999; USFWS 2002; Yong and Finch 1997). The flycatcher's nesting cycle is approximately 28 days. Three or four eggs are laid at one-day intervals, and incubation begins when the clutch is complete. The female incubates eggs for approximately 12 days, and the young fledge about 13 days after hatching.

Southwestern Willow Flycatchers typically raise one brood per year (USFWS 2002). Because arrival dates vary, northbound migrant Willow Flycatchers (of all subspecies) pass through areas where Southwestern Willow Flycatchers have already begun nesting. Similarly, southbound migrants (of all subspecies) in late July and August may occur where Southwestern Willow Flycatchers are still breeding. Therefore, it is only during a short period of the breeding season (approximately June 15 through July 20) that one can assume that a Willow Flycatcher seen within Southwestern Willow Flycatcher range is probably of that subspecies (USFWS 2002).

The Southwestern Willow Flycatcher only nests along rivers, streams, and other wetlands. It is found in close association with dense stands of willows (*Salix* spp.), arrowweed (*Pluchea* spp.), buttonbush (*Cephalanthus* spp.), tamarisk (*Tamarix* spp.), Russian olive (*Eleagnus angustifolia* L.), and other riparian vegetation, often with a scattered overstory of cottonwood (*Populus* spp.) (USFWS 2002). The size of vegetation patches or habitat mosaics used by Southwestern Willow Flycatchers varies considerably and ranges from as small as 0.8 ha (1.9 ac) to several hundred hectares (Hatten and Paradzick 2003). The Southwestern Willow Flycatcher nests in thickets of trees and shrubs approximately 2 to 15 m (6 to 49 ft) tall, with a high percentage of canopy cover and dense foliage from 0 to 4 m (0 to 13 ft) above ground. Regardless of the plant species composition or height, occupied sites always have dense vegetation in the patch interior (Allison et al. 2003; USFWS 2002).

The Southwestern Willow Flycatcher is an insectivore. It forages within and occasionally above dense riparian vegetation, taking insects on the wing and gleaning them from foliage. The flycatcher's prey includes flies, bees, wasps, ants, beetles, moths, butterflies, grasshoppers, crickets, dragonflies, damselflies, and spiders (Durst et al. 2008; Wiesenborn and Heydon 2007).

1.3 Threats

The current population of Southwestern Willow Flycatchers in the United States is estimated at 1,214 territories (Durst et al. 2006). The distribution of breeding groups is highly fragmented, with groups often separated by considerable distances. This subspecies has suffered declines attributed to extensive loss of its cottonwood-willow habitat and to poor productivity resulting from brood parasitism by Brown-headed Cowbirds (*Molothrus ater*) (USFWS 2002).

2.0 IMPACT OF HUMAN ACTIVITIES

2.1 Introduction

The primary threats to the Southwestern Willow Flycatcher on LANL property are 1) impacts on habitat quality from LANL operations and 2) disturbance of nesting flycatchers. This section includes a review and summary of the known effects of various types of human activities to the Southwestern Willow Flycatcher and an overview of the current levels of activities at LANL within species habitat.

2.2 Impacts on Habitat Quality

2.2.1 Development

Throughout the Southwest, riparian habitats are rare and tend to be small and separated by vast expanses of arid lands. The Southwestern Willow Flycatcher has experienced extensive loss and

modification of its habitat resulting from urban and agricultural development, water diversion and impoundment, channelization of waterways, livestock grazing, off-road vehicle and other recreational uses, and hydrological changes resulting from these and other land uses (USFWS 2002). River and stream impoundments, groundwater pumping, and overuse of riparian areas have altered as much as 90 percent of the Southwestern Willow Flycatcher's habitat (USFWS 2002). Loss of cottonwood-willow riparian forests has had widespread impact on the distribution and abundance of bird species associated with that forest. Development itself may be tolerated if the habitat is left intact.

Because watercourses at LANL tend to be intermittent to ephemeral, riparian habitat is uncommon. There has been extensive degradation of the riparian zone along the Rio Grande caused by feral cattle grazing and flood control operations of Cochiti Lake. There are other riparian/wetland areas on LANL associated with canyon bottoms, the most significant one being Pajarito wetlands in the lower end of Pajarito Canyon. A major paved road traverses the wetlands area in Pajarito Canyon.

2.2.2 Ecological Risk

There is no specific information on the impact of chemicals on Southwestern Willow Flycatcher.

2.2.2.1 Ecorisk Assessment

LANL completed two ecological risk assessments that included the Southwestern Willow Flycatcher between 1997 and 2009. The ecological risk assessment process involves using computer modeling to assess potential effects to animals from COPCs that have been detected in the environment. The ecological risk assessments concluded that, in general, there is a small potential for effects to Southwestern Willow Flycatcher from COPCs (Gonzales et al. 1998; Gonzales et al. 2009).

An ecotoxicological risk assessment for the Southwestern Willow Flycatcher, centered on the Pajarito wetlands, found that between 7 and 16 percent of 100 hypothetical nest sites examined had hazard indices >1.0 and <10.0 , depending on the foraging scenario (Gonzales et al. 1998). This indicates a small potential for impacts from chemicals. The primary chemicals driving the risk scenario were pentachlorophenol, aluminum, radium-226, calcium, and thorium-228. Aluminum, radium, and thorium are naturally occurring substances in northern New Mexico.

2.2.3 Disturbance

2.2.3.1 Pedestrians and Vehicles

There is no specific information on the reactions of Southwestern Willow Flycatchers to pedestrians and vehicles available. The recovery plan for the Southwestern Willow Flycatcher recommends providing protected areas, reducing unpredictable activities providing visual barriers, and reducing noise disturbance (USFWS 2002).

2.2.3.2 Aircraft

There is no specific information on the reaction of Southwestern Willow Flycatchers to aircraft available.

LANL lies within restricted airspace and planes infrequently fly less than 609 m (2,000 ft) above ground level. The County of Los Alamos operates an airport along the northern edge of LANL. The airport is located on the southern rim of Pueblo Canyon. Most flights approach and depart to the east of the airport, over the Rio Grande.

2.2.3.3 Explosives

There is no specific information on the reaction of Southwestern Willow Flycatchers to explosives detonation available. The Southwestern Willow Flycatcher AEI is not located close to any explosives testing sites at LANL.

2.2.3.4 Other Sources of Noise

LANL biological resources SMEs do not have good information on the effects of noise, including machinery operation, on Southwestern Willow Flycatchers. However, Southwestern Willow Flycatchers are probably not as sensitive to disturbance as some other threatened or endangered species (USFWS 2002). For a description of noise levels at LANL, see Part I, Section 2.2.3.

2.2.3.5 Artificially Produced Light

There is no information on the effects of artificially produced light on Southwestern Willow Flycatchers available. Under the Los Alamos County Code, commercial site development plans are reviewed to ensure that lighting serves the intended use of the site while minimizing adverse impacts to adjacent residential property (Section 16-276). Section 16-276 of the County Code includes light source measurement limitations by zoning district. The code allows off-site light to be 0.5 fc in residential areas. By comparison, full moonlight measures 0.1 fc, and a crescent moon was measured at 0.01 fc.

3.0 AEI GENERAL DESCRIPTION FOR SOUTHWESTERN WILLOW FLYCATCHER

The AEI consists of two types of areas—core and buffer. Core areas represent wetland areas with suitable vegetation for nesting, primarily dense willows. The buffer area is the area within 100 m (328 ft) of core areas. The Southwestern Willow Flycatcher AEI on LANL consists of two separate core areas. For purposes of this site plan, both core areas and associated buffers are considered one AEI unit.

3.1 Method for Identifying the Southwestern Willow Flycatcher AEI

The core areas were defined by the presence of riparian habitat and suitable wetland vegetation. These areas were identified in 1994 during a survey of wetlands at LANL and mapped using a global positioning system receiver. Wetlands without stands of dense willows at least 2 m (7 ft) tall and 30 m (98 ft) wide were not included in the AEI. The buffer area is the area within 100 m (328 ft) of the core areas.

3.2 Location of the Southwestern Willow Flycatcher AEI

LANL has one AEI for Southwestern Willow Flycatcher. It is composed of two core areas with associated buffers. The AEI core areas are located in the bottom of Pajarito Canyon, on the eastern side of LANL adjacent to Pajarito Road and State Road 4. The boundaries of the Southwestern

Willow Flycatcher AEI are maintained in the biological resources program GIS database at LANL.

4.0 AEI MANAGEMENT

4.1 Overview

This AEI management section provides guidelines for LANL operations to reduce or eliminate the threats to the Southwestern Willow Flycatcher from 1) habitat alterations that reduce habitat quality and 2) disturbance of breeding or potentially breeding flycatchers. Habitat alterations are considered for all AEIs and for both core and buffer areas. Disturbance activities to flycatchers are considered only for occupied AEIs and only for impacts on core areas. Developed areas (see Part I, Section 2.3) with ongoing baseline levels of activities and are not suitable habitat for Southwestern Willow Flycatchers have different restrictions than undeveloped core or buffer areas. Therefore, the location of the disturbance activity within the AEI, the occupancy status of the AEI, and the type of activity all affect whether or not the activity is allowable. AEIs for different species may overlap, and an activity must meet the guidelines of all applicable site plans to be allowable. Protective measures are described as management practices that should be followed when working in AEIs.

4.2 Definition and Role of Occupancy in AEI Management

Summary: The occupancy status of an AEI affects what disturbance activities are allowable in different areas (core, buffer, developed) of the AEI. The Southwestern Willow Flycatcher AEI is considered occupied during May 15 through September 15 or until the surveys show the AEI to be unoccupied. See the Activity Table (Table 2, Section 4.5.2) for restrictions on occupied undeveloped core and buffer areas, and Part I, Section 2.3 for restrictions on developed areas.

Occupancy simply refers to whether or not an AEI is occupied during a species' period of sensitivity. For Southwestern Willow Flycatchers, LANL biological resources SMEs are primarily concerned with protecting the birds from disturbance during the breeding season. Because individuals may colonize suitable habitat, the Southwestern Willow Flycatcher AEI is treated as though it is occupied from May 15 through September 15 or until surveys show an AEI to be unoccupied. Southwestern Willow Flycatcher surveys are conducted during May, June, and July. Because Southwestern Willow Flycatchers migrate south for the winter, the AEI is treated as unoccupied from September 16 to May 14.

The occupancy status of an AEI affects what activities are allowable in the AEI. Although activities causing habitat alterations are always restricted, disturbance activities are restricted only in occupied AEIs. Table 2 provides dates and levels of disturbance activities allowable in the occupied Southwestern Willow Flycatcher AEI under the guidelines of this site plan. The dates in Table 2 indicate the time period during which the activity is restricted. Contact a LANL biological resources SME to find out the current occupancy status of an AEI (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.3 Introduction to AEI Management Guidelines

Summary: The habitat alterations section (Section 4.4) and the activities section (Section 4.5) gives the guidelines for habitat alteration and disturbance activities, respectively, for the

Southwestern Willow Flycatcher AEI. The flow chart (see Figure 1) provides a quick reference to determine what, if any, guidelines need to be consulted for a specific activity. Protective measures give management practices that should be applied when working or considering work in AEIs. LANL biological resources SMEs are available to answer questions and provide advice (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Sections 4.4 and 4.5 provide the guidelines for habitat alterations and allowable activities in AEI core and buffer areas. The flow chart (see Figure 1) provides a quick reference that should be used to determine whether a project or activity will affect an AEI and what sections of the site plan need to be consulted. The section on habitat alterations (Section 4.4) describes what and where habitat alterations are allowed under the guidelines of this site plan. The section and table on allowable activities (Section 4.5 and Table 2) describe what, when, and where disturbance activities are allowed in occupied AEIs under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance. This site plan only provides guidelines for the Southwestern Willow Flycatcher AEI. If an activity is desired in an area with overlapping AEIs, all applicable site plans must be consulted. Section 4.6 describes management practices that should be applied when working or considering work in an AEI. LANL biological resources SMEs are available to help interpret site plans and answer questions (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.4 Definition of and Restrictions on Habitat Alterations

4.4.1 Definition of Habitat Alterations

Habitat alteration includes any action that alters over the long-term the soil structure, vegetative components necessary to the species, prey quality and quantity, water quality, hydrology, or noise or light levels in undeveloped areas of an AEI. Long-term means the alteration lasts for more than one year. Habitat alteration includes any activity that removes vegetative components important to the Southwestern Willow Flycatcher (primarily trees and shrubs). An actual activity may take place outside of the AEI and will be considered habitat alteration if consequences of the activity have effects inside the AEI core.

The habitat components most important to flycatchers include vegetative structure, food quality and quantity, and disturbance levels, including noise and light. The thickets of certain trees and shrubs along wetlands are important because they provide roost sites and a suitable habitat for nesting and foraging.

4.4.2 Fuels Management Practices to Reduce Wildfire Risk

Thinning within undeveloped buffer areas may include trees of any size to achieve 7.6 m (25 ft) spacing between tree crowns. However, clear cutting is not allowed in undeveloped buffer areas. No fuels management practices are allowed in core areas. Habitat alterations including thinning are not restricted in developed areas. All fuels management activities in developed and buffer areas must follow the guidelines in the Activity Table (Table 2, Section 4.5.2) if the AEI is occupied.

4.4.3 Utility Corridors

Habitat alterations such as cutting down trees that threaten power lines are allowed within 8 m (26 ft) of either side of an existing utility line in all areas of an AEI (Trujillo and Racinez 1995).

New utility lines and utility lines requiring clearance of a right-of-way greater than 16 m (52 ft) total must be individually reviewed for ESA compliance. Disturbance activities must follow the guidelines given in the Activities Table for occupied AEIs.

4.4.4 Restrictions on Habitat Alterations

Summary: Habitat alterations other than the utility corridor maintenance described above are not allowed in undeveloped core areas under the guidelines of this site plan. Habitat alteration in buffers is limited. If a project or activity is planned that would alter habitat in an undeveloped core area, it must be individually evaluated for ESA compliance. Habitat alterations in a buffer area other than fuels management activities or utility corridor maintenance must be reported to a LANL biological resources SME for tracking (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.5 Definition of and Restrictions on Disturbance Activities

4.5.1 Definition of Disturbance Activities

LANL biological resources SMEs considered five categories of activities that might cause disturbance in an AEI. Most of the categories were first identified in the document “Peregrine Falcon Habitat Management in the National Forests of New Mexico” prepared for the U.S. Forest Service (Johnson 1994). Other light production and other noise production were included to provide the most comprehensive list of activities possible, reducing the need for individual review of activities for ESA compliance. The categories of activities are people, vehicles, aircraft, other light production, and other noise production. The impact of explosives detonation on this species is not considered here because there are no explosives testing sites within 2 km (1.25 mi) of potential nesting habitat. Low, medium, and high levels of impact for these activities are considered here. The following categories of activities are restricted only in AEIs that are classified as occupied.

People—includes any entry of people into an AEI on foot.

- Low impact is the presence of three or fewer people per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of people or the duration criteria.
- High impact is the exceedance of both the number of people and the duration criteria.

Vehicles—includes the entry of any two-axle highway vehicle, all-terrain vehicle, or motorized machinery into an AEI by any route other than a paved road or an improved gravel road.

- Low impact is the presence of two or fewer vehicles per project and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of vehicles or the duration criteria.
- High impact is the exceedance of both the number of vehicles and the duration criteria.

Aircraft—includes the operation of any aircraft below an elevation of 600 m (2,000 ft) above the highest ground level in the local vicinity.

- Low impact is the presence of one single-engine airplane and duration of one day or less during a breeding season.
- Medium impact is the exceedance of either the number of aircraft or the duration criteria.
- High impact is the exceedance of both the number of aircraft and the duration criteria.

Any use of helicopters, jet airplanes, and propeller airplanes with two or more engines is classified as medium impact or above, depending on duration.

Other Light Production—includes any activity not previously listed that causes additional light to occur in an AEI core area (e.g., plans for construction of a new building at the edge of a developed area may call for lighting at night to facilitate nighttime work that impacts an undeveloped core area).

- Low impact is the increase of light intensity by up to 0.05 fc and a duration of one night or less per project per breeding season.
- Medium impact is the exceedance of either the intensity or duration criteria.
- High impact is the exceedance of both the intensity and duration criteria.

Measurements for increases in light are taken at the AEI core area boundary closest to the light source, if the source is outside the core, and at 10 m (33 ft) from the source if the source is inside the core. Light measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core, or at the closest core boundary, if the developed area is outside of an AEI core.

Other Noise Production—includes any activity not previously listed except for explosives detonation that causes additional noise to occur in an AEI. For example, operation of machinery causes noise.

- Low impact is increasing noise levels in an AEI core by 6 dB(A) or less for one day or less per project per breeding season.
- Medium impact is the exceedance of either the level or the duration criteria.
- High impact is the exceedance of both the level and the duration criteria.

Measurements for increases in noise are taken at the AEI core boundary closest to the noise source if the source is outside the core, and at 10 m (33 ft) from the source if the source is inside the core. Noise measurements for developed areas are taken at the edge of the developed area if the developed area is within an AEI core, or at the closest core boundary if the developed area is outside of an AEI core.

4.5.2 Activity Table

Disturbance activities are of concern only when Southwestern Willow Flycatchers occupy an AEI. The AEI is always considered occupied between May 15 and September 15, or until surveys show the AEI to be unoccupied. The Southwestern Willow Flycatcher AEI is always considered unoccupied between September 16 and May 14, when flycatchers have migrated for the winter.

For occupancy status of an AEI after completion of surveys, contact a LANL biological resources SME (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

Table 2. Restrictions on Activities in Undeveloped Occupied Southwestern Willow Flycatcher AEI

		Core	Buffer
<i>Restrictions on Occupied Habitat</i>			
<i>People</i>			
	Low	No Restrictions	No Restrictions
	Medium	May 15 to August 15	No Restrictions
	High	May 15 to September 15	No Restrictions
<i>Vehicles</i>			
	Low	May 15 to September 15	No Restrictions
	Medium	May 15 to September 15	No Restrictions
	High	May 15 to September 15	No Restrictions
<i>Aircraft</i>			
	Low	No Restrictions	No Restrictions
	Medium	May 15 to August 15	May 15 to August 15
	High	May 15 to September 15	May 15 to August 15
<i>Other Light/Noise Production</i>			
	Low	May 15 to September 15	No Restrictions*
	Medium	May 15 to September 15	No Restrictions*
	High	May 15 to September 15	No Restrictions*

*Noise or light production in the buffer is restricted if the activity would violate core area restriction on noise or light.

4.6 Protective Measures

Summary: This section provides a list of management practices to apply in the AEI.

- No wetland vegetation will be removed outside of developed areas.
- Appropriate erosion and runoff controls should be employed to reduce soil loss.
- Avoid unnecessary disturbance to vegetation (e.g., excessive parking areas or equipment storage areas, off-road travel, materials storage areas, crossing of streams or washes).
- Avoid removal of vegetation along drainage systems and stream channels.
- Avoid all vegetation removals not absolutely necessary.
- Appropriate erosion controls must be put in place and periodically checked throughout the life of any projects.
- All exposed soils must be revegetated as soon as feasible after disturbance to minimize erosion.

5.0 SOUTHWESTERN WILLOW FLYCATCHER AEI DESCRIPTION

5.1 Pajarito Canyon Southwestern Willow Flycatcher AEI

5.1.1 Allowable Habitat Alteration in the Buffer Area

Since the purpose of the buffer area is to help maintain the core area as suitable Southwestern Willow Flycatcher habitat, habitat alteration in the buffer area will be extremely limited. There are two areas in which restrictions on habitat alteration are relaxed.

1. The mesa top of Mesita del Buey. This mesa top can be developed as long as restrictions on impacts to the core area are met.
2. Pajarito Road within the AEI. Mowing of upland vegetation is allowed up to 5 m (15 ft) from Pajarito Road, or to the fence, if the fence is within 9 m (30 ft). Vegetation must cover the roadsides to prevent sediment runoff, so mowed plants should be at least 5 cm (2 in) high. LANL biological resources SMEs encourage the growth of willow throughout the AEI—even the area along Pajarito Road—to enhance habitat. If, within this area, it is absolutely necessary to remove new willow growth (i.e., to improve visibility for human safety), LANL biological resources SMEs recommend that only willows at or above the level of the roadway surface be mowed.

IV. AREA OF ENVIRONMENTAL INTEREST SITE PLAN FOR THE JEMEZ MOUNTAINS SALAMANDER

1.0 SPECIES DESCRIPTION—JEMEZ MOUNTAINS SALAMANDER

1.1 Status

The Jemez Mountains Salamander (*Plethodon neomexicanus*) was listed in New Mexico as endangered under the Wildlife Conservation Act of New Mexico in 2006 (NMDGF 2006). In September 2012 the USFWS proposed the Jemez Mountains Salamander as endangered under the ESA (FR 2012) and the final listing as endangered was on 10 September 2013 (FR 2013a)

1.2 General Biology

The Jemez Mountains Salamander is endemic to the Jemez Mountains of north-central New Mexico and is found in Los Alamos, Rio Arriba, and Sandoval counties (Stebbins and Riemer 1950). It is one of two endemic plethodontid salamanders that occur in New Mexico. It occurs predominantly at elevations between 2,130 to 3,430 m (6,988 to 11,254 ft) in mixed-conifer forest with greater than 50 percent canopy cover consisting mainly of Douglas fir (*Pseudotsuga menziesii* [Mirb.] Franco), blue spruce (*Picea pungens* Engelm.), Engelmann spruce (*Picea engelmannii* Parry ex Engelm.), white fir (*Abies concolor* [Gord. & Glend.] Lindl. ex Hildebr.), limber pine (*Pinus flexilis* James), ponderosa pine, and quaking aspen (*Populus tremuloides* Michx.). The ground surface in forest areas has (a) moderate to high volumes of large fallen trees and other woody debris, especially coniferous logs at least 25 cm (10 in) in diameter, particularly Douglas fir, which are in contact with the soil in varying stages of decay from freshly fallen to nearly fully decomposed; or (b) structural features, such as rocks, bark, and moss mats that provide

the species with food and cover. Underground habitat in forest or meadow areas contains interstitial spaces provided by (a) igneous rock with fractures or loose rocky soils, (b) rotted tree root channels, or (c) burrows of rodents or large invertebrates (Degenhardt et al. 1996; FR 2013b).

Plethodontid salamanders, which lack both lungs and gills, breathe through the mucous membranes in their mouth and throat and through their moist skin. The Jemez Mountains Salamander is completely terrestrial and does not use standing surface water for any life stage (FR 2012). Present in its habitat year-round, the Jemez Mountains Salamander spends most of its life underground, but can be found on the surface when conditions are warm and wet, approximately July through October. During this time, the Jemez Mountains Salamander can be found under rocks, bark, and moss mats and inside and under logs (Ramotnik 1986, Everett 2003). The Jemez Mountains Salamander eats invertebrates, including ants, mites, and beetles, and is thought to lay its eggs underground (FR 2013b).

1.3 Threats

Principal threats to habitat include historical fire exclusion and suppression and severe wildland fires; forest composition and structure conversions; post-fire rehabilitation; forest and fire management; roads, trails, and habitat fragmentation; recreation; and disease (FR 2012).

2.0 IMPACT OF HUMAN ACTIVITIES

2.1 Introduction

Primary threats to the Jemez Mountains Salamander on LANL property are impacts to habitat quality or destruction of individual salamanders caused by LANL or Los Alamos County operations. Forested LANL property is also subject to impacts from severe wildland fire and wildfire suppression.

2.2 Impacts on Habitat Quality

2.2.1 Development

Property at LANL varies from remote isolated land to heavily developed and/or industrialized. Most of the large developed areas at LANL are found on mesa tops, generally in the northern and western portion of LANL. The areas of Jemez Mountains Salamander habitat currently most impacted by development occur in Los Alamos Canyon. There is a secondary paved road (West Road) in the bottom of the canyon that exits the canyon on the north-facing slope through Jemez Mountains Salamander habitat. The canyon bottom also contains a recreational ice rink operated by Los Alamos County on an inholding owned by Los Alamos County. Development that reduces the occurrence of primary constituent elements of Jemez Mountains Salamander in core habitat would likely have a negative impact on the species.

2.2.2 Pedestrians and Vehicles

Many canyon bottoms and mesa tops at LANL have dirt roads traversing them. Most of these roads are gated; however, many of these roads are accessible to LANL employees and the public on foot or by bike. Some areas, such as Los Alamos Canyon, are frequently used by hikers and dog owners on active and historic trails which traverse the canyon, through Jemez Mountains

Salamander habitat in places. Maintenance of roads and trails in the habitat may have a negative impact on the species.

2.2.3 Severe Wildland Fire and Wildfire Suppression

Stand-replacing wildfires significantly change forest composition and structure, and reduce canopy cover. Even ground wildfires may reduce the volume of fallen logs and large woody debris. Large areas of historic Jemez Mountains Salamander habitat have been impacted by stand-replacing wildfires associated with current forest stocking conditions, drought, and high temperatures (FR 2012). Forested habitats on LANL are also subject to severe wildland fires. To mitigate wildfire risks, some areas of LANL have been treated for fuels reduction and creation of fuel breaks both pre-emptively and during active wildfire suppression. Both wildfires and wildfire suppression activities can negatively impact the primary constituent elements of Jemez Mountains Salamander core habitat.

2.3 Impacts on Individual Salamanders

2.3.1 Disease

The amphibian pathogenic fungus *Batrachochytrium dendrobatidis* (Bd) was found in a wild-caught Jemez Mountains Salamander in 2003 (Cummer et al. 2005) on the east side of the species' range and again in another Jemez Mountains Salamander in 2010 on the west side of the species' range (FR 2012). Bd causes the disease chytridiomycosis, whereby the Bd fungus attacks keratin in amphibians. In adult amphibians, keratin primarily occurs in the skin. The symptoms of chytridiomycosis can include sloughing of skin, lethargy, morbidity, and death. Chytridiomycosis has been linked with worldwide amphibian declines, die-offs, and extinctions, possibly in association with climate change (Pounds et al. 2006). Chytridiomycosis may be a threat to the Jemez Mountains Salamander because this disease is a threat to many other species of amphibians and the pathogen has been detected in the Jemez Mountains Salamander (FR 2012).

As part of a cooperative study with the New Mexico Department of Game and Fish between 2007 and 2013, various amphibian species including the canyon tree frog (*Hyla arenicolor*), western chorus frog (*Pseudacris triseriata*), Woodhouse's toad (*Anaxyrus woodhousii*), tiger salamander (*Ambystoma tigrinum*), and Jemez Mountains Salamander were tested for Bd infection at LANL. To date, all sampling has been negative for Bd infection (Fresquez et al. 2013).

2.3.2 Destruction of Individual Salamanders

During periods of the year when Jemez Mountains Salamander are on the soil surface, when conditions are warm and wet (generally July to October), they are vulnerable to injury and mortality from soil-disturbing activities, including operation of heavy equipment in core habitat. They also are at risk to be found and collected by people.

3.0 AEI GENERAL DESCRIPTION FOR JEMEZ MOUNTAINS SALAMANDER

The AEI consists of two areas, a core area and a buffer area. The core habitat is defined as suitable habitat where the Jemez Mountains Salamander occurs or may occur at LANL. The core habitat consists of sections of north-facing slope that contain the required micro-habitat to support Jemez

Mountains Salamander. The buffer area is 100 m (328 ft) wide extending outward from the edge of the core area.

3.1 Method for Identifying a Jemez Mountains Salamander AEI

The first step in identifying potential Jemez Mountains Salamander at LANL was to use a GIS to model habitat. Early modeling efforts by Hathcock (2008) identified areas of potential habitat and that model was further refined. The following parameters were modeled in the GIS:

- Elevation: 7,000 ft (2,150 m) and above
- Slope: Greater than 20 degrees
- Aspect: north-facing +/- 20 degrees
- Land cover: Mixed conifer
- Land use: Undeveloped
- Modeled habitat is only selected if it is greater than five contiguous 30 × 30 m (98 × 98 ft) pixels in size

Once this habitat layer was developed, a second layer was modeled that examined the level of shade in the habitat, also known as an illumination index. Since the Jemez Mountains Salamander needs cool moist conditions, an illumination index model would further highlight areas where this habitat type may occur or further reinforce the areas selected by the GIS modeling. The illumination index describes the amount and extent of solar radiation reaching the Earth's surface at a given point. This takes into account the topography that may cast shadows. The illumination model was developed using the 5 m (16 ft) resolution digital elevation model hillshade and using the Surface toolbox in ArcToolbox (Environmental Science Research Institute, Redlands, California) using the highest height of the sun on June 21 at 1:00 pm, altitude of 74.4 and Azimuth of 178.4, when the sun would be at its maximum height. These procedures were based on work done by Reilly et al. (2009).

Once this modeling was complete, LANL biological resources SMEs performed field validation to verify the suitability of the modeled habitat. The goal was to verify that mixed conifer was still the dominant cover class in the selected area. The GIS analysis used data from a landcover map created by McKown et al. (2003). There have been changes in habitat since this landcover map was published from fire and extreme drought effects. Since LANL is on the extreme edge of Jemez Mountains Salamander lower elevational range, a key component in this part of its range is soil moisture content. During field validation, evidence of a moist mixed conifer habitat versus a dry mixed conifer habitat was noted. One of the key indicators used to delimit areas of moist versus dry mixed conifer during the field validation was the presence of white fir (Evans et al. 2011) combined with a high canopy cover.

Field validation of the model occurred in May 2013, or decisions were based on earlier field visits to the sites from other projects. Each field validation consisted of LANL biological resources SMEs walking down all of the modeled habitat polygons to look for the presence of indicator features. If a polygon of modeled habitat contained white fir, indicating a moist wet conifer type habitat, a high canopy closure, and other signs of high habitat quality such as dead logs, moss or

other areas that could be used as cover by the Jemez Mountains Salamander, then the polygon was marked for retention in the final core habitat. Polygons that did not contain the necessary habitat requirements were omitted.

After the field validation was complete, the final core habitat boundaries that LANL would recognize were hand digitized using ArcGIS (Environmental Science Research Institute, Redlands, California) by LANL biological resources SMEs in and around the validated modeled polygon and areas between polygons if appropriate. The final identified core habitat at LANL occurs on the north-facing slopes of canyons. Toward the rim of the canyon the core boundaries end where the mixed conifer ends. In the canyon bottoms the core boundary extends to the edge of the stream channel. The upstream and downstream core boundaries end where the mixed conifer ends. A buffer habitat was extended around the core to a distance of 100 m (328 ft) outward. The LANL Fenton Hill satellite facility in the Jemez Mountains off of New Mexico Highway 126 is on land leased to DOE by the Santa Fe National Forest. The entire footprint is considered to be developed core habitat for the Jemez Mountains Salamander, since proposed critical habitat is adjacent to the facility.

3.2 Location and Number of Jemez Mountains Salamander AEIs

The identified Jemez Mountains Salamander core habitats were grouped by canyon system into AEIs, which contain contiguous and noncontiguous habitat areas. The largest contiguous section of habitat at LANL is in Los Alamos Canyon. There are two noncontiguous areas of habitat in Two-mile Canyon, four in Pajarito Canyon, one contiguous area in Cañon de Valle, and the entire Fenton Hill facility.

4.0 AEI MANAGEMENT

4.1 Overview

This AEI management section provides guidelines for LANL operations to reduce or eliminate the threats to the Jemez Mountains Salamander from habitat alterations that reduce habitat quality. Habitat alterations are considered for all AEIs and for both core and buffer areas. Developed areas that have ongoing baseline levels of activities and are not suitable habitat for Jemez Mountains Salamander have different restrictions than undeveloped core or buffer areas. AEIs for different species may overlap, and an activity must meet the guidelines of all applicable site plans to be allowable. Protective measures are described as management practices that should be followed when working in AEIs.

4.2 Definition and Role of Occupancy in AEI Management

Occupancy simply refers to whether or not an AEI is occupied by the Jemez Mountains Salamander. The Los Alamos Canyon AEI is known to be occupied based on past surveys. Surveys for the Jemez Mountains Salamander are known to have a very low detection rate for occupied areas, so at LANL all AEIs are assumed to be occupied at all times. If needed, site-specific surveys will be conducted by federally permitted LANL biological resources SMEs.

4.3 Definition and Role of Developed Areas in AEI Management

Developed areas include all building structures, paved roads, improved gravel roads, and paved and unpaved parking lots. The majority of Jemez Mountains Salamander core habitat is in undeveloped areas, except for the satellite facility at Fenton Hill and a small amount of habitat in Los Alamos Canyon where West Road crosses the habitat. Generally, developed areas will not have restrictions; however, some of the undeveloped sections within the footprint of Fenton Hill may have restrictions because they may contain Jemez Mountains Salamanders when they move to the surface between July and October. Any project that occurs within developed core habitat will be evaluated by LANL biological resources SMEs for ESA compliance.

4.4 General Description of Core and Buffer Areas and Allowable Area Development

The purpose of buffer areas is to protect core areas from habitat degradation. The current levels of development in buffer and core areas represent baseline conditions for this site plan. No further development is allowed in the core area under the guidelines of this site plan. Any development in a buffer area will be reviewed by LANL biological resources SMEs to ensure that there are no impacts to the core habitat.

4.5 Emergency Actions

If safety and/or property are immediately threatened by something occurring within an AEI (for example, wildfire, water line breakage, etc.) please contact a LANL biological resources SME (1-505-665-3366) as soon as possible. If the emergency occurs outside of regular business hours, contact the Emergency Management Office (1-505-667-6211). This office will then communicate with the appropriate LANL personnel.

4.6 Introduction to AEI Management Guidelines

Section 4.7 provides the guidelines for habitat alterations and allowable activities in AEI core and buffer areas. It describes what and where habitat alterations are allowed under the guidelines of this site plan. If an activity does not meet the restrictions given in the guidelines, the activity must be individually reviewed for ESA compliance. This site plan only provides guidelines for the Jemez Mountains Salamander AEIs. If an activity is desired in an area with overlapping AEIs, all applicable site plans must be consulted. AEI maps show the location of all AEIs in an area. LANL biological resources SMEs are always available to help interpret site plans and answer questions (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.7 Definition of and Restrictions on Habitat Alterations

4.7.1 Definition of Habitat Alterations

Habitat alteration includes any action that alters the soil structure, vegetative components necessary to the species, water quality, or hydrology in undeveloped areas of an AEI. An actual activity may take place outside of the AEI and will be considered habitat alteration if consequences of the activity have effects inside the AEI core. Habitat alterations would also include soil pits for soil samples deeper than 15 cm (6 in) using either hand or mechanized augers. Any activity that might disturb the soil will need to be reviewed by LANL biological resources SMEs.

The habitat components most important to the Jemez Mountains Salamander include soil structure and vegetative structure. The forest structure within an area designated as a Jemez Mountains Salamander AEI is important because it provides the necessary moist, cool microclimate.

4.7.2 Fuels Management Practices to Reduce Wildfire Risk

One of the primary threats to the Jemez Mountains Salamander is wildfire (FR 2012), but they also require habitat with a high canopy cover which makes fuels reduction challenging. Within undeveloped core areas, thinning trees to a level of 80 percent canopy cover or higher is approved. Trees may not be thinned below 80 percent canopy cover without further ESA review by LANL biological resources SMEs. Large logs on the ground should be left in place and not chipped. Understory thinning that does not reduce total canopy cover below 80 percent is permitted. Large trees that are felled should be left as large logs on the ground. Smaller trees and understory shrubs that may be thinned should be dispersed and left on-site to aid in soil moisture retention. Thinning activities should not occur during the rainy season between July to October (or when freezing temperatures begin, whichever comes first) when the Jemez Mountains Salamander is found on the surface.

In buffer areas, thinning of trees can occur to the current LANL-approved prescription level (LAAO 2000). LANL biological resources SMEs are available to provide guidance and mark trees for thinning (<http://int.lanl.gov/environment/bio/controls/index.shtml>).

4.7.3 Utility Corridors

Habitat alterations such as cutting down trees that threaten power lines are allowed within 8 m (26 ft) of either side of an existing electrical utility line at LANL under existing guidelines and engineering controls (Hathcock 2013). This level is approved in all areas of an AEI. New utility lines and utility lines requiring clearance of a right-of-way greater than 16 m (52 ft) total in core habitat must be individually reviewed for ESA compliance.

4.7.4 Restrictions on Habitat Alterations

Habitat alterations other than the fuels management practices and utility corridor maintenance described above are not allowed in undeveloped core areas under the guidelines of this site plan. If a project or activity is planned that would alter habitat in an undeveloped core area, it must be individually evaluated for ESA compliance. Habitat alterations in buffer areas must be reviewed by LANL biological resources SMEs to ensure that there are no impacts to core habitat.

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APPENDIX

Table A-1. The percentage of each food type found in Mexican Spotted Owl food remains at LANL

Species	Relative Abundance
<i>Neotoma</i> spp.	26.22
<i>Peromyscus</i> spp.	10.22
<i>Microtus</i> spp.	4.44
Gophers	4.89
Bats	5.78
Chipmunks	0.89
Rabbits	12.89
Shrews	1.33
Small Mammal	1.33
Medium Mammal	1.78
Medium Bird	8.00
Small Bird	4.89
Nocturnal Birds	0.89
Reptiles	4.89
Arthropods	11.56

Table A-2. Preliminary light measurements in ftc for Mexican Spotted Owl site plan

		Distance from Source			
Source (street light)		5 m	10 m	15 m	20 m
ftc	3.70	2.28	1.20	0.62	0.32

Appendix J

Corrective Actions

NPDES MSGP CORRECTIVE ACTION REPORT

Name of Facility: _____ **Date of Discovery:** _____

Date of Notification to ENV-RCRA: _____

Responsible FOD (Name & Org): _____

Describe Specific Evaluation Location: _____

Was This Issue Corrected on the Spot? _____

Were Any Corrective Actions Initiated or Completed? (Yes or No w/ explanation): _____

Name of Inspector (name, org, email): _____

D. CORRECTIVE ACTIONS				
Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.				
Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.				
1. Corrective Action #	1	of	?	for this reporting period.
2. Is this corrective action:				
<input type="checkbox"/> An update on a corrective action from a previous annual report; or				
<input type="checkbox"/> A new corrective action?				
3. Identify the condition(s) triggering the need for this review:				
<input type="checkbox"/> Unauthorized release or discharge (e.g., spill, leak or discharge of non-storm water) (Section 3.1)				
<input type="checkbox"/> Numeric effluent limitation exceedance				
<input type="checkbox"/> Control measures (BMPs or other method) inadequate to meet applicable water quality standards (Section 2)				
<input type="checkbox"/> Control measures (BMPs or other method) inadequate to meet non-numeric effluent limitations (Section 2)				
<input type="checkbox"/> Control measures (BMPs or other method) not properly operated or maintained (Section 2)				
<input type="checkbox"/> Change in facility operations necessitated change in control measures (Section 3.2)				
<input type="checkbox"/> Average benchmark value exceedance (Section 3.2)				
<input type="checkbox"/> Other (describe): _____				

Stormwater Pollution Prevention Plan (SWPPP)
 TA-60-002 Salvage and Warehouse Area
 Los Alamos National Laboratory

4. Briefly describe the nature of the problem identified:			
5. Date problem identified:			
6. How problem was identified:			
<input type="checkbox"/> Comprehensive site inspection			
<input type="checkbox"/> Quarterly visual assessment			
<input type="checkbox"/> Routine facility inspection			
<input type="checkbox"/> Benchmark monitoring			
<input type="checkbox"/> Notification by EPA or State or local authorities			
<input type="checkbox"/> Other (describe): _____			
7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:			
8. Will corrective action be completed prior to the next anticipated storm event? Yes/No. If no, list necessary BMPs to be put in place.			
9. Did/will this corrective action require modification of your SWPPP? YES/NO			
10. Date corrective action initiated:			Pending
11. Date correction action completed:	mm/dd/yyyy	or expected to be completed:	mm/dd/yyyy
12. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps(including timeframes associated with each step) necessary to complete corrective action:			

Appendix K

Referenced Documents

This tool cannot establish new requirements; it may only summarize the requirements in federal or state statutes/regulations, DOE Orders, and authorized Laboratory policies.

TO REPORT ERRORS Call 7-6259

This tool summarizes the waste management requirements in 40 CFR Part 266.80.

LEAD ACID/GEL CELL BATTERIES MANAGED BY SALVAGE AS RECYCLABLE MATERIAL

Definitions

Battery means a device consisting of one or more electrically connected electrochemical cells that are designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term “battery” also includes an intact, unbroken battery from which the electrolyte has been removed.

Lead Acid Batteries (e.g., automobile batteries) have a core of elemental lead that uses a liquid acid electrolyte. Acid-based batteries often use sulphuric acid as the major component of the electrolyte. These batteries are hazardous wastes that are characteristic for lead and corrosivity.

Gel Cell Batteries are sealed lead acid batteries. A gel cell battery's electrolyte is in a gelatin form and is absorbed into the plates. The battery is then sealed with epoxy. These batteries are hazardous wastes that are characteristic for lead.

General Requirements

Lead Acid/Gel Cell batteries that have no radioactive or chemical contamination should be recycled. Lead Acid/Gel Cell batteries intended for recycling may be managed through salvage. This service is free, but the generator is responsible for correctly packaging and labeling the waste for transport. These batteries may also be managed as Universal Waste (40 CFR Part 273), covered under Lead Acid/Gel-Cell Universal Waste ADESH-Tool 401.

Remove batteries from equipment. Reuse if possible. If they cannot be reused,

- Segregate lead acid/gel cell batteries from other batteries and other materials.
- Ensure that each battery cell is not breached and that it remains intact and closed. If the cell is breached it needs to be placed in a closed plastic container.
- Although it is not recommended, electrolyte may be removed from batteries. Cells that are opened to remove electrolyte must be immediately closed after fluid removal. The electrolyte and other solid waste generated as a result of this process will be newly generated and must be characterized. If hazardous, it must be managed as a hazardous waste (see the Hazardous Waste ADESH-Tool 206).

Generator Training

See Waste Management Procedure P409, Section 6.0.

Characterization

Characterization, other than determining the batteries are lead acid or gel cell and is not radioactive or contaminated with other hazardous wastes, is not required. No Waste Stream Profile is required.

Storage

Store in an area protected from weather. Do not store individual batteries for more than a year.

Labeling

Mark and label lead acid and gel cell batteries as follows:

- Label the outside of the box, pail, or completely wrapped batteries on pallet containing lead acid or gel cell batteries with a 4"x 4" DOT Class 8 corrosive label.
- Mark the outside of all containers or pallets of lead acid or gel cell batteries with the words " Batteries for Recycle"
- Prior to pickup by Salvage, mark the outside of the of containers or the pallet of
 - lead acid batteries with the words **Batteries wet, filled with acid, UN2794, (Lead-Acid Batteries)**
 - gel cell batteries with the words **Batteries wet, non-spillable, electric storage, UN2800, (Gel Cell Batteries)**

Packaging

Under Department of Transportation regulations (49 CFR 173.159), these batteries are considered "wet" and the generator or Waste Management Coordinator (WMC) , not salvage, must package them as follows:

- Package gel cell batteries separately from lead acid batteries.
- All batteries must be wrapped in a manner to contain any possible/potential leaks.
- Wrap weather-sensitive containers such as fiberboard or cardboard in plastic to protect from the elements. Ensure the plastic wrap will contain potential leaks.
- Protect the batteries against short circuits.
- In any packaging configuration, the batteries cannot be stacked so that the posts of any battery are supporting weight of another battery.
- Do not package batteries in metal containers.
- If one of the following types of "specification" containers is used, the weight of packed batteries must not exceed the maximum allowable by the specification package:

1. 4C1, 4C2, 4D, or 4F wooden boxes.
 2. 4G fiberboard boxes.
 3. 1D plywood drums.
 4. 1G fiber drums
 5. 1H2 and 3H2 plastic drums and jerricans.
 6. 4H2 plastic boxes.
- If packaged in “non-specification” containers, the following requirements apply:

Number of Batteries	Maximum Weight of Each Battery (lbs)	Type of Container¹	Total Weight of Batteries and Container (pounds)
1-3	25	Boxes	75
1-4	15	Cushioned in fiberboard or wooden boxes	65
1-5	10	Cushioned in fiberboard or wooden boxes	65
Other		On a pallet, batteries wrapped completely with plastic	1000 pounds of batteries per pallet but not to exceed 1.5 times the width of pallet

If none of the packaging options described above is appropriate for your battery type, contact your WMC.

Shipping

- Complete the generator section of a Lead Acid Battery Transfer and sign the generator certification.
- The generator should retain a copy of the transfer form at his facility for three years following pickup or delivery of the batteries.
- The original form must accompany the batteries to Salvage.
- Send an e-mail to request pick up to salvage@lanl.gov.

ENV-CP-QP-007.9



Effective Date: July 19, 2013

Next Review Date: June 19, 2015

Environment, Safety, Health Directorate

**Environmental Protection – Compliance Programs
Quality Procedure**

Spill Investigations

Reviewers:

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Derivative Classifier: **Unclassified** **DUSA** ENVPRO

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Approval Signatures:

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Users are responsible for ensuring they work to the latest approved version.

History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	12/98	New Document.
1	06/00	Annual review, added Cerro Grande fire hazards
2	07/01	Annual review
3	06/03	Annual review
4	04/04	Annual review, changes to HCPs
5	02/07	Annual review, changes to reflect organizational restructure
6	07/08	Annual review
7	09/10	Biennial Review and revision
8	04/11	Removed prerequisites, added note re: on-call spill reporting.
9	07/13	Biennial review and revision, implemented new procedure format.

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1.0 PURPOSE

This Environmental Protection – Compliance Programs Group (ENV-CP) procedure describes processes and implements requirements for spill investigations.

2.0 SCOPE

This procedure applies to all ENV-CP staff and personnel conducting spill investigations.

2.1 HAZARD REVIEW

The work described in this procedure is field work and has a **LOW hazard** rating as documented by submittal of a completed [ENV Low Hazard Verification form](#) to the Quality Assurance Specialist.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-CP staff and contract personnel who perform spill response and investigation require training on this procedure.

Annual re-training to this procedure is required. Specific training requirements will be updated as needed.

The training method for this procedure is part “self-study” and part on-the-job training (OJT). The OJT training is to be conducted by a Team Leader or person designated as Subject Matter Expert (SME) by the ENV-CP Group Leader. The self-study and OJT will be documented in accordance with [ENV-DO-QP-115, Personnel Training](#).

Actions specified within this procedure, unless proceeded with “should” or “may,” are to be considered mandatory (i.e., “shall”, “will”, “must”).

3.1 PREREQUISITES

- None

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted in accordance with [ENV-DO-QP-110, Records Management](#).

- Field notebook documentation of the release including:
 - time and date of the release
 - time and date of ENV-CP notification
 - location of the release and from where the release occurred (equipment, etc.)
 - type of material released
 - quantity of material released
 - if an impact to a watercourse, SWMU, or PRS occurred

- time release was stopped
 - any immediate mitigating actions implemented to contain or control the release
- Any written report and verbal notification list generated should the release be deemed reportable.
- Non-Reportable LANL Spill Report (Attachment 2)

5.0 WORK PROCESSES

Responsibility is to assure the immediate mitigation and timely notification of appropriate regulatory organizations in the event of a spill or unplanned discharge that has or may affect the environment. Work requires frequent and unscheduled site visits to any area of the Laboratory during a spill or unplanned release as support staff for the on-scene EO-EM Incident Commander.

Specific activities associated with Spill Response and Investigation:

- Respond to the spill or unplanned release site;
- Report to the On-Scene EO-EM Incident Commander and Site Safety Officer;
- Receive site safety requirements;
- Provide decision support;
- Investigate the nature and extent of the spill or unplanned release;
- Evaluate the potential environmental impact to water quality;
- Report the occurrence to the regulatory agencies, if necessary; and
- Provide support to mitigation plan and implementation.

5.1 FIELD ACTIVITY

If the spill or unplanned discharge is determined to be a non-emergency event by EO-EM response, such as a release of potable water, perform the following steps:

Step	Action
1	Perform a site visit in coordination with the Facility Operations Director designee.
2	Assess potential environmental damage.
3	Provide mitigation measures and requirements.
4	Document the event.
5	Notify regulatory agencies and DOE, if necessary.
6	Facilitate collection of samples, if necessary.

For emergency response, perform the following steps:

Step	Action
1	Report to on-scene commander and await instructions.
2	Perform a site visit in coordination with EO-EM.

3	Adhere to access requirements as developed by the EO-EM Site Safety Officer and Incident Commander.
4	Identify source and cause of release and document.
5	Provide notification and written report if necessary.
6	Facilitate collection of samples if necessary and safe to do so.

If sample collection is required, contact the following sampling personnel:

- ENV-CP
 - NPDES outfall
 - Sanitary treatment solids
 - Wastes and chemical spills (liquid, solid, hazardous)
- ADEP Corrective Actions Program
 - Surface water
 - Storm water runoff
 - Groundwater
 - Sediments

5.2 COMMUNICATION

Take a cellular phone that will transmit from the location to be visited. Also take a contact pager to receive messages.

If cellular service is unavailable, use a portable radio set to the appropriate radio frequency.

If in a secure area where cell phone use is prohibited, use the radio. Be sure to have radio checked and authorized for use within secure areas or within the boundaries of the WFO FOD or WX Division. Government-owned cellular phones, with batteries removed, may be brought into the secure area but used only if approval is given by the EO-EM Incident Commander or FOD or designee. Rules of use for Smartphones and other mobile devices (BlackBerry, iPhones, iPads) can be found on the Computing Communications webpage for mobile devices,

<http://int.lanl.gov/computing/communications/mobile/index.shtml>.

Radio or cellular contact must be established with a designated contact prior to leaving ENV-CP and upon arrival/departure at the site in accordance with [ENV-DO-QP-100, *General Field Safety*](#).

The Incident Commander can make special communication exceptions.

All photography at LANL must adhere to the procedure and [P202-5, *Prohibited and Controlled Articles*](#).

Wastes generated from activities described in the procedure will be properly characterized, managed, and disposed in accordance with [P409, *Waste Management*](#), [P930-1, *LANL Waste Acceptance Criteria*](#), and [P403, *Environmental Aspects Identification Requirement*](#).

5.3 FACILITY MANAGEMENT WORK CONTROL REQUIREMENTS FOR FIELD ACTIVITIES

Most field activities performed by the ENV-CP spill response personnel are impacted by facility management work control requirements. Requirements vary between the respective Facility Operations Divisions (FODs) and therefore necessitate ENV-CP response personnel to acquire FOD approval for site access in advance of starting work activities. The exception to this is in response to emergency situations as support to EO-EM staff.

Should work be required to stop/pause, reference [P101-18, Procedure for Pause/Stop Work](#), for guidance.

5.4 FACILITY MANAGEMENT-SPECIFIC ACCESS REQUIREMENTS

TA-16 and TA-11 high explosives areas have specific access requirements. Access inside the security gate requires annual site-specific training. Curricula# 5243 must be assigned and all the training courses completed before arriving at TA-16.

For access to perimeter gates during normal working hours, contact MSS-UI at 665-0106.

For perimeter gates with key core MSS-UI, prior notification for after hours entry is required. Perform the following steps:

Step	Action
1	Call SOC Los Alamos at 667-4437.
2	Identify yourself to the on duty officer or attendant.
3	Provide the following information: Group, color and make of vehicle (s), which perimeter gate you are entering, and approximate time of arrival and finally, length of stay.

Failure to notify security personnel in advance could result in a security violation against the visiting Team Member.

Provide notification to SOC Los Alamos at 667-4437 when leaving area.

For access to WX areas requiring during normal working hours, perform the following steps:

- Ensure the required security clearance (Q clearance) is held, and
- Contact the FOD or designee for entry requirements.

5.4.1 CHEMISTRY METALLURGY RESEARCH FACILITY ACCESS

For access to the Chemistry Metallurgy Research Facility, perform the following:

- Must have the required Q clearance to pass the security gate.
- If access into any of the buildings is necessary, contact the FOD for an escort.
- If responding to an emergency with EO-EM, ENV-CP staff will be considered part of the EO-EM response team, met at the access gate, and escorted to the spill site.

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5.4.2 TA-3-66 SIGMA FACILITY ACCESS

For access to the Sigma facility (TA-3-66), perform the following:

- For non-emergency responses, obtain prior site-specific training and authorization or contact the FOD for personnel escort.
- For emergency response with EO-EM, ENV-CP staff will be considered part of the EO-EM response team, met at the access gate, and escorted to the spill site.

5.5 REGULATORY SPILL REPORTING

If a spill is determined to be a threat to the environment or human health, regulatory and DOE notification may be necessary. Contacts and telephone numbers can be found on Attachment 1, Release Notification Phone List.

If a Spill impacts a Solid Waste Management Unit (SWMU) or Area of Concern (AOC), contact ENV-CP and ADEP Corrective Action Program for possible additional notification requirements. See Attachment 1 to this document.

If ENV Division or designated SME personnel determine after a site inspection or verbal notification that a spill is non-reportable to DOE or applicable regulatory agencies, a non-reportable spill report must be completed by appropriate facility designated personnel. See attachment 2 for the spill report form and information to be collected. Once the form has been accurately completed it can be sent to the SME at ENV-CP for required documentation.

For ENV Division designated on-call personnel, follow guidance for spill reporting as described in [ENV-DO-QP-101, *Environmental Reporting Requirements for Releases or Events*](#).

NOTE: On-call representatives are required to follow up in writing (email is sufficient) with the spills program lead regarding all releases during their on-call schedule. If no spills are reported in off-work hours, please confirm in writing with the spills program lead at the end of your on-call schedule.

For additional information concerning spill and unplanned discharge determination and notification requirements, contact the ENV-CP Water Quality Permitting and Compliance Team Leader.

6.0 REFERENCES

None

7.0 DEFINITIONS

Field Work: Performance of Laboratory related activities in areas that are removed or isolated from an established populated base of operation (that is, where emergency support and medical assistance is not readily available.)

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NPDES: National Pollutant Discharge Elimination System

EO: Emergency Operations Division

EO-EM: Emergency Management Group (A.K.A. EO-3)

PRS: Potential Release Site

SOC Los Alamos: Security contractor for Los Alamos National Laboratory

SWMU: Solid Waste Management Unit

8.0 ATTACHMENTS

Attachment 1- ENV-CP Release Notification Phone List

Attachment 2- LANL Spill Report Form



ATTACHMENT 1- ENV-CP RELEASE NOTIFICATION PHONE LIST

Los Alamos National Laboratory
ENV-CP
Release notification phone list
March 2013

Los Alamos National Laboratory

- | | | |
|-----|------------------------------|----------|
| (1) | Emergency Management (EO-EM) | 667-6211 |
| (2) | ENV-ES Group Office | 665-885 |
| (3) | ENV-CP Group Office | 667-0666 |
| (4) | ENV-DO | 667-2211 |
| (5) | Central Alarm Station | 667-4437 |
| | L.A. Fire Dept. dispatch | |

New Mexico Environment Department

See Web address below

- | | | |
|-----|------------------------------|----------|
| (1) | NMED Emergency Hotline | 827-9329 |
| (2) | NMED Non-Emergency Hotline | 476-6000 |
| (3) | Surface Water Quality Bureau | 827-0187 |
| | Erin Trujillo | 827-0418 |
| (4) | Ground Water Quality Bureau | 827-2918 |
| | Robert George | 476-3648 |
| | Jennifer Fullem | 827-2909 |
| (5) | NMED/HWB | |
| | Ruth Horowitz | 476-6025 |

U.S Environmental Protection Agency

- | | | |
|-----|-------------------------|----------------|
| (1) | USEPA Emergency Hotline | (214) 655-6450 |
| | After Work Hours | (214) 655-6595 |
| (2) | Jan Walker | (214) 655-8431 |

U.S. Department of Energy

- | | | |
|-----|-------------|----------|
| (1) | Gene Turner | 667-5794 |
|-----|-------------|----------|

State Emergency Response Commission (SERC) Notification

- | | |
|---|---------------------------------|
| New Mexico State Police
(Immediate Notification) | (505) 827-9126 (24-hour #) |
| State and Local Preparedness Bureau
(Follow-up Notification) | (505) 476-9600 (daytime # only) |

National Response Center

- | | |
|---|----------------|
| U.S. Coast Guard | 1-800-424-8802 |
| See NRC web address below for report form | |

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New Mexico State Police

New Mexico State Police

1-800-827-9126 (24 hr. #) or
827-9300 (dispatch, 24 hr. #)

Local Emergency Planning Committee (LEPC) LAPD

Philmont Taylor

(505) 663-3511

**On Call Environmental Contact for Releases
Group Representatives for Notifications to External Agencies**

Name	Group	Work Phone	Pager	Cellular Phone	Email address
Jake Meadows	ENV-CP	606-0185	664-1333	231-0460	jmeadows@lanl.gov
Mike Saladen	ENV-CP	665-6085	664-4226	699-1284	saladen@lanl.gov
Mark Haagenstad	WM-WMP	665-2014	664-5356	699-1733	mph@lanl.gov
Tim Zimmerly	ENV-CP	664-0105	699-7621	664-1237	tzimmer@lanl.gov
Terrill Lemke	ENV-CP	665-2397	664-7082	699-0725	tlemke@lanl.gov

Web addresses:

NMED home page <http://www.nmenv.state.nm.us>

National Response Center home page <http://www.nrc.uscg.mil/nrchp.html>

Reportable Quantities web page <http://homer.ornl.gov/rq/>

ATTACHMENT 2- LANL SPILL REPORT FORM

LANL SPILL REPORT

**Environmental Protection Division (ENV)
Compliance Programs Group (CP)
Los Alamos National Laboratory**

Spill Coordinator	Telephone	Mail Stop	Division	Group
Responsible Facility/User Group				
Contact Person	Telephone	Mail Stop	Pager #	

Spill Location		Date of Spill	Time of Spill	Date Discovered	Time Discovered
Date Spill Stopped	Time Spill Stopped	Method used to Stop Spill			
Actions taken to Mitigate Damage					
Nearest Water Course Affected? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <i>(If yes, please describe.)</i>					
Source and Cause of Spill <i>(pipeline, tank, truck, overflow, etc.)</i>					
Materials Spilled					
Estimated Amount of Material Spilled					
Cleanup Started? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date Started	Time Started			
Cleanup Finished? <input type="checkbox"/> Yes <input type="checkbox"/> No	Date Finished	Time Finished			
Cleanup Method					
Weather Conditions					
Comments					

Estimate the quantity of waste generated by the spill cleanup procedures, how that waste is packaged and the current disposition of wastes.	
Describe any sampling performed during spill cleanup and attach analytical results to this form.	
Describe current status of the spill site and the need for further cleanup or monitoring activities.	
Describe actions taken to prevent recurrence of such a spill.	
Injuries or Exposure? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If yes, please describe.)</i>	
Did evacuation occur? <input type="checkbox"/> Yes <input type="checkbox"/> No	Were facilities or equipment damaged? <input type="checkbox"/> Yes <input type="checkbox"/> No
Did fire/explosion occur? <input type="checkbox"/> Yes <input type="checkbox"/> No	Was there a potential for fire/explosion? <input type="checkbox"/> Yes <input type="checkbox"/> No
Did the spill enter sewer drains, streams, or stream beds? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If yes, give location and ultimate drainage.)</i>	
Who discovered the Spill?	

Spill Information

Describe the spill response, in chronological order. Include a call-out response personnel, steps taken to contain the spill, and steps taken to clean it up. Also describe spill control equipment used.

Additional Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of certifying official:	Title:	Organization:	Date signed:

ENV-CP-QP-048.1



Effective Date: September 5, 2013

Next Review Date: August 5, 2015

Environment, Safety, Health Directorate

**Environmental Protection – Compliance Programs
Quality Procedure**

Processing MSGP Stormwater Samples

Reviewers:

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Derivative Classifier: **Unclassified** **DUSA** ENVPRO

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Approval Signatures:

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Responsible Line Manager: Michael Saladen	Organization: ENV-CP Team Lead	Signature: Signature on file	Date: 8/29/13
Responsible Line Manager: Anthony Grieggs	Organization: ENV-CP Group Leader	Signature: Signature on file	Date: 9/5/13

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Processing MSGP Stormwater Samples	No. ENV-CP-QP-048.1	Page 2 of 11
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History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	07/11	New Document.
1	09/13	Annual Review and Revision, new format, process change, and new organization name.

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Processing MSGP Stormwater Samples	No. ENV-CP-QP-048.1	Page 4 of 11
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1.0 PURPOSE

This procedure describes the process for preserving stormwater samples for shipment to an offsite analytical laboratory.

2.0 SCOPE

This procedure applies to all LANL personnel and subcontractors who conduct chemical preservation of stormwater samples either in the stormwater Laboratory located in TA-59-1 or out in the field.

2.1 HAZARD REVIEW

The work specified in this procedure is conducted in accordance with the following integrated work documents: IWDs 007, 007a, 007b, 007c, 007d, 007e, 007f, 008, 010, 010b, and 010c. Each IWD is associated with a specific FOD depending on location of sample activity. The hazard level of this procedure is **MODERATE**.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-CP staff and contract personnel who process Stormwater samples for the MSGP.

The training method for this procedure is “self-study” (reading). For ENV-CP staff, this is documented in accordance with [ENV-DO-QP-115, *Personnel Training*](#). Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless proceeded with “should” or “may,” are to be considered mandatory (i.e., “shall”, “will”, “must”).

3.1 PREREQUISITES

In addition to training to this procedure, the following training and data systems access is also required prior to performing this procedure:

- Personnel performing this procedure will be familiar with the most recent version of the ENV-CP MSGP Sampling and Analysis Plan.
- WES-EDA-QP-219, *Sample Control and Field Documentation*
- ENV-RCRA-QP-022, *MSGP Stormwater Corrective Action*

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records are generated as a result of this procedure and are maintained in accordance with [ENV-DO-QP-110, *Records Management Program*](#) with the originals on file at ENV-CP records room:

- Copy of the Sample Collection Log/Field Chain of Custody Form

5.0 WORK PROCESSES

The Environmental Protection Agency (EPA) issued the National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP) on September 29, 2008. The MSGP requires LANL to monitor stormwater runoff from industrial sites relative to potential pollutants.

Stormwater samples are collected in the field either from refrigerated Avalanche™ or ISCO 3700™ automated samplers. Chemical preservation is conducted in the Stormwater Laboratory (in TA-59-01) immediately following sample collection or in the field.

A LANL Project Leader is the primary person responsible for the steps in this procedure.

The following equipment and tools are required:

- Copy of this procedure
- Copy of Integrated Work Documents (IWDs)
- Copy of the ENV-CP MSGP Sampling and Analysis Plan
- Work Orders (if issued)
- Sample Collection Log/Field Chain of Custody Form (provided by the Sample Management Office (SMO))
- Sample containers
- Sample container labels
- Necessary keys
- Safety glasses with side shields
- Nitrile gloves
- Leather gloves or equivalent work gloves
- Glass and poly bottles appropriate for samples to be collected at the site (reference sampling plan)
- Preservative
- Lids for bottles
- Teflon tubing for intake
- Tygon tubing for exhaust

5.1 PROCESSING SAMPLES

Step	Action
1	Obtain required Sample Collection Log/Field Chain of Custody Form(s) from the SMO. Collect samples and deliver them to the Water Laboratory in coolers containing Blue Ice®.
2	Double check to make sure the Location ID on the Sample Collection Log/Field Chain of Custody Form matches the sample collection station number. If preservation beyond ice is indicated on the form, obtain required preservative and sample containers for identified volume if different from the amount of sample collected. NOTE: Specific preservatives and required sample volumes are listed on the Sample Collection Log/Field Chain of Custody Form.
3	Process only one sample set (i.e., samples from one site) at a time. NOTE: Sample collection bottles are the bottles used to collect the sample in the field. Sample containers are containers/bottles that the original sample is transferred to after processing. These

	containers are transferred to the Sample Management Office for shipment to the analytical laboratory.
4	Affix appropriate label to sample container.
5	Split up samples into appropriate sample containers.
6	Verify that the sample ID number on the container label matches the sample ID number on the Sample Collection Log/Filed Chain of Custody Form

The following steps should be followed when preserving samples:

Step	Action
1	IMPORTANT: Preservation entails the addition of acid or base to a sample. Acids used include hydrochloric acid (HCl), nitric acid (HNO ₃), and sulfuric acid (H ₂ SO ₄). Bases used in preservation include sodium hydroxide (NaOH). These are all strong acids and bases that can cause severe burns. Extreme care should be taken when using these acids and bases.
2	Preserve (add acid or base) samples according to the requirements on the Sample Collection Log/Field Chain of Custody Form. NOTE: Make sure the pre-measured preservative labeled size matches the sample container size. If you only have one size pre-measured preservative that does not match the sample container size you may need to use more than one. For example, if you have a 1 liter sample container and 500 ml pre-measured preservative vial, you would need to add two preservative vials to the sample container.
3	Mark each container after preservative has been added to designate that the process has taken place.
4	Securely affix lid to sample container. Clean and dry the exterior of sample container, ensure lid is on securely, and check sample container for leakage and breakage.
5	Apply chain-of-custody tape around the mouth and lid of the bottle.
6	Carefully place sample containers in the cooler and package sample containers with Blue Ice [®] .

5.2 SUBMIT SAMPLES FOR SHIPPING

Submit samples with original Sample Collection Log/Field Chain of Custody Form to SMO for shipping to an offsite analytical laboratory. The person delivering the sample to SMO relinquishes the sample by signing, dating and recording the time under “Relinquished By.” The SMO accepts samples by signing, dating and recording the time under “Received By.” Obtain a signed copy of the Sample Collection Log/Field Chain of Custody Form from the SMO. Make a copy of the Sample Collection Log/Field Chain of Custody Form and provide it to the MSGP Project Leader.

Every attempt will be made to minimize the amount of waste generated. Field personnel will diligently collect only the volumes identified as the minimum or maximum allowable identified on Form. If there is not enough liquid collected to meet these volumes, the Stormwater will be

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discharged at the sampler location. Extra Stormwater collected will also be discharged at the sampler location. If waste is generated, contact the Waste Management Coordinator for TA-59-1 or the MSGP Project Leader.

5.3 DATA QUALITY OBJECTIVES

The 2008 MSGP permit requires quarterly and annual Stormwater monitoring to determine if pollutants from industrial activities are migrating into U.S. waters. The permit specifies benchmark parameters that are indicators of potential pollutant sources. In addition, certain impaired water quality standards must be met. Factors which must be considered in making the decision of whether pollutant sources are present or water quality standards have been exceeded are analytical data quality and whether the collected sample is representative of the permitted discharge.

To determine whether the Laboratory is in compliance with all relevant laws and regulations, sample collection and analytical data must be evaluated by the a representatives of ADESH, Operations and Integration Office (OIO) by requesting formal focused validation and/or by the MSGP Project Leader.

Sample collection and submission is conducted under the guidelines found in:

- NPDES Permit Tracking No. NMR05GB21
- 40 CFR Subpart 136 Guidelines establishing the test procedure for the analysis of pollutants.

Sample analysis must use EPA approved methods as set forth in the NPDES permit.

Benchmark levels are identified in the 2008 MSGP. Outfall and sampling locations are identified in the individual facility Stormwater Pollution Prevention Plans (SWPPP).

Monitoring frequencies and reporting requirements are specified in the 2008 MSGP.

Sampling location(s):

Annual, quarterly, and visual assessments shall be conducted in compliance with the monitoring requirements specified in the 2008 MSGP. As specified previously, specific sampling location(s) are identified in the facility specific SWPPP.

Grab Sample:

A minimum of one grab sample from a discharge resulting from a measurable storm event is required. Samples must be collected within the first 30 minutes of a measurable storm event. If that is not possible, the sample must be collected as soon as practicable after the first 30 minutes and documentation must be kept with the SWPPP explaining why it was not possible to take samples within the required time frame. In the case of snowmelt, samples must be taken during a period with a measurable discharge.

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NOTE: A grab sample is defined as a single sample collected at a NPDES outfall (using approved EPA methods) at a particular time that represents the composition of the stormwater at that time and place.

Representative Sampling:

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

MSGP Discharge Monitoring Reports and Other Reports (MDMRS):

Monitoring results must be reported on an MDMR form (EPA Form No. 2040-0004) in accordance with the “Instructions for Completing the MSGP Industrial Discharge Monitoring Report” provided on the form. The permittee shall submit the original MDMR signed and certified to EPA as required by Part 7.1 of the MSGP.

Duty to Comply:

The permittee must comply with all conditions of the 2008 MSGP permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action.

5.4 DEVELOP A DECISION RULE

If analytical results from monitoring activities are above benchmark and/or natural background levels, a corrective action is entered into the ENV-CP Corrective Action Report Database, in accordance with [ENV-RCRA-QP-022, MSGP Stormwater Corrective Actions](#). An e-mail is automatically generated and sent to personnel responsible for evaluating and modifying controls to prevent further exceedances. Data validation is conducted under the guidelines of the DOE Statement of Work.

Acceptable analytical error is addressed in the DOE Statement of Work.

The current MSGP monitoring program is based on the 2008 MSGP. Activities that could affect the current or next MSGP permit include:

- Addition or removal of constituents into the 303(b) list,
- Discontinued monitoring based on no detection or constituent levels below benchmark or natural background,
- Specific changes identified by EPA within the next permit,
- DOE Statement of Work requirement for analytical laboratories.

6.0 REFERENCES

None

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7.0 DEFINITIONS

None

8.0 ATTACHMENTS

Attachment 1- Example Sample Collection Log/Field Chain of Custody Form

Attachment 2- Sample Container Labels



ATTACHMENT 1- SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY FORM

Los Alamos National Laboratory

Page 1 of 1

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 4179 EVENT NAME: MSGP - 2013
SAMPLE ID: WTMSGP-13-29841 WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED (MM/DD/YYYY):		08/10/13	FIELD MATRIX: WT		OK
TIME COLLECTED (HH:MM):		1334	MEDIA:		
PRS ID:		OK	SAMPLE TECH CODE:	APS	
LOCATION ID: 03-0038W		S	FIELD PREP:	UF	
LOCATION TYPE:			FIELD QC TYPE: REG		
TOP DEPTH:			SAMPLE USAGE: COMP		
BOTTOM DEPTH:			EXCAVATED:		YES / NO <u>NA</u>

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
	MSGP-Zn	1 LITER POLY	1	HNO3	Y	

SAMPLE COMMENTS:

Q3

LOCATION COMMENTS:

FIELD PARAMETERS:

COLLECTED BY (PRINT) MARWIN SHENDO

RELINQUISHED BY (Printed Name) Marwin Shendo (Signature) <i>M.S.L.</i>	Date/Time 8/10/13 11:45	RECEIVED BY (Printed Name) S. Shewood (Signature) <i>Sherin Shewood</i>	Date/Time 8/24/13 11:45
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Report Date 08/01/2013

COPY

ATTACHMENT 2- SAMPLE CONTAINER LABELS

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Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 1 LITER POLY	1 of 1
Preservative: HNO3	
Analysis: Ag+As+Cd+Mg+Pb+Se+Hg	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 0.5 LITER POLY	1 of 1
Preservative: NAOH	
Analysis: MSGP-CN(TOTAL)	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 0.5 LITER POLY	1 of 1
Preservative: H2SO4	
Analysis: MSGP-COD	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 0.5 LITER POLY	1 of 1
Preservative: H2SO4	
Analysis: MSGP-NH3-N	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 1 LITER POLY	1 of 1
Preservative: HNO3	
Analysis: MSGP-GrossA	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 1 LITER GLASS	1 of 3
Preservative: ICE	
Analysis: MSGP-PCB(Aroclor)	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 1 LITER GLASS	2 of 3
Preservative: ICE	
Analysis: MSGP-PCB(Aroclor)	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 1 LITER GLASS	3 of 3
Preservative: ICE	
Analysis: MSGP-PCB(Aroclor)	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 1 LITER POLY	1 of 1
Preservative: HNO3	
Analysis: Ag+As+Cd+Mg+Pb+Se+Hg	
Date:	Time:

Los Alamos National Laboratory	
Sample ID: WTMSGP-13-29856	
Container: 0.5 LITER POLY	1 of 1
Preservative: NAOH	
Analysis: MSGP-CN(TOTAL)	
Date:	Time:



Effective Date: 11/04/2013

Next Review Date: 11/04/2015

Environment, Safety, Health Directorate

Environmental Protection Division – Compliance Programs Group

Quality Assurance Project Plan

**Stormwater Multi-Sector General Permit for
Industrial Activities Program**

Reviewers:

Name: Melanie Lamb	Organization: ADESH-OIO, QA Specialist	Signature: Signature on File	Date:
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Derivative Classifier: **Unclassified** **DUSA** ENVPRO

Name: Ellena Martinez	Organization: ADESH-OIO	Signature: Signature on File	Date:
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Approval Signatures:

Subject Matter Expert: Holly Wheeler	Organization: ENV-CP	Signature: Signature on File	Date:
Responsible Line Manager: Mike Saladen	Organization: ENV-CP, Team Lead	Signature: Signature on File	Date:
Responsible Line Manager: Anthony Grieggs	Organization: ENV-CP, Group Leader	Signature: Signature on File	Date:

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Users are responsible for ensuring they work to the latest approved version.

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History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	06/03	New Document
1	12/05	Annual review and revision
2	07/07	Annual review, incorporated organizational restructure changes.
3	07/09	Biennial Review and Revision
4	07/09	Biennial Review and Revision
5	10/13	Biennial Review and Revision. New format implemented.

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1.0 QUALITY PROGRAM

LANL will comply with the monitoring requirements as specified by the 2008 National Pollutant Discharge Elimination System (NPDES) Stormwater Multi-Sector General Permit for Industrial Activities. Compliance will be demonstrated through the successful implementation of this project plan and applicable procedures.

Los Alamos National Laboratory (the Laboratory) has established a comprehensive stormwater program for its industrial activities. Historically, the Laboratory operated under the NPDES Baseline General Permit and then under the NPDES 1995, 2000, and 2008 Multi-Sector General Permits. The Laboratory submitted its NOI for 2008 coverage in December 2008.

The 2008 MSGP was issued on September 22, 2008 and became effective on September 29, 2008.

The purpose of this project plan is to ensure compliance with the following:

- 2008 NPDES Multi-Sector General Permit (MSGP) and the Clean Water Act (CWA)
- DOE Order 450.1, *Environmental Protection Program*, and DOE Order 5400.5, *Radiation Protection of the Public and Environment*, which establish environmental protection program policies, requirements, and responsibilities

The Environmental Protection, Environmental Compliance Programs (ENV-CP) Water Quality Team has been tasked with overseeing institutional stormwater compliance related activities at the Laboratory.

1.1 QUALITY PROGRAM PURPOSE

This Quality Assurance Project Plan (QAPP) describes the policies and requirements that ensure MSGP activities are conducted in a consistent, agreed-upon manner.

This QA Project Plan describes the policies and requirements that ensure the MSGP processes are conducted in a consistent, agreed-upon manner. Drivers for the quality plan include:

- DOE Order 414.1C, *Quality Assurance*
- [SD330, LANL Quality Assurance Program](#)

This QA Project Plan (QAPP), including implementing procedures, is a sub-tier document to the [SD330, LANL Quality Assurance Program](#). The following documents provide requirements to ensure that the MSGP Program is operated in accordance with established plans and procedures:

- [SD330, LANL Quality Assurance Program](#)
- QA Project Plan for the MSGP (this document)
- Implementing procedures

1.2 ORGANIZATION

ENV-CP is responsible for compliance oversight of the Laboratory's MSGP coverage. The Group is organized by teams under the line management direction of the Group Leader. Teams are cross-functional and focus on specific Laboratory water quality responsibilities, deliverables, or

products. Teams are guided by Team Leaders who have the responsibility to assure the program is completed and properly implemented.

The Team Leader coordinates the project and reports to the ENV-CP Group Leader. The Project Lead implements program oversight, coordinates contractor efforts (if there are any), and reports to the Team Leader. A QA Specialist is assigned to work for the Team Leader to provide quality assurance assistance, advice, and review. In addition, representatives from other groups may participate and contribute to this team as subject matter experts for project activities. The project organization is shown in Attachment 1.

Applicable regulatory drivers include the following:

- Clean Water Act (CWA)
- 2008 NPDES Multi-Sector General Permit (MSGP)
- DOE Order 450.1, *Environmental Protection Program*
- DOE Order 5400.5, *Radiation Protection of Public and Environment*
- [P401, Procedure to Identify, Communicate, and Implement Environmental Requirements](#)

1.3 RESPONSIBILITIES

The following table lists specific responsibilities:

Who	What
Group Leader	Assure that qualified staff complies with regulatory requirements associated with the MSGP.
Project Lead	Ensure that MSGP-related activities are performed in accordance with the requirements specified in this plan.
ENV-CP Staff	Perform MSGP-related activities as assigned by the Team Leader or Project Leader

2.0 PERSONNEL DEVELOPMENT

Qualified team members will be hired and trained as prescribed in [ENV-DO-QP-115, Personnel Training](#). Minimum training requirements for ENV personnel are described in the ENV Division Qualification Standards. The LANL Human Resources Division maintains documentation of education qualification. Required MSGP qualifications and training plans are listed below.

2.1 MSGP CURRICULA

The MSGP Program requires personnel with the following training requirements:

MSGP Inspectors

Curricula 10697 ENV-RCRA MSGP Inspector

Item 43337 ENV-CP-QAPP-MSGP

Item 54892 ENV-RCRA-QP-022 MSGP Stormwater Corrective Actions

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- Item 42415 ENV-DO-QP-101 *Environmental Reporting Requirements for Releases or Events*
- Item 42547 ENV-DO-QP-111 *Reporting Environmental Releases to Pueblo Governments*
- Item 40708 ENV-DO-QP-108 *Preparation of External Correspondence for Review and Approval*
- Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
- Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
- Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
- Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 131 Field Worker Training Requirements

- Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace
- Item 3574 or 13264 First Aid

MSGP SWPPP Preparers

Curricula 7814 ENV-RCRA MSGP SWPPP Preparer

- Item 43337 ENV-CP-QAPP-MSGP
- Item 56593 ENV-RCRA-QP-044 *Preparing Storm Water Discharge Monitoring Reports (MDMRs) for the NPDES Multi-Sector General Permit*
- Item 40708 ENV-DO-QP-108 *External Correspondence*
- Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*
- Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*
- Item 43805 ENV-DO-QP-114 *Logbook Use and Control*
- Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 51 ENV-RCRA Design Engineer

- Item 44269, COE Review of LANL Produced Design Documents, AP-341-620
- Item 44266, COE System Design Descriptions, AP-341-61
- Item 44263, COE Engineering Drawings and Sketches, AP-341-608
- Item 44261, COE Calculation, AP-341-605
- Item 44258, COE Requirements and Criteria Document, AP-341-602
- Item 44257, COE Functions & Requirements Document, AP-341-601
- Item 43658, CORE Engineering Overview
- Item 55428, COE Management Level Determination, AP-341-502
- Item 54168, P342 Engineering Standards
- Item 47029, COE LANL Review of Design by External Agencies, AP-341-622
- Item 43666, Engineering Design Management
- Item 43663, Engineering Technical Baseline
- Item 44225, COE Evaluation of Vendor Information, AP-341-701

MSGP Visual Assessors

Curricula 10698 ENV-RCRA MSGP Visual Assessor

- Item 43337 ENV-RCRA-QAPP-MSGP
- Item 50493 ENV-RCRA-QP-064 *MSGP Storm Water Visual Assessments*
- Item 42415 ENV-DO-QP-101 *Environmental Reporting Requirements for Releases or Events*
- Item 42547 ENV-DO-QP-111 *Reporting Environmental Releases to Pueblo Governments.*
- Item 40708 ENV-DO-QP-108 *External Correspondence*

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Item 43172 ENV-DO-QP-112 *Coordinating Regulatory Inspections*

Item 42891 ENV-DO-QP-113 *Tracking Issues and Actions*

Item 43805 ENV-DO-QP-114 *Logbook Use and Control*

Item 45777 ENV-DO-QP-100 *General Field Safety*

Curricula 131 Field Worker Training Requirements

Item 43562 or 3583 or 16585 CPR/AED: LANL Workplace

Item 3574 or 13264 First Aid

2.2 MSGP INSPECTOR QUALIFICATIONS

Inspections:

- Post high school education or experience in engineering or environmental science or a related field; or industrial site field experience involving stormwater pollution prevention.
- 2 years experience of completing MSGP inspections or 1 year MSGP inspection experience with the Certified Inspector of Sediment and Erosion Control (CISEC) certification.
- 6 months knowledge of LANL facility operations.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to successfully and effectively evaluate and identify the following at industrial sites:
 - Conditions and activities that could impact stormwater quality at the facility.
 - Inadequate or ineffective BMPs.
 - Required modification or maintenance of existing BMPs.
 - Locations requiring new or additional BMPs.
 - Potential pollutant sources associated with the facility.
 - Appropriate and correct site stabilization measures.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to evaluate the compliance status of each industrial facility and document identified issues during an inspection.
- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to properly and effectively complete inspection reports, including the ability to perform the following:
 - Prepare reports in a clear, concise manner, identifying site conditions and issues.
 - Write legibly and describe conditions clearly and accurately.
 - Use proper spelling and grammar.
 - Complete the MSGP Routine Inspection Report forms accurately.
 - Accurately enter findings into the Corrective Actions Report database.
- Conduct inspections in a professional manner.
- Be a member of, or contractor supporting, ENV-RCRA or ENV Division.

2.3 MSGP SWPPP PREPARER QUALIFICATIONS

SWPPP Preparation:

One of the 2 criteria below must be satisfied:

- BS degree or experience in engineering, environmental science, or related field, with a background involving stormwater pollution prevention and regulatory compliance relating to MSGP sites and a 1 year minimum of LANL facility operations knowledge and 1 year experience of completing MSGP inspections; or
- Certified Professional in Erosion and Sediment Control (CPESC) or Professional Engineer (PE) with a demonstrated background in stormwater management, sediment and erosion control, and regulatory compliance.

In addition to:

- Demonstrated ability, as determined by the Multi-Sector General Permit Project Lead and/or Water Quality Team Leader, to:
 - Prepare SWPPPs per LANL format and in compliance with NPDES MSGP requirements.
 - Identify and specify appropriate BMPs and stabilization measures.
 - Identify potential pollutant sources associated with the facility.
 - Perform necessary calculations to meet regulatory requirements.
 - Prepare a site map.
 - Be a member of, or contractor supporting, ENV-CP or ENV Division.

5.4 MSGP VISUAL ASSESSOR QUALIFICATIONS

Quarterly Visual Assessments:

- Education or experience in engineering, environmental science, or a related field; or industrial site field experience involving stormwater pollution prevention; and
- Completed ENV-RCRA training on how to collect and evaluate visual assessment; and
- Demonstrated ability, as determined by the Multi-Sector General Permit Program Lead and/or Water Quality Team Leader, to:
 - Collect quarterly visual samples at the designated outfall.
 - Complete the applicable portions of the MSGP Quarterly Visual Assessment Form.
 - Have working knowledge of the regulatory requirements in Section 4.2 of the MSGP.

5.5 TRAINING RESPONSIBILITIES

All personnel performing MSGP project-related work are required to obtain appropriate training prior to performing work governed by a procedure. Training for all project personnel will be performed and documented in accordance with [ENV-DO-QP-115, Personnel Training](#).

The following table lists specific responsibilities regarding training requirements.

Who	What
Group Leader	Ensure project personnel meet all Laboratory training requirements.
Program Lead	Establish and document job descriptions for each position within the MSGP Project. Ensure all project personnel have the appropriate level of education,

	experience, and training.
--	---------------------------

3.0 QUALITY IMPROVEMENT

The MSGP Project subscribes to the principles of problem prevention and continuous improvement. The Project Lead is committed to evaluating improvement opportunities identified by trending and reporting. The Project Lead provides verbal and written updates, as needed, to the Team Leader and Group Leader to keep group management apprised of the focus of the MSGP Project activities and to address any shortcomings that may be identified.

3.1 CORRECTIVE ACTIONS WITHIN ENV-RCRA

Corrective actions for all ENV-RCRA programs and projects are initiated, tracked, corrected, and documented according to *P330-6 Nonconformance Reporting*, *P322-4 Laboratory Performance Feedback and Improvement Process*, *SD330, Los Alamos National Laboratory Quality Assurance Program*, and Division/Group procedures.

3.3 QUALITY IMPROVEMENT RESPONSIBILITIES

The following table lists specific responsibilities for quality improvement:

Who	What
Project Lead	Monitor program performance and ensure issues are corrected in a timely manner.
ENV-CP Staff	Identify opportunities for process improvement, health and safety enhancement, environmental protection, or other improvements of the program's operations. Discuss the identified opportunities with the Project Lead. Ensure issues are reported and corrected in a timely manner.

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The program lead, at least one reviewer, and the Group Leader will approve all revisions to this plan. Revisions to the plan will be provided to the QA Specialist. This plan will be reviewed and revised (if necessary) biennially.

This document will be controlled under the organization's document control system (*ENV-DO-QP-106, Document Control*). Controlled copies of ENV documents are located on the Internet: <http://int.lanl.gov/orgs/env/rcra/qa.shtml>, all other copies are uncontrolled.

Procedures will be developed as necessary and in accordance with *ENV-DO-QP-105, Preparation, Review, and Approval of Procedures*.

Phone calls, email, or fax communications will be documented and controlled if the content provides direction or results in decisions.

4.1 PROGRAM RECORDS

The number, type, and detail of all records to be kept will provide sufficient information to allow an individual with equivalent education and training to verify or reconstruct the results. Implementing procedures specify the records, forms, logbook entries, or other information to be kept as documentation of the performance of the procedure.

Records to be kept in the ENV-CP records system include the following:

- Copy of the Multi-Sector General Permit
- Annual Site Compliance Evaluation reports
- Corrective Action Reports
- Reports and certifications required by MSGP
- Records of all data used to complete MSGP Notice of Intent
- Discharge Monitoring Reports

Records to be kept by the Deployed Environmental Professional assigned to the FOD in which the industrial facility resides includes the following:

- Copies of Stormwater Pollution Prevention Plans
- Reports and certifications required by MSGP
- Routine Inspection Forms
- Supporting analytical data reports including Visual Assessment Forms
- Corrective Action Reports
- Discharge Monitoring Reports
 - Annual Site Compliance Evaluation reports

All ENV-CP records will be maintained and available (after the deadline for submittal as given in applicable procedures) for auditing in the records center at ENV-CP ([ENV-DO-QP-110, Records Management](#)). Records will be archived in compliance with Laboratory and DOE requirements for records retention, storage, and management.

4.2 PROGRAM RECORDS RESPONSIBILITIES

The following table lists specific responsibilities for program records management:

Who	What
Team Leader	Ensure QAPP meets minimum specifications for documentation and records of the <i>SD330, Los Alamos National Laboratory Quality Assurance Program</i>
Program Lead	Conduct annual review of records to ensure compliance with project requirements.

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4.3 ELECTRONIC MEDIA

The project will utilize electronic means as necessary to maintain data and perform calculations on these data. Electronic means will not however replace paper copies. All records that must be maintained to meet the requirements of the Permit will be kept in hard copy as the official record.

4.4 DATABASES

Analytical data will be maintained in the LANL Water Quality Database (WQDB). Security, verification, and validation of data are maintained in accordance with LANL procedures.

Security -- ENV data will be maintained electronically in a secure manner and will be protected from loss by being maintained as part of an official dataset that is backed up at least weekly.

Verification of data -- All ENV data, either electronic or hardcopy must undergo a verification and validation process that includes the following:

Verification

- Paper deliverables match electronic data that are stored in an official dataset. Paper deliverables include:
 - chain of custody for sample data
 - field log, if applicable, for sample data
 - data packages for analytical data
 - documentation packages for supporting data (e.g., geographic information system)
- All hand-entered data have been verified by a person other than the individual performing the entry
- Electronic uploads of data (e.g., electronic data deliverables) have been spot checked (at least 10%) to ensure the upload performed as expected
- Hard copy supporting information (e.g., data packages, chains of custody, validation reports, etc.) is evaluated for completeness, archived, and available for audit

Validation --analytical data validation is the responsibility of the EP Directorate. The process will include the following:

- Validate that sample and quality assurance/quality control data and information meet contract specifications
- Assign validation flags, as appropriate
- Identify the analytical supplier
- Identify the analytical method

Verification of calculations -- A person other than the person who generated the query will review for accuracy all compliance related calculations performed in a database through queries. This review will be documented and forwarded to the appropriate record series.

Spreadsheets:

Backups -- All spreadsheets used to hold data and generate reports to be used in demonstrating compliance will be maintained in a secure location. The preferred location is on the Group server. Spreadsheets will be backed up at least weekly.

Verification of data -- All compliance-related data uploaded into a spreadsheet will be verified to be accurate against the original paper copy. Data that are uploaded through electronic means will undergo a 10% verification. Data that are uploaded through manual means will undergo a 100% verification. Someone other than the data entry person must perform the 100% review. This review will be documented and forwarded to the appropriate record series.

Verification of calculations -- A person other than the person who generated the spreadsheet will review for accuracy all compliance-related calculations performed in a spreadsheet. This review will be documented and forwarded to the appropriate record series. Modifications to the function of these spreadsheets will also be verified in this manner.

Software control -- The integrity of spreadsheets will be ensured by limiting access to these spreadsheets to only trained, authorized personnel. Additionally, at least once per year, the function of the spreadsheets will be verified by hand calculations. Documentation of this review will be forwarded to the appropriate record series.

4.4 IMPLEMENTATION RESPONSIBILITIES

The following table lists specific responsibilities:

Who	What
Program Lead	Regularly assess data integrity methods used by MSGP personnel.

5.0 PLANNING AND PERFORMING WORK

Work conducted under this program ensures compliance with the 2008 Multi-Sector General Permit; the Clean Water Act; and DOE Orders 450.1, *Environmental Protection Program*, and 5400.5, *Radiation Protection of the Public and Environment*.

Work that contributes to achieving the quality specifications of the MSGP deliverables will be planned and documented as described in this document and implementing procedures.

Work will be performed according to applicable plans and implementing procedures. The team leader will provide first line supervision of personnel assigned to project tasks to ensure work is performed to achieve project quality specifications. Before changing a work process that affects the project quality specifications, the team leader will ensure the same level of planning and review as used in the initial project planning steps.

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5.1 WORK PROCESSES

All work should be regarded as a process. Each process consists of a series of actions and is planned and carried out by qualified workers using specified work processes and equipment under administrative, technical, and environmental controls established by management to achieve an end result. Workers are the best resource of contributing ideas for improving work processes and will be involved in work process design, process evaluation, and providing the feedback necessary for improvement.

All work is planned and performed using the principles of Integrated Safety Management and in compliance with P300, *Integrated Work Management for Work Activities*.

5.3 WORK PERFORMANCE

Management should ensure that the following are clearly identified and conveyed to workers prior to beginning work:

- customer and data requirements for the work and final product;
- acceptance criteria applicable to work and final product;
- hazards associated with the work;
- technical standards applicable to work and final product; and
- safety, administrative, technical, and environmental controls to be employed during the work.

The work processes used to meet the regulatory requirements and the requirements of this plan can be divided as follows:

- Stormwater Pollution Prevention Plans (Multi-Sector General Permit Section 5.0)
- Inspections (Multi-Sector General Permit Section 4.0)
- Monitoring (Multi-Sector General Permit Section 6.0)
- Discharge Monitoring Reports (Multi-Sector General Permit Section 7.1 – Reporting Monitoring Data to EPA)
- Best Management Practices (Multi-Sector General Permit Section 2.0 –Control Measures)
 - Reporting and Recordkeeping (Multi-Sector General Permit Section 7.0)

5.4 STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan (SWPPP) development and implementation by the regulated industrial facility is required for MSGP compliance (refer to Section 8.0 of the 2008 MSGP for *Sector-Specific Requirements for Industrial Activity* and Appendix D, *Sectors of Industrial Activity Covered by This Permit*). The SWPPP is intended to document the selection, design, and installation of control measures. Additional documentation requirements are intended to document the implementation (including inspection, maintenance, monitoring, and corrective

action) requirements identified in the 2008 MSGP permit. The SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that will be implemented at the specific industrial facility to minimize the discharge of pollutants in runoff from the site. These control measures include site-specific Best Management Practices (BMPs), inspections, employee training, and reporting. The procedures detailed in the SWPPP must be implemented by the facility and updated as necessary, with a copy of the SWPPP kept on-site.

The SWPPP development process involves evaluating regulated industrial activities and requiring Facility Management support in implementation, improvement, and revision of the Plans.

5.4.1 DISCHARGE MONITORING REPORTS

The Laboratory is required to submit analytical results of stormwater monitoring and to keep the results with the facility specific SWPPP. The Laboratory must certify and submit analytical monitoring results obtained from each facility specific sampling location (i.e., the sampling station located at the monitored outfalls) associated with industrial activity on a Discharge Monitoring Report (DMR) form or use it to report any of the following:

- no discharge for all outfalls for a specific monitoring period;
- the industrial facility status has changed to inactive and unstaffed;
- the facility status has changed to active; or
- no further pollutant reductions are achievable for all outfalls and for all pollutants (see Section 6.2.1.2 of the 2008 MSGP).

5.4.2 ANNUAL SITE COMPLIANCE EVALUATION REPORT

The Laboratory is required to submit an annual report (Attachment 2) to the Environmental Protection Agency (EPA) that includes the findings from the comprehensive site inspection and any corrective action documentation. The documentation must include the following:

- identification of the condition triggering the need for corrective action review;
- date and description of the problem identified;
- summary of the corrective action taken or to be taken;
- notice of whether SWPPP modifications are required as a result of the discovery or corrective action;
- date corrective action was initiated; and
- date corrective action was completed or is expected to be completed.

The following table lists responsibilities:

Who	What
Project Lead	Ensure that SWPPP requirements are performed in accordance with the MSGP.

Facility Management Support	Implement SWPPP requirements as recommended by the Project Lead.
ENV-CP Staff and Deployed Environmental Professionals (DEPs)	Assure SWPPP implementation as required by MSGP.
DEPs	Develop, modify, and update SWPPPs and assist facility personnel with SWPPP implementation.

5.5 INSPECTIONS

The MSGP requires periodic inspection of industrial processes and maintenance of (BMPs) to assure effectiveness of control measures. The Laboratory has implemented a quarterly or monthly inspection process (depending on the industrial facility) to support this determination. A copy of the Routine Inspection Form is provided in Attachment 3.

5.6 STORMWATER MONITORING

Benchmark stormwater monitoring is the required mechanism for determining the effectiveness of corrective actions and meeting the requirements of the MSGP. Refer to Attachment 4, *MSGP Facilities and Stormwater Monitored Outfalls Associated with Industrial Activity 2011*, for a list of Laboratory sites that have monitoring requirements. Laboratory management has made an investment in time and materials, in addition to a commitment to comply with the 2008 MSGP Permit. All stormwater monitoring is conducted by ENV-CRP personnel. The MSGP Project currently has a network of 23 monitoring stations. Considerations to be used for MSGP stormwater monitoring development decisions will include MSGP requirements, new state water quality standards, Administrative Authority requests, or new permit requirements. Stormwater monitoring will be conducted as specified in the MSGP.

Effluent Limitations stormwater monitoring is required for the following type of facility of LANL:

Regulated Activity	Parameter	Effluent Limit	Monitoring Frequency	Sample Type
Discharges from asphalt emulsion facilities	Total Suspended Solids	23.0 mg/L daily max. 15.0 mg/L, 30-day avg.	1/year	grab
	pH	6.0-9.0 s.u.	1/year	grab
	Oil and Grease	10.0 mg/L 30-day avg.	1/year	grab

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This determination was made in accordance with Section 1.1.2.4 of the MSGP. The TA-60 Asphalt Batch Plant meets the criteria for effluent limitations monitoring in this section. Exceedances of the effluent limits in this table require immediate action. In addition, if follow-up monitoring after corrective actions also exceeds an effluent limit guideline, an Exceedance Report for Numeric Effluent Limits must be submitted to EPA no later than 30 days after lab results have been received and verified.

Impaired Waters stormwater monitoring is required for discharges made to an impaired water. The canyons within and surrounding Los Alamos National Laboratory are declared as Impaired Waters by the New Mexico Environment Department. The pollutants vary from canyon to canyon and are listed in Attachment 5, *Pollutants Under Impaired Waters Monitoring*. The pollutants may be discontinued in subsequent annual monitoring if the concentration is below background levels in stormwater or if the constituent is not detected.

Visual assessments are also required by the MSGP and are an important tool for collecting information to determine the effectiveness of controls in preventing potential contaminants from migrating off Laboratory property. Accordingly, field personnel must conduct visual assessments for stormwater collected at the monitoring stations or discharged through substantially identical outfalls associated with industrial facilities located throughout the Laboratory. Information recorded will document all observations that are required by the MSGP (see [ENV-RCRA-QP-064, Multi-Sector General Permit Storm Water Visual Inspections](#)).

The Laboratory's MSGP permit requires stormwater quality monitoring to evaluate compliance with water quality standards and evaluation against benchmarks. Parameters sampled at the monitoring stations are selected based on permit requirements and the results of the previous year.

Four stormwater samples per year are required under the 2008 MSGP, but it is not necessary to collect them in consecutive quarters if climatic conditions that prevented quarterly collection are documented (see *Adverse Weather Conditions* in Section 6.1.5 of the MSGP). Sample locations are listed in Attachment 4, *MSGP Facilities and Stormwater Monitored Outfalls Associated with Industrial Activity 2011*, and collection will be conducted in accordance with LANL and NPDES Permit requirements and the current year MSGP Sampling and Analysis Plan.

Stormwater samples are used to demonstrate compliance with water quality standards and requirements to evaluate results against benchmark parameters (Attachments 5 and 6). Any persons involved in the preparation, retrieval, and analysis must maintain positive control of samples at all times until sample disposal. ENV-RCRA personnel will follow guidance in the Associate Directorate for Environmental Programs (ADEP) document [ENV-WQH-QP-029, Creating and Maintaining a Chain of Custody](#), as well as, [ENV-RCRA-QP-047, Inspecting Storm Water Runoff Samplers and Retrieving Samples](#), and [ENV-RCRA-QP-048, Processing MSGP Storm Water Samples](#).

Chain of custody is maintained during:

Activity	Responsibility
Sample collection and preparation	All persons (other than analytical personnel) performing sample preparation and collection will be trained to sample collection procedures and must adhere to the chain of custody requirements therein.
Analysis	Analytical laboratories performing sample analysis will maintain sufficient procedures to ensure positive control of samples as specified in the existing Statement of Work.
Storage/disposal	Analytical laboratories will maintain retained samples and/or sample portions under chain of custody until reanalysis, or ultimate disposal.

The LANL Sample Management Office (SMO) will be the central point for all analytical laboratory selection, evaluations, sample submittal, and data return. The SMO will evaluate potential analytical laboratories, prepare analytical statements of work that include requirements, and arrange contracts with selected laboratories for analysis of all samples. The SMO will accept samples from field collection personnel, process the sample, ship the samples to the off-site analytical laboratories, and receive the data packages from the laboratories.

All analytical data will be received from analytical laboratories in electronic format and uploaded into a database. All received data will be checked for completeness and adherence to contract requirements. After uploading, all data will undergo verification and validation (V&V) for evidence of laboratory contamination, improper analytical method, and other analytical issues which could potentially affect data quality.

Field data collected by sample collection personnel will be verified and validated by the SMO when field personnel deliver samples to the SMO.

If significant V&V issues are identified, results will be forwarded to and discussed with the responsible project leads.

Data issues that result from procedural failures, personnel errors, or other failures to follow requirements will be documented as issues and corrected according to [ENV-DO-QP-113, Tracking Issues and Actions](#).

The following table lists responsibilities:

Who	What
Project Lead	Ensure that all project monitoring requirements are performed in accordance with the MSGP. Review and update the MSGP Sampling and Analysis Plan annually.

	When complete, communicate findings to the team members for implementation. Make appropriate arrangements with the SMO to accept, process, and submit samples to an analytical laboratory for required analyses as specified in the SAP.
MSGP Water Quality Compliance Personnel	<ul style="list-style-type: none"> • Implement monitoring program as required by the MSGP Project Lead. • Conduct stormwater sampling in accordance with the MSGP Sampling and Analysis Plan and applicable procedures. • Ensure procedures for sample handling and control during sample preparation and retrieval are followed.
Sample Management Office	<ul style="list-style-type: none"> • Develop Statements of Work (SOW) for all analytical laboratories that perform analytical work for the MSGP project in accordance with P840-1, <i>Procurement Quality</i>. • Ensure analytical laboratories comply with the DOE's SOW. Conduct an annual audit of the laboratory to ensure compliance with the SOW. • Approve Statements of Work for analytical laboratories that are contracted to analyze water samples. • Approve analytical laboratories that are contracted to analyze water samples for regulatory compliance purposes. • Accept samples and submit them to an approved analytical laboratory for analysis. • Track progress of samples at the analytical laboratory and resolve issues with sample analysis. • Receive data packages from the analytical laboratory and enter data into the database. • Provide the MSGP Project Lead with monthly invoice updates. • Perform V&V of field data submitted and uploaded from forms when samples are submitted to the SMO.
Operations Integration Office (OIO), Systems Integration (SI)	Perform V&V of data packages uploaded by the SMO or send data packages to a subcontractor company for independent V&V.

5.7 DISCHARGE MONITORING REPORTS

The Laboratory is required to submit analytical results of stormwater monitoring and to keep the results with the specific SWPPP. The Laboratory must submit analytical monitoring results obtained from each monitoring station associated with industrial activity on a MSGP Discharge Monitoring Report (MDMR) form (one form must be submitted for each storm event from which, a sample was collected).

MDMRs shall be written in accordance with ENV-RCRA-QP-044, *Preparing Storm Water Discharge Monitoring Reports (MDMRs) for the NPDES Multi-Sector General Permit*. MDMRs shall be submitted to EPA within 30 calendar days of receiving validated

analytical results. Refer to the DMR language under the SWPPP Section above for additional requirements.

Site analytical requirements are defined by the industrial activity in the MSGP permit. All MSGP analytes applicable to LANL are consistent with the requirements of 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants*.

Sample analytical requirements vary by site depending on the industrial activities performed at the site. Refer to Attachment 5 for a list of analytes by industrial sector. If an insufficient quantity of sample is available, then sample collection will be prioritized at that location for future events. Additional samples may be collected to meet permit requirements.

ENV-RCRA shall refer to the requirements of the 2008 Multi-Sector General Permit, and the most current MSGP Sampling and Analysis Plan to determine the priorities of required analyses.

The following table lists responsibilities:

Who	What
Project Lead	<ul style="list-style-type: none"> • Ensure implementing procedures for sample analyses are used. • Ensure that MDMRs are submitted to EPA and NMED in accordance with the MSGP.
MSGP Water Quality Compliance Personnel	Assure MDMRs are completed and certified as required by the MSGP and have received a full quality assurance review.

5.8 ADVERSE WEATHER CONDITIONS AND CLIMATES WITH IRREGULAR STORMWATER RUNOFF

Section 4.2.3 of the 2008 MSGP allows the industrial facility to take a substitute sample during the next qualifying storm event when adverse weather conditions prevent the collection of samples during a specific quarter. Adverse weather conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions.

Documentation of the rationale for no visual assessment for the quarter must be included in the facility specific SWPPP.

Since LANL is located in an area where limited rainfall occurs during parts of the year (i.e., in a semi-arid climate) and has periods of freezing conditions, LANL has identified an alternative monitoring period of four quarters as follows for each calendar year.

- April 1-May 31

- June 1-July 31
- August 1-September 30
- October 1-November 30

The following table lists specific responsibilities.

Who	What
Project Lead	Ensure that the monitoring schedule is documented in facility specific SWPPPs and provided to EPA on the MDMRs.

5.9 REPORTING AND RECORDKEEPING

All monitoring data shall be collected in accordance with the requirements specified in the 2008 MSGP. LANL will submit monitoring results to EPA within 30 days of receiving validated laboratory results. The address for submittal of monitoring results is as follows.

U.S. Environmental Protection Agency
Office of Water, Water Permits Division
Mail Code 4203M, ATTN: MSGP Reports
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

LANL shall keep copies of the following documentation for a period of at least 3 years from the date that LANL's coverage under the MSGP expires or is terminated.

- SWPPP (including any modifications made during the term of the 2008 MSGP)
- Additional documentation requirements as identified in Section 5.4 of the MSGP
- All reports and certifications required by the MSGP
- Monitoring data
- Records of all data used to complete the NOI.

The following table lists specific responsibilities:

Who	What
Project Lead	Periodically audit MSGP records to ensure documentation of compliance is being retained.
Deployed Environmental Professionals	Retain records as required by the MSGP for industrial facilities located in their FOD.

5.10 BEST MANAGEMENT PRACTICES

It is critical that the Laboratory be able to effectively inspect and maintain the Best Management Practices that have been installed at various locations. Quarterly inspections must be completed and provided to the Project Lead for inclusion into the records system. In addition, the Project Leader conducts a Comprehensive Annual Site Inspection and writes a report to document the status of BMPs and other identified corrective actions. This report is sent to EPA each year. Laboratory management has made an investment in time and materials, in addition to a commitment to minimizing the potential migration of contaminants in stormwater. Report findings are evaluated and in conjunction with facility personnel, BMPs are modified, installed, or removed as necessary.

The following table lists responsibilities.

Who	What
Project Lead	Assist facility personnel and Deployed Environmental Professionals with implementation, inspection, and maintenance of BMPs at MSGP facilities.
Facility Management Support	<ul style="list-style-type: none"> • Coordinate with Project Lead and provide funding as needed to install, inspect, maintain and implement identified BMPs. • Certify the corrective actions identified by the Project Lead and/or facility personnel (or their representatives) for their individual facilities in the Annual Report.

5.11 INFORMATION MANAGEMENT

The Water Quality Database is a database information system designed in part to support the information management (IM) needs of the Laboratory's MSGP. MSGP support includes stormwater discharge monitoring reporting, Geographic Information System (GIS) development, and other IM activities as needed.

The following table lists responsibilities:

Who	What
Project Lead	Coordinate with IM support personnel to meet regulatory requirements.

5.12 RESPONDING TO WATER QUALITY EXCEEDANCES

The identification of a pollutant source(s) contributing to a water quality exceedance will be addressed through the creation of a corrective action that is entered into the Corrective Acton

Report database in accordance with *ENV-DO-QP-113, Tracking Performance Feedback and Actions* and *ENV-RCRA-QP-022, MSGP Stormwater Corrective Actions*. Federal stormwater regulations implemented under the Laboratory's MSGP (40 CFR 122, EPA Administered Permit Programs: The National Pollutant Discharge Elimination System) require that corrective action be taken if exceedances of water quality standards or MSGP numeric effluent limits are identified. Corrective actions are typically accomplished by modifying, as appropriate, existing BMPs and SWPPPs.

When a water quality exceedance occurs, the Laboratory will submit the data on the required MDMRs, investigate the occurrence, and document corrective actions.

When an exceedance of the MSGP benchmark parameters is detected, the Project Lead will assure the analytical data is reviewed, notify appropriate SWPPP owners, and recommend and track corrective actions where required.

The following steps lead to corrective actions:

STEP	Action
1	Establish that an analytical result from a location is valid and has exceeded a standard or MSGP benchmark.
2	Evaluate and demonstrate that the analyte is of LANL origin, if possible.
3	Determine the source and assign responsibility for the corrective action.
4	Develop a corrective action plan.

The following table lists responsibilities:

Who	What
Project Lead	<ul style="list-style-type: none"> • Assure that analytical data is reviewed and accurate. • Notify appropriate SWPPP owners, Laboratory management, and Deployed Environmental Professionals. • Develop a corrective action plan. • Follow up with corrective actions if required. • Track corrective actions.
Facility Management and DEP	<ul style="list-style-type: none"> • Review analytical data with Project Lead and provide input into a possible corrective action necessary to improve water quality where needed. • Evaluate and improve BMPs in accordance with site conditions, industry standards, and manufacturer

	recommendations.
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5.13 INSTRUMENTATION AND EQUIPMENT

Compliance will be tracked by performing inspections of samplers and other associated equipment, inspecting BMPs, and conducting annual site compliance evaluations. Adequate records will be maintained to demonstrate the operating history of essential instrumentation and equipment.

LANL will properly operate and maintain all systems of monitoring and control and related appurtenances which are installed or used to achieve compliance with the MSGP and the SWPPP. Backup instrumentation and equipment will be timely deployed in the event of equipment failure.

Instrument calibration is essential for documenting the quality of data obtained with the instrument. All technical work that depends upon the accuracy of data will be performed using equipment for which the calibration status and limits of accuracy are known and controlled.

Field team personnel will calibrate and perform maintenance procedures on all monitoring and analytical field instruments to ensure accuracy of measurements and will maintain appropriate records of such activities. All field calibrations will be documented as prescribed by procedures or manufacturer's instructions.

The following table lists specific responsibilities.

Who	What
Project Lead	<ul style="list-style-type: none"> • Ensure data are collected and equipment is operated and maintained in accordance with project requirements. • Provide equipment maintenance and calibration specifications and ensure MSGP Water Quality Compliance Team personnel operate and conduct field activities in accordance with implementing procedures and specific work orders.

6.0 DESIGN

Design activities will be conducted and reviewed in accordance with PD340, *Conduct of Engineering* and P341, *Engineering Process Manual*.

Design standards under this program include, but are not limited to temporary and permanent BMPs, corrective action measures, and stormwater monitoring support.

Design inputs will be specified and approved on a timely basis for making design decisions. Inputs will contain the level of detail required to permit the performance of design activities correctly.

Formal design reviews, including design verifications and evaluation of design changes, will be conducted to ensure that the design input is correctly incorporated into the design output. Changes to design will undergo the same review as the original design.

Verification and validation of the adequacy of designs are conducted before relying on the performance of the design function. Verification and validation are conducted in accordance with implementing procedures.

The following table lists responsibilities.

Who	What
Project Lead	<ul style="list-style-type: none"> • Provide input to the design process in accordance with appropriate standards, requirements, and implementing procedures. • Determine the qualifications required to perform a review of design documents. • Identify a resource with skills, knowledge, ability, training, and certifications required to complete the review of the facility engineering design documents. • Communicate the results of the review to the requestor.
ENV-CP Staff	<p>Review design documents and requests as assigned.</p> <p>Inform the Project Lead of concerns regarding the facility engineering designs.</p>

7.0 PROCUREMENT

Items and services required for this process are commercial grade in nature and no special procurement requirements or needs are necessary. All procurements will be made in accordance with [P840-1, Procurement Quality](#). For items and all services for which special requirements are necessary, the Project Lead and project members will identify such items or services.

The following table lists responsibilities:

Who	What
Group Leader	Ensure all procurements are conducted in accordance with P840-1.
Project Lead	<p>Recommend to Group Leader contracting items and services.</p> <p>Develop acceptance criteria.</p>
ENV-CP Staff	Identify potential suppliers of products or services necessary to complete work activities that must be procured from outside ENV-RCRA.

8.0 INSPECTION AND ACCEPTANCE TESTING

Any materials or services will be inspected and/or tested prior to acceptance for use in this project in accordance with [P330-8, *Inspection and Test for Acceptance*](#). Most supplies used during performance of project activities are commercial grade in nature and require no special acceptance practices or procedures.

The following table lists responsibilities:

Who	What
Group Leader	Ensure procedures for inspection meet SD330, <i>Los Alamos National Laboratory Quality Assurance Program</i> requirements.
Project Lead	Verify that all materials and services meet acceptance criteria.
ENV-CP Staff	Follow established procedures for inspection and acceptance testing.

9.0 MANAGEMENT ASSESSMENT

The ENV-CP Group conducts internal management assessments of projects and programs in accordance with the requirements in [P328-3, *Management Assessment*](#) and [P328-4, *Management Observation and Verification*](#). Assessments of the program are documented and filed as records.

When violations of requirements are found during a management assessment, a nonconformance report is initiated in accordance with [P330-6, *Nonconformance Reporting*](#) for nonconforming items.

Nonconforming services or processes are tracked and documented in accordance with [P322-4, *Issues and Corrective Action Management*](#).

The following table lists responsibilities:

Who	What
Group Leader	Ensure management self-assessments for the MSGP program are conducted as specified in implementing procedures.
Project Lead	Ensure program management self-assessments are conducted.

10.0 INDEPENDENT ASSESSMENT

Independent assessments are those assessments conducted by organizations external to ENV-RCRA. As required by the *SD330, Los Alamos National Laboratory Quality Assurance Program*, this program may be assessed by outside organizations in accordance with *P328-2, Independent Assessment*.

Periodically audits/assessments will be conducted, with input from the Project Lead identifying one or more areas of the project to be audited.

The following table lists responsibilities:

Who	What
Project Lead	<ul style="list-style-type: none"> • Approve audit schedules. • Provide input to the QA Specialist as to the content of audit. • Review audit reports for factual accuracy. Address all findings and implement corrective actions as appropriate.
QA Specialist	<ul style="list-style-type: none"> • Identify areas to be addressed during internal audits. • Contract with the Quality Management Group to perform annual internal audits. • Review audit procedures to ensure they meet the requirements in this section.
Team Members	<p>Cooperate with auditors by providing information, data, etc.</p> <p>Implement corrective actions as directed by the Project Lead.</p>

11.0 ATTACHMENTS

Attachment 1- MSGP Program Organization

Attachment 2 – Annual Reporting Form

Attachment 3 – Routine Inspection Form

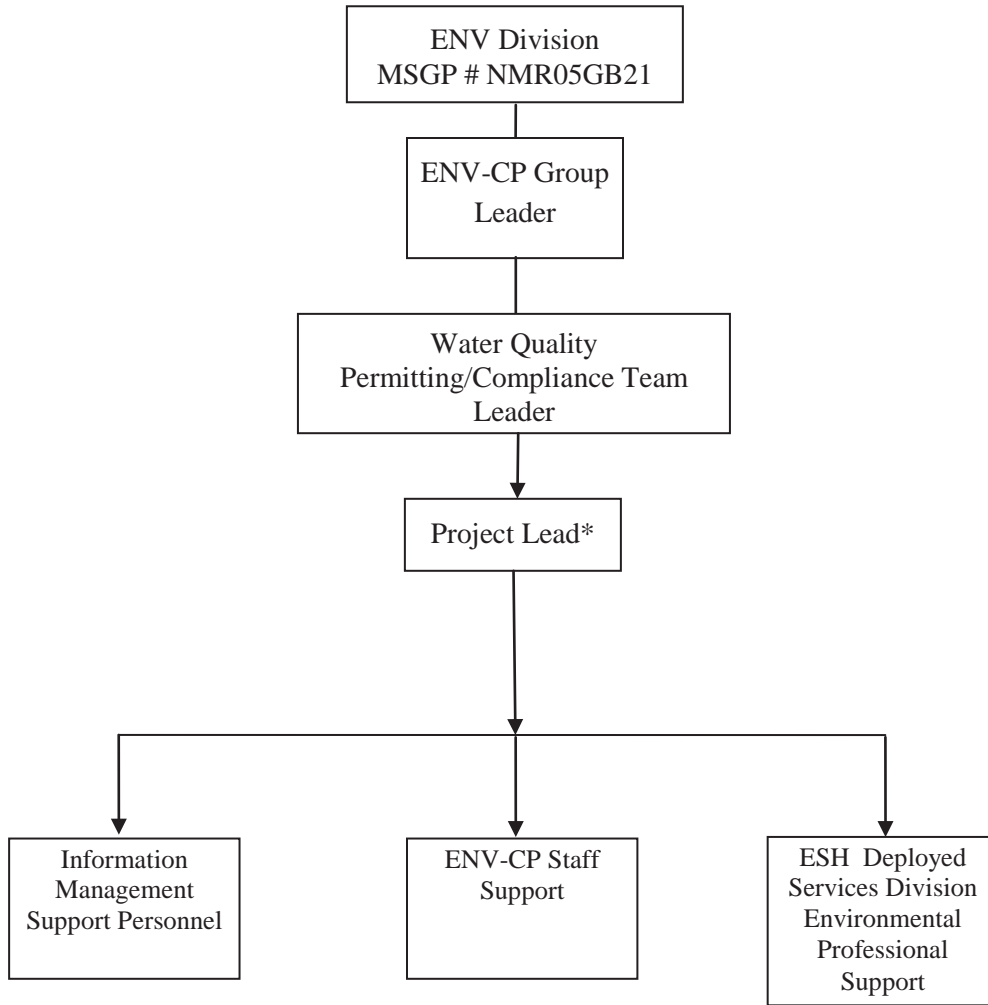
Attachment 4 – MSGP Facilities and Storm Water Monitored Outfalls Associated with Industrial Activity 2011, Permit NMR05GB21

Attachment 5 – Pollutants under Impaired Waters Monitoring

Attachment 6 – Analytes by Industrial Sector

Attachment 7 – References and Guidance Documents

ATTACHMENT 1- MSGP PROGRAM ORGANIZATION



*Project Lead acts as liaison and will work directly with Team Leaders for staff assignments.

NPDES Permit Tracking No.:

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3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? YES NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? YES NO NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

YES NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions?

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NOTE: Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.

NPDES Permit Tracking No.:

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C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS

Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

- 2. Are any control measures in need of maintenance or repair? YES NO
- 3. Have any control measures failed and require replacement? YES NO
- 4. Are any additional/revised control measures necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

- 2. Are any control measures in need of maintenance or repair? YES NO
- 3. Have any control measures failed and require replacement? YES NO
- 4. Are any additional/revised c necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

Brief Description:

- 2. Are any control measures in need of maintenance or repair? YES NO
- 3. Have any control measures failed and require replacement? YES NO
- 4. Are any additional/revised BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NPDES Permit Tracking No.:

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NOTE: Copy this page and attach additional pages as necessary

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

- 2. Are any control measures in need of maintenance or repair? YES NO
- 3. Have any control measures failed and require replacement? YES NO
- 4. Are any additional/revise BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

- 2. Are any control measures in need of maintenance or repair? YES NO
- 3. Have any control measures failed and require replacement? YES NO
- 4. Are any additional/revise BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

- 2. Are any control measures in need of maintenance or repair? YES NO
- 3. Have any control measures failed and require replacement? YES NO
- 4. Are any additional/revise BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NPDES Permit Tracking No.:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

D. CORRECTIVE ACTIONS

Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # of for this reporting period.

2. Is this corrective action:

- An update on a corrective action from a previous annual report; or
- A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- Unauthorized release or discharge
- Numeric effluent limitation exceedance
- Control measures inadequate to meet applicable water quality standards
- Control measures inadequate to meet non-numeric effluent limitations
- Control measures not properly operated or maintained
- Change in facility operations necessitated change in control measures
- Average benchmark value exceedance
- Other (describe): _____

4. Briefly describe the nature of the problem identified:

5. Date problem identified: / /

6. How problem was identified:

- Comprehensive site inspection
- Quarterly visual assessment
- Routine facility inspection
- Benchmark monitoring
- Notification by EPA or State or local authorities
- Other (describe): _____

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/will this corrective action require modification of your SWPPP? YES NO

9. Date corrective action initiated: / /

10. Date correction action completed: / / or expected to be completed: / /

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

ATTACHMENT 3 – ROUTINE INSPECTION FORM

Name of Facility:		Responsible FOD (Name & Organization):			
Qualified Inspector(s): Others Present:		Inspection type: <input type="checkbox"/> Quarterly <input type="checkbox"/> Other		Date of inspection (MM/DD/YYYY):	
				Time of inspection:	
Weather: <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds <input type="checkbox"/> Other:					
Temperature: ° F		Is Inspection Being Conducted During a Storm Water Discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No			
#	Structural Control Measures (BMP)s	Location	Operating Effectively (Yes or No)?	If No, Need to Maintain (M), Repair (R) or Replace (RP)?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Were additional BMPs or Control Measures implemented? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:					
Were previously identified conditions corrected before the next anticipated storm event? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, describe reason:					
Area/Activity (Areas of Industrial Materials or Activities Exposed to Storm Water)	Inspected ?	Controls Adequate?	Corrective Action Needed and Notes (List area letter with comments below)		
A. Material loading/unloading & storage areas					
B. Equipment operations & maintenance areas					
C. Fueling Areas					
D. Outdoor vehicle & equipment washing areas					
E. Waste Handling & disposal areas					
F. Erodible areas / construction					
G. Non-storm water / illicit connections					

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H. Salt storage piles or pile containing salt			
I. Dust generation & vehicle tracking			
Are the SWPP Plan maintenance, schedules and procedures being implemented at the facility? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Were any Corrective Actions initiated or completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:			
Are there any conditions requiring Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, List Number of Corrective Actions Required _____			
(Note – You need enter a Corrective Action in the MSGP Corrective Action Report database for each listed)			

**ATTACHMENT 4 -- MSGP FACILITIES AND STORM WATER MONITORED OUTFALLS ASSOCIATED WITH INDUSTRIAL ACTIVITY 2011,
PERMIT NMR05GB21**

Location	Permitted Facility	Operation	Activity	Sector	Monitored Outfall	• Canyon
TA-15-185	TA-15-185 PHERMEX	Vehicle Maintenance Shop	Vehicle Maintenance	P	15-PHRMX-1	• Water
TA-3-0034	TA-3-0034 Metal Shop	Fabricated Metals	Fabricated Metals	AA	3-MST-1	• Mortandad
TA-3-22	TA-3-22 Power & Steam Plant	Power Plant	Steam Electric Power	O	3-PSP-1 3-PSP-5 3-PSP-8	• Sandia • •
TA-3-38	TA-3-38 Metals Fab Shop	Metal Shop	Fabricated Metals	AA	3-MFS-1	• Sandia
TA-3-39	TA-3-39 & 102 Metal Shop	Metal Shop	Fabricated Metals	AA	3-TS-1	• Pajarito
TA-3-66	TA-3-66 Sigma Complex	Sigma Foundry	Primary Metals	F	3-Sigma-6	• Sandia
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-1	• Pajarito
TA-54	TA-54 Area G	Area G -North Side	TSD	K	54-G-2	• Canada del Buey
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-3	• Pajarito
TA-54	TA-54 Area G	Area G - South Side	TSD	K	54-G-4	• Pajarito
TA-54	TA-54 Area L	Area L	TSD	K	54-L-1	• Canada del Buey
TA-54-38	TA-54 RANT	RANT	TSD	K	54-RANT-1	• Canada del Buey
TA-60	TA-60 Asphalt Batch Plant	Asphalt Batch Plant	Asphalt Paving	D	60-ABP-1	• Mortandad
TA-60	TA-60 MRF	Materials Recycling Facility	Scrap Recycling	N	60-MRF-1	• Sandia
TA-60-250	TA-60 Roads and Grounds	Roads & Grounds Facility	Vehicle Maintenance & Storage	P P P	60-RG-1 60-RG-3 60-RG-8	• Mortandad • Sandia • Sandia
TA-60-1	TA-60-1 Heavy Equipment Yard	Motor pool	Vehicle Maintenance	P	60-HEY-2	• Sandia
TA-60-2	TA-60-2 Warehouse	Motor pool	Vehicle Maintenance	P	60-WH-1	• Sandia
TA-9-28	TA-9-28 Heavy Equipment Maintenance	Motor pool	Vehicle Maintenance	P	9-HEM-1	• Pajarito

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ATTACHMENT 5 – POLLUTANTS UNDER IMPAIRED WATERS MONITORING

Permitted Facility	Monitored Outfall	Assessment Unit	Canyon	Pollutant
TA-54 Area G TA-54 Area L TA-54-RANT	54-G-2 54-L-1 54-RANT-1	NM-128.A_00	Canada del Buey (within LANL)	PCBs Aluminum Gross Alpha
TA-54 Area G TA-54 Area G TA-54 Area G	54-G-1 54-G-3 54-G-4	NM-128.A_08	Pajarito Canyon (within LANL below Arroyo de la Delfe)	PCBs Aluminum Copper Gross Alpha
TA-15-185 PHERMEX	15-PHRMX-1	NM-128.A_13	Water Canyon (within LANL below Area-A Canyon)	PCBs Aluminum Gross Alpha
TA-3-39 & 102 Metal Shop	3-TS-1	NM-128.A_15	Two Mile Canyon (Pajarito to headwaters)	PCBs Aluminum Gross Alpha
TA-9-28 Heavy Equipment Maintenance	9-HEM-1	NM-128.A_16	Arroyo de la Delfe (Pajarito Canyon to headwaters)	Aluminum Mercury Gross Alpha
TA-60 Asphalt Batch Plant TA-3-0034 Metal Shop TA-60 Roads and Grounds	60-ABP-1 3-MST-1 60-RG-1	NM-9000.A_042	Mortandad Canyon (within LANL)	Aluminum Copper Gross Alpha
TA-3-38 Metals Fab Shop TA-3-22 Power & Steam Plant TA-3-22 Power & Steam Plant TA-3-22 Power & Steam Plant TA-3-66 Sigma Complex TA-60-1 Heavy Equipment Yard TA-60 MRF TA-60 Roads and Grounds TA-60 Roads and Grounds TA-60-2 Warehouse	3-MFS-1 3-PSP-1 3-PSP-5 3-PSP-8 3-Sigma-6 60-HEY-2 60-MRF-1 60-RG-3 60-RG-8 60-WH-1	NM-9000.A_047	Sandia Canyon (Sigma Canyon to NPDES outfall 001)	PCBs Aluminum Copper Gross Alpha Mercury

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ATTACHMENT 6 – ANALYTES BY INDUSTRIAL SECTOR

Permitted Facility	Monitored Outfall	Sector	Activity	Analyte	Monitoring Requirement
TA-3-0034 Metal Shop TA-3-38 Metals Fab Shop TA-3-39 & 102 Metal Shop	3-MST-1 3-MFS-1 3-TS-1	AA	Fabricated Metals	Aluminum Iron Nitrate plus Nitrite Nitrogen Zinc	Quarterly Benchmark Monitoring (QBM) QBM QBM QBM
TA-60 Asphalt Batch Plant	60-ABP-1	D	Asphalt Paving	Oil and Grease pH Total Suspended Solids	Effluent Limitations Guidelines (ELG) ELG QBM and ELG
TA-3-66 Sigma Complex	3-Sigma-6	F	Primary Metals	Copper Zinc	QBM QBM
TA-54 Area G TA-54 Area G TA-54 Area G TA-54 Area G TA-54 Area L TA-54 RANT	54-G-1 54-G-2 54-G-3 54-G-4 54-L-1 54-RANT-1	K	Treatment, Storage or Disposal Facility (TSD)	Ammonia Arsenic Cadmium Chemical Oxygen Demand Cyanide Lead Magnesium Mercury Selenium Silver	QBM QBM QBM QBM QBM QBM QBM QBM QBM QBM
TA-60 MRF	60-MRF-1	N	Scrap Recycling	Aluminum Chemical Oxygen Demand Copper Iron Lead Total Suspended Solids Zinc	QBM QBM QBM QBM QBM QBM QBM
TA-3-22 Power & Steam Plant	3-PSP-1 3-PSP-5 3-PSP-8	O	Steam Electric Power	Iron	QBM

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ATTACHMENT 7 – REFERENCES AND GUIDANCE DOCUMENTS

- 40 CFR 122, *EPA Administered Permit Programs*
- 40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants.*
- Clean Water Act, Title 33 U.S.C. 1251
- DOE O 414.1C, *Quality Assurance*
- DOE Order 450.1, *Environmental Protection Program*
- DOE Order 5400.5, *Radiation Protection of Public and Environment*
- EPA QA/G-4, *Guidance for the Data Quality Objectives Process*

LANL Documents:

- P322-4, *Laboratory Performance, Feedback, and Improvement*
- P328-3, *Management Assessments*
- P328-4, *Management Observation and Verification*
- P330-6, *Nonconformance Reporting*
- P330-8, *Inspection and Test for Acceptance*
- P340, *Conduct of Engineering*
- P341, *Engineering Process Manual*
- P401, *Procedure to Identify, Communicate, and Implement Environmental Requirements*
- P407, *Water Quality*
- P840-1, *Procurement Quality*

ENV Documents:

- ENV-DO-QP-105, *Preparation, Review, and Approval of Procedures*
- ENV-DO-QP-106, *Document Control*
- ENV-DO-QP-113, *Tracking Performance Feedback and Actions*
- ENV-DO-QP-115, *Personnel Training*
- ENV-CP-QP-022, *MSGP Storm Water Corrective Actions*
- ENV-CP-QP-044, *Preparing Storm Water Discharge Monitoring Reports (MDNRs) for NPDES MSGP*
- ENV-CP-QP-047, *Inspecting Storm Water Runoff Samplers and Retrieving Samples*
- ENV-CP-QP-048, *Processing MSGP Storm Water Samples*
- ENV-CP-QP-064, *Multi-Sector General Permit Storm Water Visual Inspections*
- ENV-WQH-QP-029, *Creating and Maintaining a Chain of Custody*
- Surface Water Monitoring Plan, October 2001, Rev. 0.0

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Revision: 0



Effective Date: 11-6-2014

Next Review Date: 11-6-2017

Environment, Safety, Health Directorate

Waste Management Services

Quality Procedure

Sampling and Analysis Procedure

Quality Assurance Reviewer:

Name: Larry Maassen	Organization: QPA-IQ	Signature: Signature on File	Date: 11-5-2014
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Derivative Classifier: Unclassified Classified

Name: Larry Maassen	Organization: QPA-IQ/WM	Signature: Signature on File	Date: 11-5-2014
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Approval Signatures:

Subject Matter Expert: Terrence Garcia	Organization: WM-SVS	Signature: Signature on File	Date: 11-5-2014
Responsible Line Manager: Steven Singledecker	Organization: WM-SVS	Signature: Signature on File	Date: 11-6-2014

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To document a required read, Login to [UTrain](#), and go to the Advanced Search.*

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REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
ENV-RCRA-QP-30, Rev. 0	05/2009	This quality procedure consolidates ENV-RCRA-QP-103, <i>RCRA Compliance Sampling</i> , and ENV-RCRA-QP-115, <i>Sample Analysis for RCRA Characterization</i> .
ENV-RCRA-QP-30, Rev. 1	04/2011	Biennial review and revision.
WM-PROG-QP-210	11/06/2014	This document supersedes ENV-RCRA-QP-030. Some references to "RCRA" have been deleted; organizational changes have been updated.

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1.0 PURPOSE

This Waste Management Waste Acceptance Services Group (WM-SVS) procedure describes the procedures for processing sample requests, planning and executing field sampling, and sample submittal for analysis.

2.0 SCOPE

This applies to all WM-SVS personnel who plan or conduct field sampling, process samples for submittal to the Sample Management Office or the Sample Analysis Laboratory (TA-59-1-135/137).

3.0 HAZARD REVIEW

Some portions of the work described in this procedure may have a hazard rating greater than “Low” depending upon the nature of the work, site-specific hazards, FOD requirements, and other factors. **It is the worker’s responsibility to determine if an IWD is required and to ensure that an IWD is prepared prior to beginning any work with a hazard rating above “Low.”**

4.0 PRESAMPLING ACTIVITIES

	Step	Action
Request for Analysis	1.	WM-SVS Compliance Sampling personnel receive, via email, a Request for Analysis Form (RFA) when a Laboratory operating group (waste generator) requires sampling and analysis for RCRA characterization. Note: <i>A Request for Analysis (RFA) must be generated prior to any RCRA characterization sampling event.</i>
	2.	Review the RFA for completeness
	3.	Request additional information as necessary from the RFA point of contact (POC).
	4.	Complete a Low Hazard Verification Form (LHVF) if the work has a “Low” hazard rating. Otherwise prepare an IWD.
Site Specific Safety Plan	5.	Complete a Site Specific Safety Plan (SSSP).
	6.	If necessary, contact the POC for additional information and/or conduct a pre-sampling site visit if necessary to complete the SSSP.
IWD	7.	If required by the host facility or ENV Management, even if the work is Low Hazard, complete an Integrated Work Document, and have it signed by the RLM and sampling site IWD signature authority.
Data Quality Objectives	8.	Develop the Data Quality Objectives for the sampling event.
Radiation Work Plan	9.	Contact the Radiological Control Technician indicated on the RFA for guidance in obtaining an RWP if required.
Pre-Sampling Questionnaire	10.	Complete a pre-sampling questionnaire and, if required by the RFA, request pollution prevention plans or waste management plans.

	Step	Action
Preparation of Sample Containers	11.	Assemble a set or sets of appropriate sample containers and apply labels. If analyses include chemical preservation, add preservatives to each container in a hood after the sample has been taken. Note: <i>Wear appropriate gloves, lab coat, eyewear, and use engineering controls as appropriate.</i>

5.0 FIELD SAMPLING, PACKAGING, AND TRANSPORT

	Step	Action
Site Personnel Conduct Sampling	1.	Upon arrival at the host facility, conduct an orientation meeting with appropriate site personnel.
	2.	If site personnel are to conduct the sampling: <ul style="list-style-type: none"> A. Conduct a pre-sampling meeting to agree upon objectives and procedures. B. Be prepared to call a pause to work if unsafe conditions are observed. C. Provide the site samplers with sample equipment and containers. D. Observe and direct the sampling process in accordance with appropriate sampling procedures, and note any irregularities. E. Record details of the sampling event in the sample collection logbook.

Accepting Radiation-Free Samples

The Compliance Sampling Professional will only accept samples that have been deemed free of radiation on the outer container.

If samples need a volume radiological analysis (i.e., are a suspect or known radioactive), samples are taken to American Radiation Services or a gamma spec is done on site.

The RCT must provide the Sampling Professional or Associates with either a free release tag or a potentially contaminated release tag for transporting limited quantity material.

Review the Radioactive Material Survey Tags completed by RCTs to ensure that samples shipped off-site for radiological analyses have been screened for radiological contaminants. Reference the ENV-RCRA Sampling and Analysis Plan for RCRA Characterization for additional information.

Step	Action
3.	<p>If the WM-SVS Sampling Professional is to conduct the sampling:</p> <p>Hazard: Contamination of skin, eyes, and lungs; unknown radiation dose.</p> <p>Control: Follow steps A, B, and C, below.</p> <ul style="list-style-type: none"> A. If radioactive contamination is suspected, arrange for proper personnel monitoring. B. Have a local RCT generate a Radiation Work Permit, as appropriate. C. Don PPE. D. Stage sample containers. E. Collect samples in accordance with appropriate procedures. F. Place packaged samples in the appropriate transport containers and package them in adherence to compatibility issues G. Place samples of unknown material in individual transport containers H. Use only containers that are in good condition and EPA certified. I. Record details of the sampling event in the sample collection logbook. J. If LANL is at SECON Level 2, compliance sampling professionals will adhere to the SECON 2 waste shipping requirements in accordance with P151-1, <i>LANL Packaging and Transportation Program Procedure</i>.

Transport

Samples should not exceed the 30 ml or 30 gram limit prescribed by 49 CFR for transportation exemptions.

Note: WM-SVS Sampling Professionals will only transport limited quantity radioactive material or small quantity radioactive material according to 49 CFR 173.4.

Non-Radiological Samples

Compliance sampling professionals will transport samples in proper containers in the bed of a truck, never in the cab of the truck. Transport in accordance with DOT regulations.

Samples under 30 mL or 30 g may be tentatively classified as a “small quantity exception” shipment based on 49 CFR 173.4.

Packaging and Transportation (OS-PT) may be requested to provide technical guidance and support for packaging and transportation of hazardous materials.

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Step	Action
Radiological Samples	Compliance sampling professionals will perform the following steps if transporting samples that an RCT has identified as radiological:
	1. Transport to the American Radiation Services (ARS) screening laboratory in White Rock for radiological volume counting if this has not been done on site.
	2. Leave the transport container at ARS. Do not open the transport container.
	3. Follow proper chain of custody procedures as in accordance with OIO-QP-219, <i>Sample Control and Field Documentation</i> , or similar. Note: The data must be obtained before samples can leave the radiological sample holding area.
	4. If samples exceed the limited quantity requirements and are to be transported to an off-site analytical laboratory, contact LANL OS-PT.

6.0 PROVIDING SAMPLE CONTAINERS TO SMO FOR ANALYSIS

6.1 Chain of Custody

When samples are packaged and labeled and the chain of custody is completed, the samples are taken to the LANL Sample Management Office (SMO).

At the time of sample turnover, the Sampling Professional signs the chain of custody to relinquish the samples to SMO.

7.0 TRANSMISSION OF ANALYTICAL DATA

7.1 Receive Analytical Data

SMO will send preliminary analytical data and final analytical data (hard copy and CD) to the Compliance Sampling Professional.

7.2 Send Analytical Data to Customer

Compliance Sampling Professional will send analytical data to the customer as follows:

- Fax or email the preliminary analytical data
- Mail a copy of the final analytical data with a copy of the relevant logbook page(s)

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8.0 SAMPLE ANALYSIS IN THE TA- 59-1-135/137 LABORATORY

8.1 Sample Types

Samples of materials and media to be analyzed may include the following:

- Toxic, ignitable, reactive, and/or corrosive materials
PCB items and PCB-contaminated waste materials
- Asbestos
- Petroleum hydrocarbons
- High explosives
- Nonhazardous chemicals
- Hazardous chemicals
- Unknown constituent materials

9.0 TRAINING

The following personnel require training and documented completion before independently implementing this procedure:

- Sampling Professional
- Sampling Associate

9.1 Prerequisites for the Sampling Professional and Sampling Associate

9.1.1 *Sampling Professional*

The following training is required prior to performing this procedure independently:

- Training Plan 131, *Field Worker Training Requirements*
- Training Plan 7559, *RCRA Waste Characterization*
- [ENV-RCRA Sampling and Analysis Plan](#)
- ADESH Quality Assurance Plan
- Site-specific training as required, or performing sampling under escort
- 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) as required by OSHA at 29 CFR and 1910.120
- Radiological Worker (RADWORKER) II
- Basic Hazardous Materials Transportation (every three years)
- Basic Radioactive Materials Transportation (every three years)
- Respirator training (as required)

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- Resource Conservation and Recovery Act (RCRA) Personnel Training
- Training on the Laboratory's Emergency Management Plan
- Training for spill prevention, including [P407](#), *Water Quality*, and [P322-3](#), *Performance Improvement from Abnormal Events*.
- Training on the Laboratory's hazard communication program
- American Red Cross approved Standard First-Air and CPR/AED
- Beryllium Awareness, Lead Awareness, Confined Space, Lockout/Tagout, Electrical Safety, Asbestos Awareness, Hearing Conservation, Bloodborne Pathogens (as required)
- EPA's 165.9, Sampling for Hazardous Materials
- McCoy's RCRA 5-day seminar or equivalent
- EPA DQO training (compliance sampling coordinator)
- Hepatitis vaccination (as required)

9.1.2 Sampling Associate

The following training is required for the Sampling Associate prior to performing this procedure independently:

- Training Plan 131, *Field Worker Training Requirements*
- Site-specific training for each Laboratory location or technical area as required, or perform sampling under escort
- 40 hour Hazardous Waste Operations and Emergency Response (HAZWOPER) as required by OSHA at 29 CFR and 1910.120
- Radiological Worker (RADWORKER) II
- Resource Conservation and Recovery Act (RCRA) Personnel Training
- Training on the Laboratory's hazard communication program

10.0 RECORDS

Records generated by this document will be submitted to the [Operations Integration Office \(OIO\) Records Management designated Point of Contact](#) for document management in accordance with [P1020-1](#), *Laboratory Records Management* and with the [ADESH-AP-006](#), *Records Management Plan*. Records generated as a result of implantation of this procedure are:

- Request for Analysis Form
- Sampling and analysis plan
- Field logbook
- Chain of Custody Form

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11.0 REFERENCES

12.0 ATTACHMENTS

Attachment 1: *Request for Analysis Form*

ATTACHMENT 1 – REQUEST FOR ANALYSIS FORM
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**LOS ALAMOS NATIONAL LABORATORY
WM-SVS'S
Request For Analysis Form**

Note: Fields flagged with an '*' are required. Incomplete forms will be rejected.

REQUEST FOR ANALYSIS FORM				
Charge Code Information:				
Cost Center:	Program Code:	Cost Account:	Work Package:	Turn Around Time: 28 Calendar Days (std. cost) + Other: <input type="text"/>
*Requestor's Z-No <input type="text"/>				
*Is requestor a WMC <input type="radio"/> or Waste Generator <input type="radio"/> : If Waste Generator, who is your WMC? <input type="text"/>				
Location of material to be sampled:				
*TA: <input type="text"/> BLDG: <input type="text"/> Room: <input type="text"/> Other Location: <input type="text"/>				
*How long has waste been at this location? <input type="text"/>				
*Who is the Facility Operations Directory (FOD) at this site: <input type="text"/>				
*Who is the Industrial Hygienist for this site (first and last name): <input type="text"/>				
*What group does the sample belong to: <input type="text"/>				
If material is radioactive, suspect radioactive, or Unknown, these fields are required:				
If the waste is radioactive or suspect, name the Radiation Control Technician (RCT) assigned to the area. RCT Name: <input type="text"/>				
Is an RWP required? <input type="radio"/> Yes <input type="radio"/> No				
Was the waste generated or stored in an area controlled for radioactive contamination (RCA) <input type="radio"/> , in an area with the potential for activation <input type="radio"/> , or in an area with airborne radioactive contamination <input type="radio"/> ?				
Will the analytical be used for a specific purpose? If yes, explain or check the appropriate box.				
<input type="radio"/> Meet TA50 WAC <input type="radio"/> Offsite Treat/Disp. <input type="radio"/> Meet TA54 WAC <input type="radio"/> Other <input type="text"/>				
Chemical and Physical Characteristics Provide as much information as possible for the material being sampled:				
*Matrix of Material: (check as many as apply, and at least one)				
Liquid:		Solid:		
<input type="checkbox"/> Multi-Phased	<input type="checkbox"/> Organic	<input type="checkbox"/> Soil	<input type="checkbox"/> Solid	<input type="checkbox"/> Sludge
<input type="checkbox"/> Aqueous	<input type="checkbox"/> Non-Aqueous	<input type="checkbox"/> Inorganic	<input type="checkbox"/> Powder/Ash	<input type="checkbox"/> Absorbed Liq.
<input type="checkbox"/> Unknown				
*Waste Classes: (check as many as apply, and at least one)				
<input type="checkbox"/> Radioactive	<input type="checkbox"/> Sus. Rad	<input type="checkbox"/> Wastewater	<input type="checkbox"/> PCBs	<input type="checkbox"/> Orphaned/Leg. Waste
<input type="checkbox"/> Non-Radioactive	<input type="checkbox"/> Gas	<input type="checkbox"/> Oils	<input type="checkbox"/> Unknown	<input type="checkbox"/> Corrosive
<input type="checkbox"/> Engineered NanoMaterial				
*Container Size: (check only one)		*Container Type: (check only one)		
<input type="radio"/> < 500 ml	<input type="radio"/> 30 gallons	<input type="radio"/> Plastic Cont.	<input type="radio"/> Fiber or Plastic Drum	<input type="radio"/> Other
<input type="radio"/> 1 liter	<input type="radio"/> 55 gallons	<input type="radio"/> Glass Cont.	<input type="radio"/> Tank	
<input type="radio"/> 5 gallons	<input type="radio"/> > 55 gallons	<input type="radio"/> Metal Drum	<input type="radio"/> Wood/Metal box	
<input type="radio"/> Other Specify Size: <input type="text"/>				
*Material description, known waste constituents, and comments:				
<input type="text"/>				

or

PERSONNEL TRAINING

- Purpose** The purpose of this Environmental Protection Division (ENV) procedure is to describe the process for obtaining and documenting self-study (reading), classroom, and OJT training within the division and describes how training needs are determined and reviewed.
-
- Scope** This procedure applies to all ENV personnel and subcontractors who must receive or provide training.
-
- Hazard review** The work described in this procedure is generally office work although some field work associated with OJT may occur. In either case, the work described in this procedure has a **LOW hazard** rating as documented by submittal of a completed [ENV Low Hazard Activity Verification](#) form to the Quality Assurance Specialist.

Signatures

Prepared by: <div style="text-align: center;">Signature on File</div> <hr/> Melanie Lamb, ENV Quality Assurance Specialist	Date: <div style="text-align: center;">9/21/11</div>
Approved by: <div style="text-align: center;">Signature on File</div> <hr/> Joanna Foster, QA-IQ/ENV Quality Assurance Specialist	Date: <div style="text-align: center;">10/26/11</div>
Authorized by: <div style="text-align: center;">Signature on File</div> <hr/> Anthony Grieggs, ENV-RCRA Group Leader	Date: <div style="text-align: center;">9/28/11</div>
Authorized by: <div style="text-align: center;">Signature on File</div> <hr/> Patricia Gallagher, ENV-ES Group Leader	Date: <div style="text-align: center;">10/26/11</div>
Authorized by: <div style="text-align: center;">Signature on File</div> <hr/> Dennis Hjeresen, ENV Division Leader	Date: <div style="text-align: center;">10/31/11</div>
Classification Review by <div style="text-align: center;">Signature on File</div> <hr/> Anthony Grieggs, Derivative Classifier	Date: <div style="text-align: center;">11/8/11</div> <input checked="" type="checkbox"/> Unclassified

**Effective Date

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General information about this procedure

In this procedure

This procedure addresses the following major topics:

Topic	Page
General information about this procedure	2
Who requires training to this procedure?	2
Training implementation - responsibilities	4
Work authorization	6
Determining employee training needs	7
Determining training level for work to be performed	8
Obtaining training	9
Training documentation	10
Records resulting from this procedure	11

Attachments

This procedure has the following attachments:

Number	Attachment Title	No. of pages
1	OJT Performance Evaluation	2
2	Work Authorization & Worker Acknowledgement Form	1

History of revision

This table lists the revision history of this procedure:

Revision	Date	Description of Changes
0	4/09	New division-level document as the result of merging ENV-RCRA-QP-024 with ENV-EAQ-007.1. This document supersedes and rescinds all group-level training procedures.
0	5/11	Document reviewed-no changes required. To be replaced 7/11 by U-Train Procedure.
1	9/11	Document updated to reflect LANL's new training system, UTrain, which replaced the EDS system.

Who requires training to this procedure?

The following personnel require training before implementing this procedure:

- ENV personnel, contactors, and students who receive or provide training in the course of conducting ENV work.

Prerequisites

In addition to this document, the following course is required for OJT trainers only:

- 17663 *TSQP: On-The-Job Training*

General information about this procedure, continued

Training method

Training to this procedure will be by “self-study” (reading).

Definitions

Training: A formal, documented process of instruction designed to develop or improve job performance.

Classroom Training: Structured training which is led by an instructor and where there is active trainee participation. Classroom training may include lectures, demonstrations, discussions, or step-by-step review of procedures. Training is presented by a qualified instructor in accordance with developed curricula.

Curricula: A listing of items assigned to a user that must be completed. All current or anticipated training requirements identified for the employee to perform his/her specific job function/assignment will be included. A curricula is based on (1) federal or state regulations, (2) Laboratory requirements, or (3) division, group-specific requirements.

Item: An assignable unit whose assignment and completion can be tracked. It may be a learning or non-learning item.

On-The-Job Training: Activity-level training that is a systematically designed instructional experience in which hands-on training is conducted and evaluated in the work environment.

Qualified OJT Instructor: An individual who has been qualified in accordance with the Training Staff Qualification (TSQ) program to design and develop training within the OJT setting. The OJT Instructor may or may not be the trainee’s supervisor.

Self-Study (Reading): Self-contained training materials provided from a central source (such as a controlled document) to trainees as needed. Self-study includes required reading.

Note

Actions specified within this procedure, unless preceded with “should,” or “may,” are to be considered mandatory (i.e., “shall,” “must,” “will”).

References

The following documents were referenced in preparing this procedure:

- P781-1.0 *Conduct of Training Manual*
-

Training Implementation

Responsibilities The following personnel shall:

Who	Actions
Group Leader and Team Leaders	<ul style="list-style-type: none"> • Assure that employees receive required training and are qualified before performing work. • Review and update employee curricula and development plans annually. • Assure that formal systems are in place to identify job positions, train, evaluate, and/or test workers for the positions. • Document Group core competencies. • Take action when a worker does not meet qualifications or certification requirements for the work to be performed. • Provide resources, allow work time for training, and hold workers accountable for meeting training requirements.
Training Coordinator	<ul style="list-style-type: none"> • Implement training policies, processes, and standards in accordance with the LANL Conduct of Training Manual. • Develop, maintain, and provide assistance on administering the Group's training needs. • Facilitate job task analysis process (training needs assessment) with Subject Matter Experts (SMEs) and supervisors. • Facilitate OJT development with qualified OJT instructors. • Develop, maintain, and document Group training records and curricula. • Complete and maintain course and trainee documentation records in the LANL UTrain System database. • Suggest, revise and update training materials based on SME review, regulatory compliance, changes in training setting, new content, new activities, Laboratory requirements, lessons learned, course test results, course evaluation, and other pertinent information.

Training Implementation, continued

Who	Actions
Training Coordinator, continued	<ul style="list-style-type: none"> • Notify Group Leader, Team Leader, and employee <ul style="list-style-type: none"> ○ when an employee's training is incomplete, expired, or due to expire (employees can also check their own training in UTrain). ○ when an employee fails a course, if this failure could result in revoked or expired authorization. • Be point-of contact for training activities such as curricula development and records. • Be Group Liaison to the ENV Division Office. • Facilitate or conduct training needs and gap analyses, as required. • Respond to critical training issues and support audit and/or assessment activities. • Track, evaluate, and implement changing training requirements.
Qualified OJT instructor	<ul style="list-style-type: none"> • Conduct and document job task analyses. • Develop performance objectives. • Develop OJT Performance Evaluation (Attachment 1). • Conduct and document OJT.
Employees	<ul style="list-style-type: none"> • Perform work only if <ul style="list-style-type: none"> ○ work authorization is granted and ○ all training as specified in relevant Integrated Work Documents, curricula, and procedures is complete and current. • Attend and participate in required training in accordance with assigned curricula, and/or supervisory directives. • Maintain qualification status and participate in approved development activities as stated in development plans or as directed by Group management

Work Authorization Process

Policy

All work must be authorized by the Group Leader and/or Team Leader prior to commencement of work. Work must be reauthorized annually or as work assignments change.

How to authorize work

Who	What
Team Leaders	Determine employee training needs (reference Determining Employee Training Needs section of this document). In consultation with the training coordinator, indicate training requirements on a Work Authorization & Worker Acknowledgement (WA) form, Attachment 2, and provide to employee.
Employees	Complete required training. When all training specified on the WA form is complete, sign the WA form and return to the Team Leader. Do not conduct any work unless authorized to do so by Team Leader and/or Group Leader.
Team Leaders	After employee completes training and his/her portion of the WA form, sign the completed WA form and forward to the Group Leader for authorized signature.
Group Leaders	Submit completed WA forms to the Group-Level Training Coordinator.

Determining Employee Training Needs

How to determine training requirements

For each employee in the organization:

Who	Actions
<p>Team Leaders</p>	<p>At least once a year or whenever job assignments are changed:</p> <ul style="list-style-type: none"> • Determine the documents, implementing procedures, and/or items to which each employee will be trained for the specific project or work activity. Base the determination upon the job assignments and job duties of the employee. <p>For major changes in training requirements, consult the Training Coordinator to ensure inclusion of any procedures and items required for new employees or employees in similar job assignments.</p> <p>Ensure that employees understand the need to obtain required training as necessary and always <i>before</i> performing work that requires training. Employees must understand the need to retrain whenever revised procedures are issued.</p>
<p>Group Leader</p>	<p>Receive WA form for each employee from the Team Leaders and review overall needs of each employee. Integrate the combined training needs as necessary and forward the WA forms to the Training Coordinator.</p>
<p>Training coordinator</p>	<p>Enter the information into the UTrain system and file the Work Authorization form.</p> <p>Periodically (for example, after a controlled document distribution), send a list of required training (curricula) to employees.</p>
<p>Employees</p>	<p>Be aware of applicable procedures that have been revised and obtain appropriate training <i>before</i> performing work that requires the training.</p>

Determining Training Level for Work to be Performed

Background A systematic and graded approach to training is used based on tasks to be performed and workers' knowledge, skills, and abilities required for job performance. Employees shall have met one of the following three levels of training to obtain work authorization.

Level 1 – Worker Competency When the hazard grade for the work to be performed is LOW, based on [P300, *Integrated Work Management*](#) – Worker Competency training is required.

Employees shall complete all assigned training in the curricula:

- Required institutional training
- Other required training identified by a job task analysis as required by the employee's supervisor.

Training requirements shall be identified in Section 2 of the appropriate Quality Assurance Program Plans (QAPPs) and derivative procedures for that work.

This level of training shall have the least degree of rigor. Reference [P781.1, *Conduct of Training Manual*](#), for additional direction in training development.

Level 2 – Qualification When the hazard grade for the work to be performed is MODERATE, based on [P300, *Integrated Work Management*](#), Level 2 – Qualification training is required.

The **ENV Division Leader** shall establish qualification standards as outlined in P781.1, which specify training, retraining, and performance requirements based on analyzing the work to be performed and the worker's knowledge, skills, and abilities.

Employees shall complete all assigned training in the curricula

- Required institutional training
- Other required training identified by the employee's supervisor
- Required facility-training requirements as identified following facility requirements.
- Required on-the-job training

Training requirements shall be identified in Section 2 of the appropriate Quality Assurance Program Plans (QAPPs) and derivative procedures for that work.

Reference [P781.1, *Conduct of Training Manual*](#), for additional direction in training development.

Level 3 – Formal Qualification Work to be performed that is HIGH hazard, based on P300, requires Level 3 – Formal Qualification.

ENV division does not perform high hazard work and does not have Level 3- Certification programs as defined by DOE Order 426.2. Reference [P781.1, *Conduct of Training Manual*](#), for additional direction in training development.

Obtaining Training

Self-study training

For procedures that require self-study (reading) training:

Who	What
Employees	<p>Read the required QAPPs, procedure(s), or training material.</p> <p>All ENV Division QAPPs and procedures can be found on the ENV Division Quality Website.</p> <p>Submit for credit on-line (by clicking the link at the end of each procedure) or send an e-mail to the Training Coordinator stating completion of self-study training.</p> <p>Employees are encouraged to maintain documentation of completed training in their personal files.</p>

Classroom training

For required classroom training:

Who	What
Employees	<p>Contact the Training Coordinator to notify of the need for training.</p> <p>Sign up for the training.</p> <p>After attending the course, either</p> <ul style="list-style-type: none">• Sign a class attendance list (including date, course title, course objective, and instructor signature) for the course; or• Forward the course certificate, if available, to the training coordinator. <p>Ensure appropriate credit was granted for course(s) completed.</p>

Obtaining Training, continued

On-the-job training

For procedures or courses that require on-the-job training:

Who	Actions
Employee	Contact supervisor to notify of need for training.
Supervisor	Arrange for the training to be given by a qualified OJT instructor.
Qualified OJT Instructor	Ensure lesson plan, or Performance Evaluation form (Attachment 1), for the OJT instruction has been developed and an Item # assigned (consult with the Training Coordinator). <ul style="list-style-type: none">• Verify prerequisites.• Discuss learning objectives with employee.• Instruct and/or demonstrate the procedure/process to the employee following guidance provided in the OJT Performance Evaluation form.• Emphasize the safety aspects of the process and review the hazards and their mitigation in relevant Integrated Work Documents.• Instruct the employee on actions to take in the event of off-normal occurrences or accidents.• Encourage questions (not during the performance evaluation).• Complete the OJT Performance Evaluation form (Attachment 1) to document that the trainee can perform the process properly and safely.
Employee	After receiving the training, sign the OJT Performance Evaluation form (Attachment 1), keep a copy for your records, and turn the original in to the Training Coordinator.

Training Documentation

Policy

LANL requires that all training be documented to record the assignment and completion of training for each worker.

Note: The LANL UTrain system is the only official repository of LANL training records.

Recording training

The Training Coordinator shall:

- Obtain completed and signed Work Authorization/Worker Acknowledgement forms (Attachment 2) and OJT Performance Evaluation forms (Attachment 1).
- Enter the training information from the OJT Performance Evaluation forms or from class attendance lists into the UTrain database.
- Retain the forms as records in the employee's training file.

Records resulting from this procedure

Records

The following records generated as a result of this procedure are to be filed within one month of generation with the Training Coordinator:

- Work Authorization/Worker Acknowledgement form (Attachment 2)
- OJT Performance Evaluation form (Attachment 1)
- Classroom Training Attendance List or course Certificate (when used)

The major sponsoring organization providing classroom instruction shall:

- Document and maintain course content and assessments/evaluation data
 - Document UTrain record entry of individual training completions
 - Document and maintain qualification/certification records and requirements for certification
-



Click to Acknowledge

OJT Performance Evaluation

Knowledge Questions (Safety Related Questions are indicated below [example only])

		Response Satisfactory (Initial)	Response Unsatisfactory (Initial)
1.	Acceptable Response:		
2.	Acceptable Response:		
3.	Acceptable Response:		
4.	Acceptable Response:		
5. Safety Related	Acceptable Response:		
6.	Acceptable Response:		
7.	Acceptable Response:		
8.	Acceptable Response:		
9.	Acceptable Response:		
10.	Acceptable Response:		
11.	Acceptable Response:		

Performance Evaluation

CAUTION

DO NOT ALLOW THE WORKER TO MAKE AN ERROR THAT WOULD PUT PERSONNEL, EQUIPMENT, THE ENVIRONMENT, OR THE FACILITY IN JEOPARDY AT ANY TIME DURING THIS TRAINING.

Perform each task in accordance with **IWD or PROCEDURE NAME**. Performance is a preferred method of evaluation; however, if performance is not possible a simulation is acceptable.

Worker must successfully respond to 80%, or better, of all knowledge questions and correctly perform all critical steps. Failing to correctly respond to a *safety related* knowledge question is an automatic failure of

this evaluation. Additionally, incorrectly performing any single critical step or two (2) non-critical steps constitutes a failure of this evaluation.

Any error serious enough to warrant discontinuing the training session or failure of the evaluation MUST be recorded in detail in the space provided at the end of this evaluation document.

Task/Activity	Indicate Mode		Critical steps will be indicated with "C". Non-critical steps will be indicated with "NC".	Performance satisfactory (Initial)	Performance unsatisfactory (Initial)
	P-Perform S-Simulate	O-Observe D-Discuss			
PD 1	P		NC		
PD 2	P		C		
PD 3	P		C		
PD 4	P		NC		
PD 5	P		C		
PD 6	P		C		
PD 7	P		C		
PD 8	P		C		

The candidate's overall performance and demonstration of knowledge and skills for these tasks were satisfactory

Item Title:		Item #:	
Worker Name (printed)		Z#	
Signature		Date	
Instructor/Evaluator Name (print)		Z#	

ENV-DO Work Authorization / Worker Acknowledgement

A Completed UTrain Curricula Must Be Attached		
Worker Acknowledgement Statement: I have read the relevant documents, completed (or will complete) the relevant courses, (See attached UTrain Printout) and accept responsibility for my implementation of requirements including training.		
_____	_____	_____
Print Employee Name & Z No.	Signature	Date
Work Authorization Statement: I authorize the above noted employee to perform activities or operations covered by the training plans identified on the attached UTrain printout and have reviewed with the employee the training requirements.		
<h1>Example</h1>		

Supervisor Name and Z No.		
_____	_____	
Supervisor Signature	Date	

ENV-RCRA-QP-022.2



Effective Date: February 28, 2013

Next Review Date: January 28,
2015

Environment, Safety, Health Directorate

**Environmental Protection – Water Quality and RCRA
Quality Procedure**

MSGP Storm Water Corrective Actions

Reviewers:

Name: Melanie Lamb	Organization: ENV-QPMO QA Specialist	Signature: Signature on file	Date: 1/4/13
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Derivative Classifier: Unclassified

Name: Catherine Hayes	Organization: ENV-RCRA	Signature: Signature on file	Date: 2/8/13
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Approval Signatures:

Subject Matter Expert: Holly Wheeler	Organization: ENV-RCRA	Signature: Signature on file	Date: 1/28/13
Responsible Line Manager: Terrill Lemke	Organization: ENV-RCRA Team Lead	Signature: Signature on file	Date: 2/8/13
Responsible Line Manager: Anthony Grieggs	Organization: ENV-RCRA Group Leader	Signature: Signature on file	Date: 2/28/13

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Title: MSGP Storm Water Corrective Actions	No. ENV-RCRA-QP-022.2	Page 2 of 23
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History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	08/10	New Document.
1	11/10	Incorporated ENV-RCRA-QP-062 <i>MSGP Routine Inspections</i> into this document.
2	01/13	Biennial revision, new template implemented.

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1.0 PURPOSE

This procedure is written to provide requirements for identifying, documenting and entering corrective actions into the ENV-RCRA MSGP Corrective Action Report Findings database.

2.0 SCOPE

Requirements set forth in this document apply to Los Alamos National Laboratory industrial facilities covered by the National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP). This “general permit” requires identification, documentation, tracking and reporting of corrective actions in accordance with sections 2.2.1, 3, 4.1.2, 4.2.2, 4.3.2, 5.0, 5.2, 5.4, 6.2.1, 6.2.1.2, 7.2 and Appendices B and I.

2.1 HAZARD REVIEW

The work described in this procedure is office work only and has a **LOW hazard** rating as documented by submittal of a completed [ENV Low Hazard Verification form](#) to the Quality Assurance Specialist.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- Group and Team Leader
- ENV-RCRA MSGP Storm Water compliance personnel
- Deployed Environmental Professionals (DEPs)
- Other LANL or subcontract personnel identified as being required to conduct storm water assessments as part of their job duties.

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- [ENV-RCRA QAPP-MSGP Quality Assurance Project Plan for the Storm Water Multi-Sector General Permit for Industrial Activities](#)

The training method for this procedure is “self-study” (required read). For ENV-RCRA staff, this is documented in accordance with [ENV-DO-QP-115, Personnel Training](#). Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless preceded with “should” or “may”, are to be considered mandatory (i.e., “shall”, “will”, “must”).

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3.1 ROLES AND RESPONSIBILITIES

3.1.1 ENV-RCRA MSGP STORM WATER TEAM

ENV-RCRA MSGP Storm Water Team members will be fully knowledgeable of the specific regulatory requirements identified in the 2008 MSGP and are responsible for ensuring compliance with these requirements and entering corrective actions. Team members will evaluate corrective actions that the DEPs enter into the ENV-RCRA MSGP Corrective Action Report Findings database and modify them as needed for quality assurance. This team will also periodically review open corrective actions and follow up with the DEPs, ES&H Managers, or Upper Management, as deemed necessary, to ensure close out of the corrective action. The team members will notify upper management of instances of non-compliance with the permit. A team member may also be responsible for responding to the regulatory authority (EPA) regarding identified storm water issues and/or negotiate settlement of any identified issues.

3.1.2 DEPLOYED ENVIRONMENTAL PROFESSIONALS

DEPs will be fully knowledgeable of the site specific Storm Water Pollution Prevention Plan (SWPPP) and corrective action requirements identified in the MSGP for the facilities they are deployed to. In addition, they shall be appropriately trained to meet the job qualifications identified in the *Quality Assurance for Storm Water Multi-Sector General Permit for Industrial Activities Program* (ENV-RCRA-QAPP-MSGP) and shall be familiar with the regulatory requirements identified in the 2008 MSGP. Further, they shall be familiar with facility operations so that potential pollution discharge sources can be determined and corrective actions can be identified.

The DEPs are responsible for identifying and entering corrective actions observed at their industrial facilities into the ENV-RCRA MSGP Corrective Action Report Findings database. They are also responsible for updating corrective actions in a timely manner that cannot be implemented immediately. They will work with the ES&H Manager and ENV-RCRA storm water personnel to ensure identified corrective actions are implemented by overseeing repairs and/or improvements or instituting additional controls. If it is determined that corrective actions are necessary following an assessment, any modification to the control measures must be made before the next storm event if possible, or as soon as practicable following that storm event.

NOTE: These time intervals are not grace periods, but are schedules considered reasonable for documenting your finding(s) and for making repairs and improvements. They are included in the MSGP Permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely (see Section 3.3 of the 2008 MSGP). In no instance will the corrective action remain open indefinitely.

3.1.3 ENV-RCRA STORM WATER TEAM LEADER

The ENV-RCRA Storm Water Team Leader is responsible for compliance oversight relative to the 2008 MSGP. The Team Leader will ensure costs needed to implement the regulatory requirements identified in the 2008 MSGP are identified and environmental risks are assessed. Upper management will be notified of these costs or environmental risks, as deemed necessary. In the event there is a dispute regarding the regulatory requirements contained in the MSGP, the Team Leader will make the final determination of the required action. The Team Leader will notify upper management of instances of non-compliance with the permit.

3.1.4 ENV-RCRA GROUP LEADER

The ENV-RCRA Group Leader or designee is responsible for ensuring there is adequate funding to implement the regulatory requirements identified in the 2008 MSGP. The Group Leader also acts as the duly authorized signatory that certifies the reports. The Group Leader will notify upper management of instances of non-compliance with the permit or other identified environmental risk.

3.1.5 ES&H MANAGER

The ES&H manager shall identify funding for their industrial facilities to ensure compliance with the 2008 MSGP. The ES&H Manager is also responsible for ensuring that industrial facilities are complying with the 2008 MSGP permit and notifying upper management of instances of non-compliance with the permit or other identified environmental risk.

3.1.6 FACILITIES OPERATIONS DIRECTOR

The Facilities Operations Director (FOD) provides organizational leadership to ensure that all facility and programmatic activities under their authority are performed in compliance with the 2008 MSGP. The FOD is also responsible for establishing an environmental compliance envelope. It is the FOD's responsibility to maintain trained and qualified Environmental Professionals and Waste Management Coordinators on staff.

3.1.7 COMPUTER PROGRAMMER

Maintains and updates the ENV-RCRA MSGP Corrective Action Report Findings database as requested by MSGP storm water personnel.

3.2 PREREQUISITES

In addition to training to this procedure, the following training is also required prior to performing this procedure:

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- [ENV-RCRA QAPP-MSGP, Quality Assurance Project Plan for the Storm water Multi-Sector General Permit for Industrial Activities Program](#)

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted to the designated RM-POC in accordance with [ENV-DO-QP-110, Records Management](#) and filed in project files.

- MSGP Comprehensive Site Inspection Annual Report
- Completed Routine Inspection Forms
- Electronic records within the ENV-RCRA MSGP Corrective Action Report Findings database.
- Copies of automated e-mail notifications

5.0 WORK PROCESSES

5.1 IDENTIFYING CORRECTIVE ACTIONS

If any of the following conditions occur, the DEP or ENV-RCRA storm water team member must review and revise the selection, design, installation, and implementation of control measures to ensure that the condition is eliminated and will not be repeated in the future:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by the 2008 MSGP);
- You become aware, or EPA determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;
- An inspection or evaluation of the facility by an EPA official and/or local or State entity, determines that modification to the control measures are necessary to meet the non-numeric effluent limits in the 2008 MSGP;
- You find in the routine facility inspection, quarterly visual assessment, or comprehensive site inspection that the control measures are not being properly operated and maintained;
- Construction or a change in design, operation, or maintenance at the facility significantly changes the nature of pollutants discharged in storm water from the facility, or significantly increases the quantity of pollutants discharged; or
- The average of four quarterly sampling results exceeds an applicable benchmark. If less than four benchmark samples have been taken, but the results are such that an exceedence of the four quarter average is mathematically certain, (i.e., if the sum of quarterly sample results to date is more than four times the benchmark level) this is considered a benchmark exceedence, triggering this review;
- If effluent limitation guidelines are exceeded at the Asphalt Batch Plant (Sector D); or
- If impaired water quality standards are exceeded.

5.2 ROUTINE INSPECTIONS

Routine inspections shall be conducted by the DEP (or a qualified member if the DEP is not trained and qualified) at all areas of the facility where industrial materials or activities are exposed to storm water, and of all storm water control measures used to comply with the effluent limits contained in the 2008 MSGP. Routine inspections shall be conducted at least quarterly; however, some facilities conduct monthly inspections (as specified in the facility specific SWPPP). Routine inspections shall be conducted during periods when the facility is in operation. A certified copy of completed Routine Inspection Forms shall be maintained in the facility's SWPPP.

At least once each calendar year, the routine facility inspections must be conducted during a period when a storm water discharge (either rain or snow) is occurring. The DEP(s) or storm water personnel from ENV-RCRA are responsible for identifying and entering corrective actions observed during the routine inspections into the ENV-RCRA MSGP Corrective Action Report Findings database. The database is set up to allow access for all identified DEPs associated with a particular FOD if the FOD has more than one DEP. Contact a member of the ENV-RCRA storm water team if you do not have access to this database and the FOD has assigned you responsibility for MSGP corrective actions.

NOTE: If the industrial facility is inactive and unstaffed and there are no industrial materials or activities exposed to storm water, routine inspections may not be required. A determination of whether a facility is inactive or unstaffed shall be made in coordination with storm water personnel from ENV-RCRA as there are specific documentation and certification requirements that have to be met prior to discontinuing routine inspections.

5.3 COMPREHENSIVE INSPECTIONS

Qualified ENV-RCRA storm water personnel will conduct one comprehensive inspection of all industrial facilities and those that meet the "no exposure" criteria subject to the 2008 MSGP before September 29th of each year. At least one member of the facility's storm water pollution prevention team shall participate in this inspection. This is usually the DEP.

This inspection must cover all areas of the industrial facility affected by the requirements in the 2008 MSGP including the areas identified in the SWPPP as potential pollutant sources where industrial material or activities are exposed to storm water, areas where control measures are used to comply with the effluent limits, and areas where spills and leaks have occurred in the past 3 years. The inspector must include review of the monitoring data (analytical results from benchmark and impaired waters and visual assessments) collected that calendar year as part of the comprehensive inspection. Inspectors must examine the following at a minimum:

- Industrial materials, residue, or trash that may have or could come into contact with storm water;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;

- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas; and
- Control measures needing replacement, maintenance, or repair.
- Storm water controls measures required by the 2008 MSGP must be observed to ensure that they are functioning correctly.

NOTE: The annual comprehensive site inspection may also be used as one of the routine inspections, as long as all components of both types of inspections are included.

ENV-RCRA will then enter all identified corrective actions into the ENV-RCRA MSGP Corrective Action Report Findings database. It is the responsibility of the DEP to update the database to reflect updates to these corrective actions.

Information compiled during the comprehensive inspection is used to complete the Annual Report. This report shall be submitted to EPA (postmarked) within 45 days of the last facility inspection completed in September of each year. For example, if the last facility was inspected (as part of the comprehensive site inspection) on September 22, the report shall be postmarked before or on November 6th. A complete certified copy of the Annual Report shall be maintained in the facility's SWPPP.

5.4 SPILLS

All leaks or spills shall be cleaned up immediately and entered into the ENV-RCRA MSGP Corrective Action Report Findings database. This can be done by either the DEP or an ENV-RCRA MSGP storm water team member. If the spill is immediately cleaned up, and controls are put in place to prevent further leakage, the corrective action can be closed.

5.5 ALLOWABLE NON-STORM WATER DISCHARGES

The following are allowable non-storm water discharges authorized by the 2008 MSGP:

- Discharges from fire-fighting activities;
- Fire hydrant flushing;
- Potable water, including water line flushings;
- Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous material have occurred (unless all spilled material has been removed);

- Routine external building washdown that does not use detergents; and
- Uncontaminated ground water or spring water.

Any person authorized to conduct work at LANL can identify a potential storm water issue. If this occurs, they should contact the DEP or an ENV-RCRA MSGP storm water team member who will determine if a corrective action is needed.

5.6 ENTERING CORRECTIVE ACTIONS

To enter a corrective action into the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

NOTE: Be clear and concise, use correct grammar and punctuation, and correct any spelling errors. This information will be used to populate a report that will be submitted to the EPA. Therefore, it is critical that all information entered into the ENV-RCRA MSGP Corrective Action Report Findings database is correct and meets these criteria.

Step	Action
1	<p>From this web page:</p> <p>http://int.lanl.gov/environment/water/guidance/swmgrp.shtml, under the heading “Compliance Tools”. Click on the link “MSGP Corrective Action Report Findings Database”</p> <p>Click on “Enter New Corrective Action.”</p>
2	<p>Under the “Corrective Action Header” tab, enter the following:</p> <ul style="list-style-type: none"> • Facility Name by clicking on the “List” tab and selecting a facility. • Date Problem was Identified (mm/dd/yyyy) • Date of Notification to ENV-RCRA (mm/dd/yyyy) • FOD Responsible for CA (Name & Org) by clicking in the box. FOD designations (for example “STO”) and the associated name will come up. Just select the appropriate FOD. <p>NOTE: Contact the MSGP Project Leader at 667-1312 or hbensen@lanl.gov if the FOD name or organization is incorrect, so this can be corrected.</p> <ul style="list-style-type: none"> • Describe Specific Evaluation Location (for example “Northeast corner of Building TA-3-66”) • Inspector Z-Number by clicking in the box, which will populate it with your Z number. In most instances, the DEP should be identified as the inspector. Note: If you are entering the CA and are not the DEP, you will have to enter the DEP’s Z number or they will not have the ability to update the corrective action. <p>Once all of the above information is entered correctly, click “Save” and go</p>

	to Step 3. All boxes identified with a red asterisk are “required fields” and shall be filled out. Note: The system will automatically assign a Corrective Action Report ID number.
3	<p>Click “Go To Corrective Action Details” in the middle of the screen.</p> <p>Under the “Corrective Action Details” tab, enter the following:</p> <ul style="list-style-type: none"> • Identify the condition triggering the need for this review by clicking on the “List” tab and selecting an option or selecting “Other” and entering a description of the condition. • Briefly describe the nature of the problem identified during the inspection (e.g., erosion, damage to a BMP, trash, spill, etc.) and the specific evaluation location. <p>NOTE: Spills or other emergency situations may identify the need for a corrective action that was not identified during an inspection.</p> <ul style="list-style-type: none"> • How the problem was identified by clicking on the “List” tab and selecting an option or selecting “Other” and entering a description of the problem. • Description of the corrective action taken, or to be taken, to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, the basis for that determination. • Did/will the corrective action require modification of your SWPPP. Type in “Y” for yes and “N” for no. • Date Corrective action was initiated (mm/dd/yyyy) • Date corrective action was completed OR expected completion date (mm/dd/yyyy) <p>NOTE: If the corrective action has not been completed, enter an expected completion date. Do not put a date in both locations.</p> <p>If the corrective action has not been completed, provide the status of the corrective action and describe any remaining steps (including timeframes associated with each step) necessary to complete the corrective action.</p> <p>NOTE: This should only be filled out if the corrective action has not been completed. If the corrective action has been completed, enter “N/A.”</p> <p>Make sure to hit the “save” tab in the bottom right hand corner so the corrective action information is retained. If you want to enter more corrective actions, go back to the “Corrective Action Header” tab and press the “Enter New Corrective Action” button in the lower left hand corner of the screen (see step #2). Hitting the “Exit” button will cause you to exit from the system.</p>

	All boxes identified with a red asterisk are “required fields” and shall be filled out. If a date is not included or identified as an expected completion date, ENV-RCRA storm water compliance personnel will enter a completion date of 30 days after the corrective action was identified.
--	---

5.7 UPDATING CORRECTIVE ACTIONS

To update a corrective action in the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml , under the heading “Compliance Tools”. Click on the link “ MSGP Corrective Action Report Findings Database ” to access the database and tab down to the corrective action number you want to edit. Click on “Edit.”
2	Navigate to the blank that you will be changing and input the updated information. It is anticipated that most changes will occur relative to updating the status of corrective actions. Save all changes to the information. Remember, you should only have a date under “Date corrective action completed OR the “expected to be completion,” but not both.

5.8 VALIDATING CORRECTIVE ACTIONS

ENV-RCRA storm water personnel will periodically validate the information contained in the ENV-RCRA MSGP Corrective Action Report Findings database. To validate a corrective action in the ENV-RCRA MSGP Corrective Action Report Findings database, perform the following steps:

Step	Action
1	From this web page: http://int.lanl.gov/environment/water/guidance/swmgp.shtml , under the heading “Compliance Tools”. Click on the link “ MSGP Corrective Action Report Findings Database ” to access the database.

2	<p>Check all entered fields for a corrective action to ensure that all information is clear, correct, and concise. If not, correct the information by navigating to the information that needs to be changed and making the change. Save all changes to the information.</p> <p>All information shall be validated before running the final annual report.</p>
3	<p>For ENV-RCRA storm water personnel only, under “status” select “void” if the corrective action is a repeat of a previous corrective action or if it is determined not to be a corrective action. This will delete the corrective action from the annual report.</p>

5.9 INSTITUTIONAL PERFORMANCE FEEDBACK AND IMPROVEMENT TRACKING SYSTEM (PFITS)

PFITS is the institutional performance and tracking system for identified issues. A corrective action that meets any of the following criteria will be entered into the PFITS system, as deemed necessary.

- Corrective action was not completed by the expected completion date entered into the database.
- No action was taken to remedy an identified issue with a control measure within 14 days of discovery or before the next storm event or as soon as practicable following that storm event (Section 3.3 of the 2008 MSGP).
- Repeat corrective actions or trends identified by ENV-RCRA MSGP storm water personnel.
- Conditions requiring immediate action, where failure to take action would result in pollutants being released to water of the state or an immediate non-compliance with the 2008 MSGP.
- Violations identified by the regulatory authority.
- Other issues as deemed necessary by MSGP storm water personnel.

Once every month, ENV-RCRA storm water personnel will evaluate a summary of open corrective actions in the ENV-RCRA MSGP Corrective Action Report Findings database and using the above criteria will determine which corrective actions, if any, should be transferred into PFITS. When the monthly notification of outstanding corrective actions is sent out, evaluate whether any of the outstanding corrective actions meet the above conditions. Send those that do to the Environmental Protection Division’s Improvement Management Coordinator (IMC) so that she can enter the information into PFITS. The summary report will contain the following information, at a minimum:

- Date the corrective action was identified;
- Person that identified the corrective action;

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- A description of the nature of the problem identified and what needs to be done to address the corrective action.
- Whether the corrective action was identified internal to LANL or External to LANL.

5.10 NOTIFICATIONS FOR NEW AND OVERDUE CORRECTIVE ACTIONS

When a new corrective action is entered into the ENV-RCRA MSGP Corrective Action Report Findings database, the FOD, ESH&Q Manager, Operations Manager, inspector (usually the DEP) and ENV-RCRA MSGP storm water personnel are notified automatically by e-mail (unless the corrective action is closed the same day it is entered). This will assist the FOD, ESH& Q Managers, Operations Managers and the DEPs with keeping track of new corrective actions.

An automatic e-mail is sent the first of each month notifying the FOD, ESH&Q Manager, Operations Manager and DEPs of all overdue corrective actions for their industrial facilities. The Environmental Protection Division Leader and ENV-RCRA Group Leader receive a web link that contains a bar graph showing corrective actions 30 to 60 days overdue, 60 to 90 days overdue, 90 days to 1 year overdue, and those greater than a year overdue. In addition, they receive a link with summary information on each corrective action overdue sorted by FOD.

6.0 REFERENCES

- Federal Register: *Final National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Industrial Activities*. Federal Register: September 29, 2008, Volume 73, Number 189.
- [P300, Integrated Work Management](#)
- [P315, Conduct of Operations Manual](#)
- [PD103, Worker Safety and Health Policy](#)
- [SD100, Integrated Safety Management System Description Document with Embedded 10 CFR 851 Worker Safety and Health Program](#)
- [P101-18, Procedure for Pause/Stop Work](#)
- [PD410, Los Alamos National Laboratory Environmental ALARA Program](#)
- [P121, Radiation Protection](#)
- [ENV-DO QP-106, Document Control](#)
- [ENV-DO-QP-115, Personnel Training](#)
- [ENV-DO-QP-104, Work Safety Review](#)

In addition to these documents, please read any site specific requirements before proceeding with work.

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7.0 DEFINITIONS

Best Management Practice (BMP): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (*40 CFR Part 122.2*)

Control Measure: Any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

CA: Corrective Action

DEP: Deployed Environmental Professional

EPA: Environmental Protection Agency

FOD: Facility Operations Director

MSGP: Multi-Sector General Permit

SWPPP: Storm Water Pollution Prevention Plan

8.0 ATTACHMENTS


Attachment 1- Annual Reporting Form

Attachment 2- NPDES Multi-Sector General Permit Routine Inspection Form

[Click here for “Required Read” credit.](#)

ATTACHMENT 1- ANNUAL REPORTING FORM

NPDES Permit Tracking No.:

 UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460	
<h3 style="margin: 0;">Annual Reporting Form</h3>	
A. GENERAL INFORMATION	
1. Facility Name: <input style="width: 95%;" type="text"/>	
2. NPDES Permit Tracking No.: <input style="width: 30%;" type="text"/>	
3. Facility Physical Address:	
a. Street: <input style="width: 95%;" type="text"/>	
b. City: <input style="width: 45%;" type="text"/>	
c. State: <input style="width: 5%;" type="text"/>	
d. Zip Code: <input style="width: 25%;" type="text"/> - <input style="width: 10%;" type="text"/>	
4. Lead Inspectors Name: <input style="width: 45%;" type="text"/>	
Title: <input style="width: 30%;" type="text"/>	
Additional Inspectors Name(s): <input style="width: 45%;" type="text"/>	
<input style="width: 30%;" type="text"/>	
5. Contact Person: <input style="width: 45%;" type="text"/>	
Title: <input style="width: 30%;" type="text"/>	
Phone: <input style="width: 10%;" type="text"/> - <input style="width: 10%;" type="text"/> - <input style="width: 10%;" type="text"/>	
Ext: <input style="width: 10%;" type="text"/> E-mail: <input style="width: 50%;" type="text"/>	
6. Inspection Date: <input style="width: 10%;" type="text"/> / <input style="width: 10%;" type="text"/> / <input style="width: 10%;" type="text"/>	
B. GENERAL INSPECTION FINDINGS	
1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater? <input type="checkbox"/> YES <input type="checkbox"/> NO If NO, describe why not:	
<p><small>NOTE: Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.</small></p>	
2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:	

NPDES Permit Tracking No.:
| | | | | | | | | | | | | | |

<p>3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:</p>
<p>4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA, no monitoring performed</p> <p>If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:</p>
<p>5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:</p>
<p>6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection? <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions? <input type="text" value=" "/> <input type="text" value=" "/></p> <p>NOTE: Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.</p>

NPDES Permit Tracking No.:
|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS	
Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.	
In reviewing each area, you should consider:	
<ul style="list-style-type: none">• Industrial materials, residue, or trash that may have or could come into contact with stormwater;• Leaks or spills from industrial equipment, drums, tanks, and other containers;• Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and• Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.	
INDUSTRIAL ACTIVITY AREA _____:	
1. Brief Description:	
2. Are any control measures in need of maintenance or repair? <input type="checkbox"/> YES <input type="checkbox"/> NO	
3. Have any control measures failed and require replacement? <input type="checkbox"/> YES <input type="checkbox"/> NO	
4. Are any additional/revised control measures necessary in this area? <input type="checkbox"/> YES <input type="checkbox"/> NO	
If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)	
INDUSTRIAL ACTIVITY AREA _____:	
1. Brief Description:	
2. Are any control measures in need of maintenance or repair? <input type="checkbox"/> YES <input type="checkbox"/> NO	
3. Have any control measures failed and require replacement? <input type="checkbox"/> YES <input type="checkbox"/> NO	
4. Are any additional/revised c necessary in this area? <input type="checkbox"/> YES <input type="checkbox"/> NO	
If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)	
INDUSTRIAL ACTIVITY AREA _____:	
Brief Description:	
2. Are any control measures in need of maintenance or repair? <input type="checkbox"/> YES <input type="checkbox"/> NO	
3. Have any control measures failed and require replacement? <input type="checkbox"/> YES <input type="checkbox"/> NO	
4. Are any additional/revised BMPs necessary in this area? <input type="checkbox"/> YES <input type="checkbox"/> NO	
If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)	

NPDES Permit Tracking No.:

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NOTE: Copy this page and attach additional pages as necessary

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? YES NO

3. Have any control measures failed and require replacement? YES NO

4. Are any additional/revised BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? YES NO

3. Have any control measures failed and require replacement? YES NO

4. Are any additional/revised BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? YES NO

3. Have any control measures failed and require replacement? YES NO

4. Are any additional/revised BMPs necessary in this area? YES NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NPDES Permit Tracking No.:

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D. CORRECTIVE ACTIONS

Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # of for this reporting period.

2. Is this corrective action:

An update on a corrective action from a previous annual report; or

A new corrective action?

3. Identify the condition(s) triggering the need for this review:

Unauthorized release or discharge

Numeric effluent limitation exceedance

Control measures inadequate to meet applicable water quality standards

Control measures inadequate to meet non-numeric effluent limitations

Control measures not properly operated or maintained

Change in facility operations necessitated change in control measures

Average benchmark value exceedance

Other (describe): _____

4. Briefly describe the nature of the problem identified:

5. Date problem identified:

6. How problem was identified:

Comprehensive site inspection

Quarterly visual assessment

Routine facility inspection

Benchmark monitoring

Notification by EPA or State or local authorities

Other (describe): _____

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/will this corrective action require modification of your SWPPP? YES NO

9. Date corrective action initiated:

10. Date correction action completed: or expected to be completed:

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

ATTACHMENT 2- NPDES MULTI-SECTOR GENERAL PERMIT ROUTINE INSPECTION FORM

Los Alamos National Laboratory
ENV-RCRA

NPDES Multi-Sector General Permit Routine Inspection Form
(rev. 03/2009) Page 1 of ____ (use additional sheets if necessary)

Name of Facility:		Responsible FOD (Name & Organization):			
Qualified Inspector(s): Others Present:		Inspection type: <input type="checkbox"/> Quarterly <input type="checkbox"/> Other		Date of Inspection (MM/DD/YYYY):	
Weather: <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain <input type="checkbox"/> Sleet <input type="checkbox"/> Fog <input type="checkbox"/> Snow <input type="checkbox"/> High Winds <input type="checkbox"/> Other: Temperature: _____ ° F		Is Inspection Being Conducted During a Storm Water Discharge? <input type="checkbox"/> Yes <input type="checkbox"/> No			
#	Structural Control Measures (BMP)s	Location	Operating Effectively (Yes or No)?	If No, Need to Maintain (M), Repair (R) or Replace (RP)?	Corrective Action Needed and Notes (Identify needed maintenance and repairs, or any failed control measures that need replacement)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
Were additional BMPs or Control Measures implemented? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:					
Were previously identified conditions corrected before the next anticipated storm event? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, describe reason:					
Area/Activity <small>(Areas of Industrial Materials or Activities Exposed to Storm Water)</small>	Inspected?	Controls Adequate?	Corrective Action Needed and Notes (List area letter with comments below)		
A. Material loading/unloading & storage areas					
B. Equipment operations & maintenance areas					
C. Fueling Areas					
D. Outdoor vehicle & equipment washing areas					
E. Waste Handling & disposal areas					
F. Erodible areas / construction					
G. Non-storm water / illicit connections					
H. Salt storage piles or pile containing salt					
I. Dust generation & vehicle tracking					
Are the SWPPP Plan maintenance, schedules and procedures being implemented at the facility? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Were any Corrective Actions Initiated or completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe:					
Are there any conditions requiring Corrective Action? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, List Number of Corrective Actions Required _____ <small>(Note – need a Corrective Action Form for each listed)</small>					

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Los Alamos National Laboratory
ENV-RCRA

NPDES Multi-Sector General Permit Inspection Form
(rev. 03/2009) Certification Sheet

Non-Compliance

Describe any incidents of non-compliance and/or need for corrective action observed and not described above:

Additional Control Measures

Describe any additional control measures needed to comply with the permit requirements:

Notes

Use this space for any additional notes or observations from the inspection:

Inspector's Signature and date: _____

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____ Date: _____

ENV-RCRA-QP-047.1



Effective Date: May 14, 2013

Next Review Date: April 14, 2015

Environment, Safety, Health Directorate

**Environmental Protection – Water Quality and RCRA
Quality Procedure**

**Inspecting Storm Water Runoff Samplers and
Retrieving Samples for the MSGP**

Reviewers:

Name: Melanie Lamb	Organization: ENV-QPMO QA Specialist	Signature: Signature on file	Date: 3/7/13
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Derivative Classifier: **Unclassified** **DUSA**_____

Name: Anthony Grieggs	Organization: ENV-RCRA	Signature: Signature on file	Date: 5/14/13
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Approval Signatures:

Subject Matter Expert: Holly Wheeler	Organization: ENV-RCRA	Signature: Signature on file	Date: 3/20/13
Responsible Line Manager: Terrill Lemke	Organization: ENV-RCRA Team Lead	Signature: Signature on file	Date: 5/3/13
Responsible Line Manager: Anthony Grieggs	Organization: ENV-RCRA Group Leader	Signature: Signature on file	Date: 5/14/13

CONTROLLED DOCUMENT

This copy is uncontrolled. The controlled copy can be found on the ENV Division Web page.

Users are responsible for ensuring they work to the latest approved version.

Inspecting Storm Water Runoff Samplers and Retrieving Samples for the MSGP	No. ENV-RCRA-QP-047.1	Page 2 of 14
	Effective Date: May 14, 2013	

History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	03/11	New Document.
1	02/13	Annual Review and Revision

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Inspecting Storm Water Runoff Samplers and Retrieving Samples for the MSGP	No. ENV-RCRA-QP-047.1	Page 4 of 14
	Effective Date: May 14, 2013	

1.0 PURPOSE

This procedure describes the process for inspecting ISCO storm water runoff samplers and retrieving storm water runoff samples from all locations where the Los Alamos National Laboratory (LANL) conducts storm water sampling activities for the Multi-Sector General Permit (MSGP).

2.0 SCOPE

This procedure applies to the ENV-RCRA technical staff and subcontractor personnel conducting activities at single stage stations used for monitoring under the MSGP.

2.1 HAZARD REVIEW

Hazards in the work described in this procedure are controlled through site specific [IWDs](#). The hazard level of the activities in this procedure is **moderate**.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-RCRA technical staff and subcontract or other personnel who inspect storm water samplers and retrieve storm water samples for the MSGP.

The training method for this procedure is “self-study” (reading). For ENV-RCRA staff, this is documented in accordance with [ENV-DO-QP-115, Personnel Training](#). Other participating groups may require training documentation pursuant to local procedures.

Actions specified within this procedure, unless proceeded with “should” or “may,” are to be considered mandatory (i.e., “shall”, “will”, “must”).

3.1 PREREQUISITES

Personnel performing this procedure will be familiar with the most current versions of the following procedures and operation manuals:

- ENV-RCRA MSGP Sampling and Analysis Plan for the current monitoring year.
- Manual for Teledyne ISCO Sampler model 3700.
- Manual for Teledyne ISCO Avalanche sampler

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records are generated as a result of this procedure and are maintained in accordance with [ENV-DO-QP-110, Records Management Program](#) with the originals on file at ENV-RCRA offices:

- Completed work order for ISCO Sampler Inspection and Sample Retrieval and Collection forms (example in Attachment 2).

5.0 WORK PROCESSES

ISCO samplers are used to collect storm water runoff for Multi-Sector General Permit (MSGP) Program stations. ISCOs are designed to automatically collect water when the water surface is high enough to trigger the actuator and fill the sample bottles. Field personnel are required to inspect the sampling station while retrieving water samples and at other intervals determined by the project or as directed by work orders issued by project personnel.

A LANL Project Leader is the primary person with responsibility for the steps in this procedure. ENV-RCRA personnel will be appointed with responsibility for a subset of sampling stations.

If subsequent rain events occur before all sampler locations have been visited after the first rain event, finish the route to collect the first-event samples (safety permitting).

Inspections may be discontinued during periods or conditions that make sites dangerous for worker safety or prevent personnel from safely accessing sites (e.g., weather-related events such as flash floods, flooding, lightning, wildfires, hail, icy roads, deep snow, and LANL operations such as shots or burns at the OBOD sites).

5.1 EQUIPMENT AND TOOLS

Ensure the following equipment is available in the field vehicle:

- Copy of this procedure
- Copy of the Integrated Work Documents (IWDs)
- Charged spare battery(ies)
- Battery voltage tester
- Spare tubing (pump, suction, discharge types, sampler specific)
- Spare/replacement sample bottles (glass and poly)
- Shovel
- Wooden stakes
- Plastic wire “zip” ties
- Cell phone (only government cell phones with batteries removed are allowed in secure areas)
- Appropriate tools in tool box
- Issued Work Orders and associated forms
- Necessary access and station keys
- Coolers with ice or Blue Ice®
- Expanded Site Field Maps
- Nitrile gloves
- Paper Towels
- Marker pen (permanent, waterproof)
- Ball point pen
- Zip lock bags
- Safety glasses with side shields
- Chain of custody seals
- Sturdy hiking boots or steel toed shoes with soles that grip

5.2 PREPARING FOR FIELDWORK

Once the work orders have been approved, the following steps should be followed to prepare for fieldwork:

Step	Action
1	Receipt of a work order indicates that sampler inspections have been approved by the LANL Project Leader. Schedule work to be completed by the target date appearing on the work order(s).
2	Distribute work order(s) to field personnel. A sample Work Order form is provided in Attachment 1, ISCO Sampler Inspection and Sample Retrieval Form.
3	Inform (e.g., by e-mail) the Field Operations designee, as specified in the IWD, of the schedule for sampler inspection work and locations up to a week (preferred) before but no later than the day before (for minor changes) to be added to the appropriate plan of the day.
4	For work at sites operated by Weapons Facility Operations or Nuclear Environmental Sites, notify the appropriate access control before traveling to those sites. The IWD Part II (2101 Form) addresses specific requirements and training for these sites.
5	Obtain any necessary additional paperwork before conducting this work, including IWD's, and excavation permits (if necessary).
6	Gather the required equipment (see section above) for the work to be done.
7	Set watch(s) to the precise Mountain Standard (not daylight saving) Time. This can be done by logging on to the time page at www.time.gov (or click on the clock icon on the lab's internal home page). When at the site, the clock time on the ISCO sampler needs to be verified. Clocks must be set to Mountain Standard Time at all times, with no daylight saving time adjustment.

5.3 INSPECTING THE SAMPLER

The following table details the inspection requirements for the sampler:

Step	Action
1	If conditions prevent a sampler inspection, document the conditions on the work order and notify the Project Lead or designee within 24 hours. Multiple attempts can be documented on the original inspection work order up to the target date. After the target date, return work order to the ENV-RCRA Storm Water Data Stewards Team for reissuance (if necessary).
2	Item 1: on work order (see example in attachment 2): Enter the date and time inspection and water retrieval is performed and the name(s) and Z number(s) of the field personnel performing the work in the upper right corner of the work order.
3	Item 2: Verify and document the sampler is ON and its condition upon arrival by checking the "Yes" or "No" box. Explain any non-functional status in third column.
4	Item 3: Verify and document the ISCO programming displays by checking the "Yes" or "No" box in second column. <ul style="list-style-type: none"> For ISCO 3700 samplers = "Sampler Inhibited"

	<p>OR</p> <ul style="list-style-type: none"> For Avalanche samplers = “Program Disabled” <p>If No, repair or describe (e.g., “Done X samples”, or “sampler off”, etc). If more space is needed, continue notes in the “Additional Notes” section at the bottom of the page.</p>
5	Don nitrile gloves and safety glasses.
6	Remove the lid from the sampler.
7	<p>Item 4: If water was collected, check “Yes” and collect the water according to the steps in “Retrieving Storm Water Runoff Samples” below.</p> <p>Note: Complete the required MSGP Visual Assessment form to document the water appearance (foam, sheen, etc.). Ensure this form is submitted to the appropriate MSGP project personnel (see item 11).</p> <p>If No, describe (e.g., “no water collected”, “sampler off”) in the third column; check “No” for Item 4.</p>
8	Item 5: Verify and document the sampler is set to the correct Mountain Standard Time +/- no more than 1 minute by checking the “Yes” or “No” box in the second column. If the sampler is set incorrectly, reprogram for the correct Mountain Standard Time. Describe the work performed and correction applied (e.g., “ISCO clock was X minutes slow”) in the third column.
9	<p>Item 6: Review the Sampling Results report and document any error messages from the sampler display by checking the “Yes” or “No” box. If a message is displayed, record the message in the “Comments” section on page 2 next to the sample bottle being filled when the problem occurred.</p> <p>If there is no indication of flow and the sampler triggered due to a non-flow event (e.g., animal, tumbleweed), indicate this in the third column.</p>
10	Item 7: For the Avalanche sampler equipped with an ISCO 701 pH Module, record the pH measurement taken at the time of Bottle 1 from the Combined Results report.
11	Item 8: For Avalanche samplers only, and if water was collected, check “Yes” and record the refrigerator temperature (°C) upon arrival. If no water was collected, or unable to review temperature, check “No” and describe in column 3 (e.g., no sample, dead battery).
12	<p>Item 9: Verify and document whether sample volumes were retrieved by checking the “Yes” or “No” box. Refer to the volume retrieval instructions on page 2 of work order.</p> <p>Record the volume retrieved in third column.</p>
13	Item 10: If water was collected, perform a visual assessment of the water using the MSGP program visual assessment form (not included in this procedure). Document whether a visual assessment was performed by checking the “Yes” or “No” box.
14	Item 11: Verify and document sample station equipment, model, serial number, actuator height, sampler program, and bottle configuration match the header on the work order page 1 by checking the “Yes” or “No”. If they do not match the data on the work order, ensure you are at the correct location. If the location is verified, check “No” and update inaccurate information.
15	Item 12: Verify and document power supply function. Use the voltage tester to check the voltage of the battery and record the voltage. Check “Yes” or “No” to indicate if battery voltage is acceptable (≥ 11.7 V for non-floating charged batteries at ISCO 3700 samplers and ≥ 11.0 for floating-charged batteries at Avalanche samplers as described in ENV-RCRA-QP-045).
16	Item 13: Verify and document the sampler passed the diagnostics test by checking the “Yes” or “No” box. Directions for running the diagnostics test is provided in ENV-RCRA-QP-045)

	<p>If maintenance is necessary and can be performed at the time of inspection, perform the work and describe in third column.</p> <p>If maintenance cannot be completed at the time of inspection, then describe the condition and work needed in the third column.</p>
17	<p>Item 14: Verify and document the sample tubing passed a suction test by checking the “Yes” or “No” box.</p> <p>Check the condition of sample tubing and vent tubing. If maintenance (e.g., clearing the tube, replacing the tube) is necessary and can be performed at the time of inspection, perform the work and describe in third column.</p> <p>If maintenance cannot be completed at the time of inspection, then describe the condition and work needed in third column.</p>
18	<p>Item 15: Verify all cable and electrical connections are attached and secure by checking the “Yes” or “No” box.</p> <p>If maintenance (e.g., tightening connection, replacing cables) is necessary and can be performed at the time of inspection, describe the work performed in the third column. If more space is needed, continue notes in the “Additional Notes” section.</p> <p>If maintenance cannot be completed at the time of inspection, then describe the condition and work needed in the third column.</p>
19	<p>Item 16: Verify and document sampler is ON prior to departing the site by checking the “Yes” or “No” box. If the sampler is not on, document the reason.</p>
20	<p>Item 17: If the sampler tripped and requires reset of the sampling program, reset the actuator by toggling the switch to “Reset” then back to “Latch”</p> <ul style="list-style-type: none"> • Verify and document the ISCO programming displays the following by checking the “Yes” or “No” box in column 2, page 1. • ISCO 3700 stand-alone samplers = “Sampler Inhibited” <p>OR</p> <ul style="list-style-type: none"> • Avalanche samplers = “Program Disabled” <p>If an error occurs, reconfigure the sampler (see ENV-RCRA-QP-045 for settings)</p>
21	<p>Item 18: Verify and document any maintenance completed while on site. Describe the work performed or indicate “none completed” in third column.</p> <p>Maintenance items may include (but are not limited to) battery replacement, tubing clearing or replacement, site clearing, securing electrical connections, or sampler diagnostics or repair.</p>
22	<p>Item 19: Verify and document any follow-on maintenance needed that could not be completed while on site. Describe the needed maintenance in the third column. If more space is needed, continue notes in the “Additional Notes” section. A separate work order for the station maintenance will be issued.</p> <p>If no follow-on maintenance is required, indicate “none required” in third column.</p> <p>Maintenance items may include (but are not limited to) battery replacement, tubing clearing or replacement, site clearing, securing electrical connections, or sampler diagnostics or repair.</p>
23	<p>Item 20: If no storm water samples were collected by the sampler, draw a line through page 2 of the work order, initial, and date.</p> <p>If storm water samples were collected by the sampler, skip to “Retrieving storm water runoff</p>

	samples” section.
24	Replace and secure the sampler lid and secure the sampler shelter (if sampler is in a shelter).
25	Review the completed work order(s) for accuracy and completeness and sign and date “Review by Signature” line on page 2 of work order.
26	Item 21: Review the work order(s) for accuracy and certify that the information submitted is “true, accurate, and complete” by signing and dating “Lead Signature” line on page 1.
27	Return completed original work orders to the Project Leader the same day following completion of field work. If original work orders must remain with collected samples, return photocopies of incomplete work orders to the Project Leader the same day field work is completed. Stamp or write “Copy” on the work order returned.

5.4 RETRIEVING SAMPLES

The following steps should be followed when retrieving samples:

Step	Action
1	Don nitrile gloves and safety glasses.
2	<p>See flow chart in Attachment 1.</p> <p>Item 5: Refer to the “Earliest Sample Collect Date” on work order.</p> <p>If the “Earliest Sample Collect Date” field is empty OR the ISCO sample collection date is ON or AFTER that date, samples may be retrieved per the volume requirements given on the work order. Continue with next step below.</p> <p>If the ISCO sample collection date is BEFORE the “Earliest Sample Collect Date”:</p> <ul style="list-style-type: none"> • Indicate “non-qualifying storm event” in Item 5 third column. • Discard the collected sample water on the ground. • Skip to Step 10 below.
3	Remove filled and partially-filled bottles from the carousel.
4	<p>Add up the total volume of water collected and check that the collected volume of water in glass and poly matches the required volume in the header of the work order page 2. The volume of water required to complete a sample set may vary. Retrieval of partial volume is allowed as long as the minimum specified volume is met.</p> <p>For <u>“Partial Volume Retrieval Allowed, Minimum Volume NOT Met”</u> samplers:</p> <p>If sample volume was sufficient, continue with next step 5 below.</p> <p>If sample volume was NOT sufficient:</p> <ul style="list-style-type: none"> • Record the date and time the ISCO collected water in each glass and poly bottle by the position number in the carousel in Item 21. • Record total volume retrieved as “0” in Item 22. • Pour out all water on the ground. • Skip to step 11 below. <p>For <u>“Partial Volume Retrieval Allowed, Minimum Volume Met”</u> samplers:</p> <ul style="list-style-type: none"> • Record the date and time the ISCO collected water in each glass and poly bottle by the position number in the carousel on Item 21 of page 2

	<ul style="list-style-type: none"> Record the specific ISCO displayed message for each bottle, if present, in the “Comments” column on Item 21. Record total volume retrieved in Item 22. Skip to step 11 below.
5	For samples retrieved, place lids onto the sample bottles with storm water.
6	Write the date and time collected, Station Number, and the corresponding carousel number on each retrieved sample bottle. Obtain the sample collection date and time from the ISCO sampler.
7	Item 21: Record the date and time the ISCO collected water in each glass and poly bottle by the position number in the carousel. Record the specific ISCO displayed message for each bottle, if present, in the “Comments” column.
8	Item 22: For “ <u>Partial Volume Retrieval Allowed, Minimum Volume NOT Met</u> ” samplers, if sample volume was NOT sufficient, record the total volume retrieved as “0” and discard sample water on ground. For “ <u>Partial Volume Retrieval Allowed</u> ” samplers, record the total volume retrieved.
9	Place retrieved sample bottles in a cooler with blue ice (or equivalent).
10	Return any excess water or collected volume that exceeded the amount required to the ground.
11	Install new sample bottles in the carousel for the next sampling event. The number and type of bottles may vary. Ensure bottles match the configuration specified on page 1 of the work order.
12	Item 23: Document any additional notes or site information in the “Additional Notes” section.
13	Return to steps in “Inspecting the Sampler” above.

5.5 DELIVERING SAMPLES

The following steps should be followed when delivering samples:

Step	Action
1	If samples were collected, deliver the samples, and completed, reviewed, and signed work order to the Storm Water Program Laboratory.
2	Item 25: Relinquish samples to MSGP personnel by signing “Relinquished By” or if self processed, refer to ENV-RCRA-QP-048, Processing MSGP Storm Water Samples.
3	Place samples in the refrigerators in the laboratory within the basement of TA-59-1 and lock the refrigerator to prevent tampering.

6.0 REFERENCES

None

Inspecting Storm Water Runoff Samplers and Retrieving Samples for the MSGP	No. ENV-RCRA-QP-047.1	Page 11 of 14
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7.0 DEFINITIONS

None

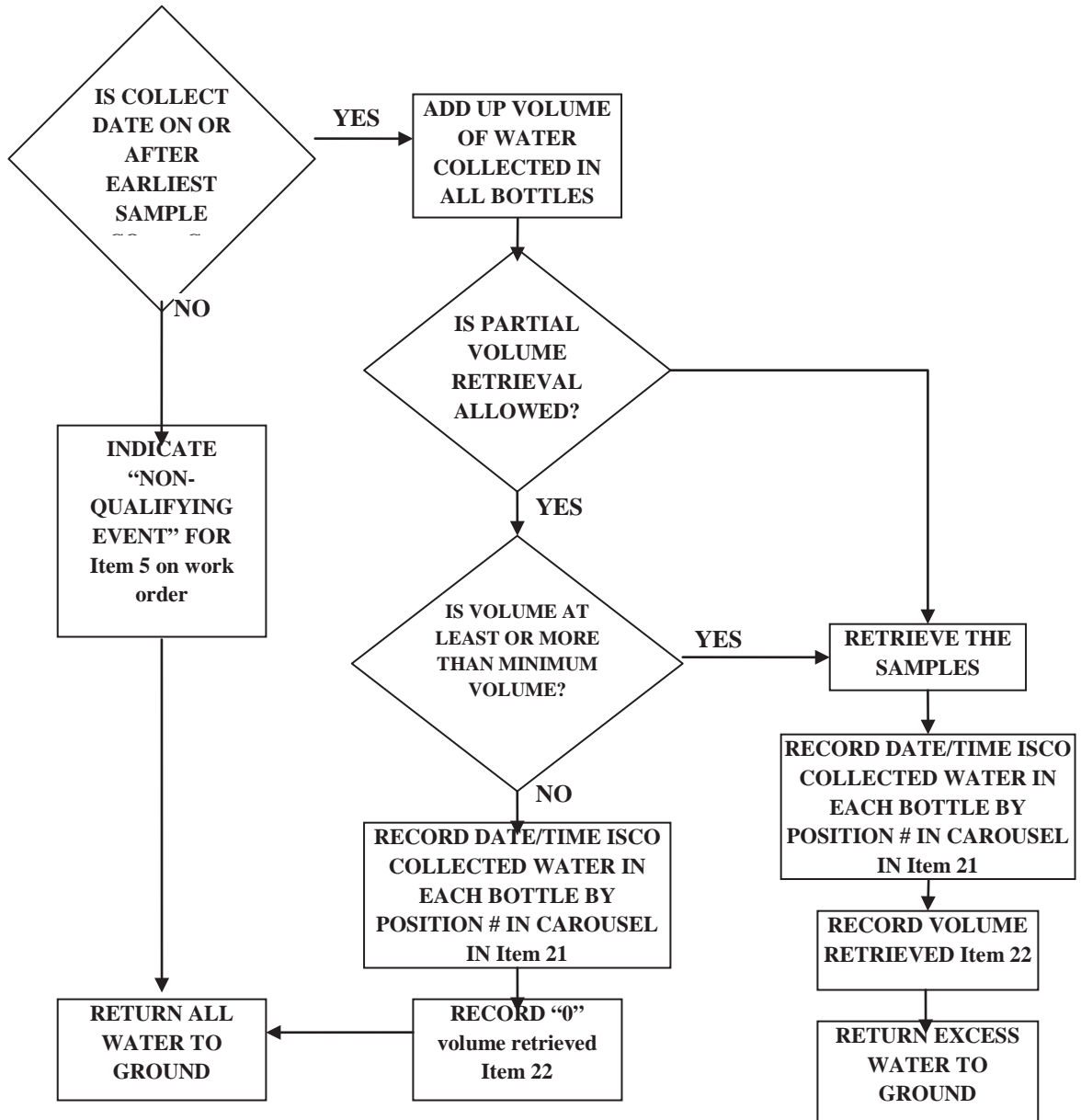
8.0 ATTACHMENTS

Attachment 1- Flow Chart for Sample Retrieval

Attachment 2- ISCO Sampler Inspection and Sample Retrieval Form



ATTACHMENT 1- FLOW CHART FOR SAMPLE RETRIEVAL



ATTACHMENT 2- ISCO SAMPLER INSPECTION AND SAMPLE RETRIEVAL FORM

ENV-QP-047.0

**LANL Multi-Sector General Permit
ISCO Sampler Inspection and Sample Retrieval Form**

Form 047-1 (3/2011)

Outfall: **3-MFS-1 : 03-0038W**

Project ID: **P-MSGP-2046**

Work Order ID: **MSGP-26090**

Target Date: **9/30/2012**

Project: MSGP Q3 Sampler Inspection & Retrieval

Reason: MSGP ISCO Sampler Inspection - Sample Retrieval

Date: _____ Time: _____

Name/Z#: _____

Name/Z#: _____

Lead Signature: _____

Earliest Sample Collect Date: 8/1/2012

"I confirm the information as recorded is true, accurate and complete."

Equipment	Manufacturer	Model	Serial No.	Specification	Configuration
Actuator	ISCO	1640	210J01655	Actuator Height	2"
ISCO 3700 Sampler	Teledyne	3700	209H01284	Bottle Set	12c- 1 1L Glass, 11 1L Poly
ISCO 3700 Sampler	Teledyne	3700	209H01284	Program	Storm / Multiplex 10 min delay
Pb-Acid Battery	MK Powered	110 A-h	MSGP-110-0310-06	Voltage	> 11.7 V
ISCO Sampler Inspection Tasks				Note: If "No", provide explanation and/or correct information.	
ON ARRIVAL					
Is sampler ON and functioning properly upon arrival?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does ISCO display either "Sampler Inhibited" or "Program Disabled"?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is ISCO time delta < 1 min (MST)? If NO, record adjustment.				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is any water collected? If YES, complete Page 2.				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does the Sampling Results report indicate any error messages(s)? If YES, record error message(s) in the applicable Bottle Comment field on Page 2.				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is any water collected on or after the "Earliest Sample Collect Date"?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was sample volume retrieved?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Was a Visual Assessment performed? If YES, complete the MSGP Visual Assessment form (ENV-RCRA-QP-064.0 Att. 1).				<input type="checkbox"/> Yes <input type="checkbox"/> No	
ON DEPARTURE					
Is the equipment information listed above, including specifications, correct?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are electrical connections secure?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Record battery voltage(s). Voltage(s) > 11.7 V?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does the ISCO diagnostics test pass?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does sample tubing pass suction test?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is sampler ON upon departure?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Has the actuator switch been reset to "Latch"?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
Does ISCO display either "Sampler Inhibited" or "Program Disabled"?				<input type="checkbox"/> Yes <input type="checkbox"/> No	
If any maintenance completed during inspection, check YES and describe.				<input type="checkbox"/> Yes <input type="checkbox"/> No	
If any follow-on maintenance is required, check YES and describe.				<input type="checkbox"/> Yes <input type="checkbox"/> No	

ENV-QP-047.0

**LANL Multi-Sector General Permit
ISCO Sampler Inspection and Sample Retrieval Form**

Form 047-1 (3/2011)

Outfall: **3-MFS-1 : 03-0038W**

Project ID: **P-MSGP-2046**

Work Order ID: **MSGP-26090**

Complete if sample bottles contain water OR to to record ISCO message

Sample Volume Requirements		
Bottle Type: Poly or Glass bottles	Minimum Volume (L): 0.5	Maximum Volume (L): 1

Bottle #	Bottle Type	Date:	Time (MST):	Comments
1	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
2	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
3	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
4	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
5	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
6	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
7	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
8	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
9	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
10	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
11	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
12	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
13	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		
14	<input type="checkbox"/> P <input type="checkbox"/> G	/ /2012		

Total Volume Retrieved (liters):	Poly	Glass
----------------------------------	------	-------

Relinquished by Signature	Date:	Time:	Received by Signature	Date:	Time:

Additional Notes:

LANL PERSONNEL USE ONLY (Initials and dates)		
Accepted	Tech QC	ENV-RCRA Review

MSGP STORM WATER VISUAL INSPECTIONS

Purpose This procedure is written to provide requirements for conducting visual monitoring under the 2008 National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP) for industrial facilities.

Scope Requirements set forth in this document apply to Los Alamos National Laboratory industrial facilities covered by the MSGP. These facilities include, a warehouse, several metal fabrication areas/shops, a heavy equipment yard, an asphalt batch plant, roads and grounds, a foundry, a power plant, a material recycling facility and several hazardous waste treatment, storage or disposal (TSD) facilities. Inspection waivers may be granted by ENV-RCRA for adverse weather conditions and unstaffed or inactive sites.

Hazard review The work described in this procedure is field work and consists solely of visual evaluations, and has been documented to have a **LOW hazard** rating by submittal of a completed [ENV Low Hazard Verification form](#) to the Quality Assurance Specialist.

Signatures

Prepared by: Signature on File _____ Holly Wheeler, ENV-RCRA	Date: 02/22/12
Approved by: Signature on File _____ Melanie Lamb, ENV Quality Assurance Specialist	Date: 02/14/12
Authorized by: Signature on File _____ Terrill Lemke, ENV-RCRA Team Leader	Date: 02/27/12
Authorized by: Signature on File _____ Anthony Grieggs, ENV-RCRA Group Leader	Date**: 03/06/12
Classification Review by Signature on File _____ Anthony Grieggs, Derivative Classifier	Date: 03/06/12 <input checked="" type="checkbox"/> Unclassified

** Effective Date

CONTROLLED DOCUMENT

This copy is uncontrolled. The controlled copy can be found on the ENV Division Web page. Users are responsible for ensuring they work to the latest approved revision.

General information about this procedure

In this procedure

This procedure addresses the following major topics:

Topic	Page
General information about this procedure	2
Who requires training to this procedure?	2
Roles and responsibilities	5
Visual examinations	5
Completing the MSGP storm water visual inspection form	6
Guidance	8
Records resulting from this procedure	9

Attachments

This procedure has the following attachments:

Number	Attachment Title	No. of pages
1	MSGP Visual Inspection Form	1
2	Example MSGP Visual Inspection Form	1
3	Facilities and Storm Water Stations Associated With Industrial Activity	1

History of revision & review

This table lists the revision history, reviews, and effective dates of this procedure:

Revision	Date	Description of Changes or Review
0	7/09	New document.
1	3/10	Clarifications and added attachments.
2	2/12	Biennial review/revision.

Who requires training to this procedure?

The following personnel require training before implementing this procedure:

- Group and Project Leader
- MSGP Visual Assessors
- ENV-Deployed Environmental Professional (DEP)
- ENV-RCRA Sampling Team

Training method

Training to this procedure will be by “self-study” (reading) and will be documented in accordance with [ENV-DO-QP-115 Personnel Training](#).

General information about this procedure, continued

Prerequisites In addition to training to this procedure, the following training is also required prior to performing this procedure:

- [ENV-RCRA-QAPP-MSGP Multi-Sector General Permit Quality Assurance Project Plan](#)

Definitions specific to this procedure Adverse weather conditions: Weather that prohibits collection of samples such as local flooding, high winds, hurricanes, tornadoes, electrical storms, etc. Could also include drought, extended frozen conditions, etc.

Best Management Practices (BMPs): Schedules of activities, practices, prohibitions of practices, structures, vegetation, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs can also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Clarity: Clearness or cleanness of appearance. This includes the visual observation of suspended sediment.

Color: Unpolluted water will be clear and colorless. Color should not be confused with clarity.

Floating solids: Particulate material floating on the surface of the water. Examples include: leaves, pinecones, pine needles, dead grass, twigs, branches, and common trash.

Foam: An accumulation of fine frothy bubbles formed in or on the surface of water. A mass of bubbles of air in a matrix of liquid film.

Odor: The property or quality of waters that affects or stimulates the sense of smell. Examples of odors that may be present are burnt oil, sewage, diesel, sulfuric, or detergent odors.

Oil sheen: The presence of rainbow-like colors glistening on the surface of a liquid. The color of oil sheen will vary dependent on thickness and consistency.

Settled solids: Settled particulate material i.e. heavier than water. Examples include sand, gravel, metal turnings, and glass.

Suspended solids: Particulate materials that are floating between the bottom of the sample and the surface of the water.

Unstaffed and Inactive Sites: A facility maintaining certification with the SWPPP that it is inactive and unstaffed and visual examinations are not required.

General information about this procedure, continued

References

- [Federal Register: Final National Pollutant Discharge Elimination System \(NPDES\) General Permit for Storm Water Discharges from Industrial Activities. Federal Register: September 29, 2008, Volume 73, Number 189.](#)
- [P300, Integrated Work Management for Work Activities](#)
- [P315, Laboratory Institutional Operations Program](#)
- [PD103, Worker Safety and Health Policy](#)
- [SD100, Integrated Safety Management System Description](#)
- [P101-18, Procedure for Pause/Stop Work](#)
- [PD410, Los Alamos National Laboratory Environmental ALARA Program P121 Radiation Protection](#)
- [ENV-DO-QP-106, Document Control](#)
- [ENV-DO-QP-102, Office Safety and Security](#)
- [ENV-DO-QP-104, Work Safety Review](#)
- [ENV-DO-QP-115, Personnel Training](#)

In addition to these documents, please read any site specific requirements before proceeding with work.

Note

Actions specified within this procedure, unless preceded with “should,” or “may,” are to be considered mandatory (i.e., “shall,” “must,” “will”).

Roles and Responsibilities

Deployed Environmental Professionals Deployed environmental professionals (DEPs) are responsible for collecting quarterly visual samples at substantially identical outfalls and completing required documentation, unless arrangements are made to use ENV-RCRA resources. DEPs will be fully knowledgeable of the site specific SWPPP. Whenever practicable the same person should carry out the inspection and examination of the discharges throughout the life of the permit to ensure consistency in interpretation of results. Further, DEPs shall be familiar with facility operations so that potential pollution discharge sources can be determined.

ENV-RCRA MSGP storm water compliance personnel MSGP storm water compliance personnel are responsible for filling out a visual assessment form if requested by work order for MSGP monitored outfalls. Storm water compliance personnel are also responsible for evaluating the quality of completed visual assessments, retaining a record of QA'd forms on the server and distributing these forms to the DEPs for inclusion into the appropriate facility SWPPP.

Visual Examinations

Visual examinations Visual examinations of storm water discharge shall be conducted quarterly for each discharge point covered by the MSGP and the site specific SWPPP.

Grab samples A grab sample will be collected during daylight hours in a 1 liter wide mouth clear glass bottle or plastic container within 30 minutes of discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample must be collected as soon as practicable after the first 30 minutes. The sampler will document the reason a sample could not be collected within 30 minutes.

If no samples are collected because the sampler was not triggered (or for some other reason), documentation shall be kept in the facility's SWPPP explaining why visual examinations were not conducted.

Completing the MSGP Storm Water Visual Inspection Form

Location, date & time, inspector, etc. Complete the top section of form including location as indicated on site map, date and time, outfall ID (i.e. the monitored outfall), person collecting and examining the sample and signature, and inspection quarter.

NOTE: See Attachment 2 for an example of a filled-out MSGP Visual Inspection form.

NOTE: See Attachment 3 for facility name, location, and station numbers.

Include the date and time the discharge began, sample collection date and time and visual assessment date and time for each sample. Identify the nature of the discharge (i.e., rainfall or snowmelt). Determine whether it has been greater than 72 hours from the last storm event. If “No”, explain when the last storm event occurred.

Sample documentation

Provide documentation if sample is not collected within 30 minutes of discharge.

Completing the MSGP Storm Water Visual Inspection Form, continued

Describe sample parameters

Refer to section 3.0, Definitions. See attachment 2 for an example of a filled-out MSGP Visual Inspection form.

Parameter	Description
Color	Describe the color of the discharge.
Odor	Describe any odors that may be observed in the discharge. Caution: any unusual odors should be documented.
Clarity	Clarity can be described as the depth in which you can look into or through water. For example an individual can see through a clear glass of clean water in daylight. Generally the clarity of the water is a good visual indicator of the purity of water. If the water is poor in clarity there is most likely suspended solids throughout the water.
Floating Solids	Note any floating solids in the sample. Careful examination should determine whether the solids are raw or waste materials (i.e. vegetative materials).
Settled Solids	Note any settled solids in the sample. Settled solids may be an indicator of unstable ground cover combined with a high intensity storm water runoff event.
Suspended Solids	Note any suspended solids in the sample. Most often suspended solids include fine sediment. This may be an indication of an unstable channel that may have eroding banks. Some water appears to be colored because of relatively coarse particulate material in suspension such as sediment.
Foam	Note an accumulation of fine frothy bubbles formed in or on the surface of water. Describe the color of the foam.
Oil Sheen	Note if there is an oil sheen present, the thickness, and consistency. If yes, contact the ENV-RCRA Project Leader for MSGP <u>immediately</u> . Follow-up action is required within 24 hours.
Other	Describe any other indicators of storm water pollution in addition to the descriptions mentioned above.

Completing the MSGP Storm Water Visual Inspection Form, continued

**ENV
Deployed
Environmental
Professional** Place completed and signed form into the facility SWPPP. Provide a copy to the MSGP Project Leader or other designee at ENV-RCRA.

**Site
observations** Note if there are any potential sources of pollutants on site. If yes, contact an MSGP representative of ENV-RCRA and document the following:

- potential sources;
- indicate if there are any BMPs on site and evaluate and note effectiveness;
- if no BMPs, determine if installation could correct future pollutant migration; and
- the nature of discharge (i.e., runoff or snow melt).

**Source of
pollutants** While conducting the visual examinations, personnel should constantly be attempting to relate any pollutant that is observed in the samples to the sources of pollutants that are on the site.

Guidance

Clean up A clean up of the site should be conducted if the pollutant source is known and well defined. The FOD, ESH Manager, and MSGP representative of ENV-RCRA should also be contacted and made aware of the situation. A design change could also be incorporated into the storm water pollution prevention plan to eliminate or minimize the contaminant source from occurring in the future. Personnel should evaluate whether or not additional BMPs should be implemented in the pollution prevention plan to address the observed contaminant, and if BMPs have already been implemented, evaluate whether or not these are working correctly or need maintenance. Corrective actions must be taken if BMPs are not performing effectively. Actions should be taken as soon as practicable from the discovery of any pollutants.

NOTE: This time frame (and those listed below) is not a grace period. Rather, it is a schedule considered reasonable for documenting your findings and for making repairs and improvements. The time frame is to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely. Failure to take prompt action can result in fines and penalties for non-compliance.

Guidance, continued

Corrective action

If storm water contamination is identified through visual assessment, a corrective action must be entered into the ENV-RCRA MSGP Corrective Action Report database within 24 hours of the observation. A corrective action plan must be identified within 14 days of the observation.

NOTE: If possible, the corrective action must be implemented before the next anticipated storm event.

Follow up

A date for completion of implementation must be entered into the database to ensure that appropriate actions are taken in response to the examinations.

Records resulting from this procedure

Records

The following records generated as a result of this procedure are to be submitted to an MSGP representative of ENV-RCRA in accordance with [ENV-DO-QP-110 Records Management](#).

- MSGP Quarterly Visual Assessment Form
-

[*Click here to record "self-study" training to this procedure.*](#)

MSGP Quarterly Visual Assessment Form

Complete a separate form for each outfall you assess. When adverse weather conditions prevent the collection of a sample during the quarter, a substitute sample must be taken during the next qualifying storm event. Maintain this document in your SWPPP).

Name/Location of Facility:		Permit Number: NMR05GB21	Inspection Quarter: <input type="checkbox"/> Apr-May <input type="checkbox"/> Jun-Jul <input type="checkbox"/> Aug-Sep <input type="checkbox"/> Oct-Nov
Outfall ID:	"Substantially Identical Outfall"? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES identify other Outfalls in the Group:	
Person(s) collecting sample (PRINT): PPT Member? <input type="checkbox"/> Yes <input type="checkbox"/> No		Signature :	
Person(s) examining sample (PRINT): PPT Member? <input type="checkbox"/> Yes <input type="checkbox"/> No		Signature :	
Date & Time Discharge Began:	Date & Time Sample Collected:	Date & Time Sample Examined:	
Substitute Sample? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, identify quarter/year when sample was originally scheduled to be collected:		
Was the sample collected in the first 30 minutes? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, explain why not:			
Nature of Discharge: <input type="checkbox"/> Rainfall. Amount _____ inches <input type="checkbox"/> Snowmelt. Amount _____ inches			
Previous Storm Ended > 72 hours Before Start of This Storm? <input type="checkbox"/> Yes <input type="checkbox"/> No		If No, Explain: *	

PARAMETERS

Color	<input type="checkbox"/> None <input type="checkbox"/> Other	If Other describe:
Odor	<input type="checkbox"/> None <input type="checkbox"/> Musty <input type="checkbox"/> Sewage <input type="checkbox"/> Sulfur <input type="checkbox"/> Sour <input type="checkbox"/> Solvents <input type="checkbox"/> Petroleum/Gas <input type="checkbox"/> Other	If Other, describe the odor:
Clarity:	<input type="checkbox"/> Clear <input type="checkbox"/> Slightly Cloudy <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque <input type="checkbox"/> Other (describe):	
Floating Solids:	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, describe if raw or waste materials(s):
Settled Solids:**	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, are solids Fine <input type="checkbox"/> Coarse <input type="checkbox"/> If Other describe:
Suspended Solids:	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, are solids Fine <input type="checkbox"/> Coarse <input type="checkbox"/> If Other describe:
Foam (gently shake sample):	<input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, on the surface <input type="checkbox"/> or <input type="checkbox"/> in the water. Describe color:
Oil Sheen <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Color of Sheen:	Thickness: Flecks <input type="checkbox"/> Globs <input type="checkbox"/> Describe if other:	
Other Obvious Indicators of Pollution Present in the sample? Yes <input type="checkbox"/> No <input type="checkbox"/>	If YES describe:	

SITE OBSERVATIONS

Potential pollutants found during visual examination? Yes No If Yes, list pollutant(s) and if possible indicate the source: If source is identified during collection of sample, please notify Tim Zimmerly @ 699-7621 or 664-0105

Pollutant	Source	Pollutant	Source

NOTE: A clean up of the site should be conducted if the pollutant source is known. Was proper Notification made? Yes No
 If Yes, indicate who was notified:

CORRECTIVE ACTION

If storm water contamination was identified in this sample through visual assessment, was a Corrective Action Form filled out within 24 hrs of observation? Yes No If No, explain why not:

Was a Corrective Action Plan identified within 14 days of the observation? Yes No If No, explain why not:



Other Relevant Information: Yes No

Use the back of this form to list any concerns, comments, and/or descriptions of pictures taken, (attach additional sheets as necessary).

* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Example of Filled-Out MSGP Quarterly Visual Assessment Form

MSGP Quarterly Visual Assessment Form			
<p>Complete a separate form for each outfall you assess. When adverse weather conditions prevent the collection of a sample during the quarter, a substitute sample must be taken during the next qualifying storm event. Maintain this document in your SWPPP).</p>			
Name/Location of Facility: TA-3-66 Sigma Foundry		Permit Number: NMR05GB21	Inspection Quarter: <input checked="" type="checkbox"/> Jan-Mar <input type="checkbox"/> Apr-Jun <input type="checkbox"/> Jul-Sep <input type="checkbox"/> Oct-Dec
Outfall ID: 3-Sigma-1	"Substantially Identical Outfall"? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES identify other Outfalls in the Group: 3-Sigma-2, 3-Sigma-3, 3-Sigma-4, 3-Sigma-5, 3-Sigma-6 and 3-Sigma-7	
Person(s) collecting sample (PRINT): PPT Member? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Joe Doe		Signature: 	
Person(s) examining sample (PRINT): PPT Member? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Joe Doe		Signature: 	
Date & Time Discharge Began: 1/14/2010 at 3:00 P.M.	Date & Time Sample Collected: 1/14/2010 at 3:25 P.M.	Date & Time Sample Examined: 1/14/2010 at 4:30 P.M.	
Substitute Sample? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, identify quarter/year when sample was originally scheduled to be collected:		
Was the sample collected in the first 30 minutes? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, explain why not:			
Nature of Discharge: <input type="checkbox"/> Rainfall. Amount _____ inches <input checked="" type="checkbox"/> Snowmelt. Amount 0.25 inches			
Previous Storm Ended > 72 hours Before Start of This Storm? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			If No, Explain: *
PARAMETERS			
Color	<input type="checkbox"/> None <input checked="" type="checkbox"/> Other		If Other describe: light brown
Odor	<input checked="" type="checkbox"/> None <input type="checkbox"/> Musty <input type="checkbox"/> Sewage <input type="checkbox"/> Sulfur <input type="checkbox"/> Sour <input type="checkbox"/> Solvents <input type="checkbox"/> Petroleum/Gas <input type="checkbox"/> Other		If Other, describe the odor:
Clarity:	<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly Cloudy <input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque <input type="checkbox"/> Other (describe):		
Floating Solids:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If YES, describe if raw or waste materials(s):
Settled Solids:**	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If YES, are solids Fine <input type="checkbox"/> Coarse <input type="checkbox"/> If Other describe:
Suspended Solids:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If YES, are solids Fine <input checked="" type="checkbox"/> Coarse <input type="checkbox"/> If Other describe:
Foam (gently shake sample):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If YES, on the surface <input type="checkbox"/> or <input type="checkbox"/> in the water. Describe color:
Oil Sheen <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Color of Sheen:	Thickness: Flecks <input type="checkbox"/> Globs <input type="checkbox"/> Describe if other:		
Other Obvious Indicators of Pollution Present in the sample? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If YES describe:		
SITE OBSERVATIONS			
Potential pollutants found during visual examination? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, list pollutant(s) and if possible indicate the source: If source is identified during collection of sample, please notify Tim Zimmerly @ 699-7621 or 664-0105			
Pollutant	Source	Pollutant	Source
NOTE: A clean up of the site should be conducted if the pollutant source is known. Was proper Notification made? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, indicate who was notified:			
CORRECTIVE ACTION			
If storm water contamination was identified in this sample through visual assessment, was a Corrective Action Form filled out within 24 hrs of observation? Yes <input type="checkbox"/> No <input type="checkbox"/> If No, explain why not:			
Was a Corrective Action Plan identified within 14 days of the observation? Yes <input type="checkbox"/> No <input type="checkbox"/> If No, explain why not:			
Other Relevant Information: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Use the back of this form to list any concerns, comments, and/or descriptions of pictures taken, (attach additional sheets as necessary).			
* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.			
** Observe for settled solids after allowing the sample to sit for approximately one-half hour.			

Los Alamos National Laboratory
FACILITIES AND STORM WATER STATIONS ASSOCIATED WITH INDUSTRIAL ACTIVITY
2008 MSGP PERMIT #NMR05GB21

LOCATION	OPERATION	Activity	Sector	STATION	DRAINAGE
TA-3-22	POWER PLANT	STEAM ELECTRIC POWER	O	E121.9, 03-0022N, 03-0022S	Sandia
TA-3-38	METAL SHOP	FABRICATED METALS	AA	03-0038W	Sandia
TA-3-39, 102	METAL SHOP	FABRICATED METALS	AA	03-0039E	Pajarito
TA-3-66	SIGMA FOUNDRY	PRIMARY METALS	F	E122.3	Sandia
TA-60	ASPHALT BATCH PLANT	ASPHALT BATCH PLANT	D	E200.5	Mortandad
TA-54	AREA G - South Side	TSD	K	54-PAD10E, E248.5, E248	Pajarito
TA-54	AREA G - North Side	TSD	K	E227	Canada del Buey
TA-54	AREA L	TSD	K	E223	Canada del Buey
TA-54-38	RANT	TSD	K	E220	Canada del Buey
TA-15-185	VEHICLE MAINTENANCE SHOP	VEHICLE MAINTENANCE	P	E262.4	Water
TA-60-1	MOTORPOOL	VEHICLE MAINTENANCE	P	60-0001	Sandia
TA-60	MATERIALS RECYCLING FACILITY	RECYCLING	N	E122.35	Sandia
TA-60-250	ROADS & GROUNDS FACILITY	VEHICLE MAINTENANCE & STORAGE	P	E123.4, 60-00RG, 60-00RGE	Sandia
TA-3-0034	METAL SHOP	FABRICATED METALS	AA	03-0034	Sandia
TA-9-28	HEAVY EQUIPMENT MAINTENANCE OPERATIONS	VEHICLE MAINTENANCE AND STORAGE	P	09-0028W	Upper Pajarito
TA-60-2	WAREHOUSE	WHAREHOUSE	P	60-002E	Sandia

ENV-RCRA-QP-066.3



Effective Date: April 4, 2013

Next Review Date: March 4, 2015

Environment, Safety, Health Directorate

**Environmental Protection – Water Quality and RCRA
Quality Procedure**

Chemical Preservation of Water Samples

Reviewers:

Name: Melanie Lamb	Organization: ENV-QPMO QA Specialist	Signature: Signature on file	Date: 4/1/13
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Derivative Classifier: **Unclassified** **DUSA** _____

Name: Anthony Grieggs	Organization: ENV-RCRA	Signature: Signature on file	Date: 4/4/13
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Approval Signatures:

Subject Matter Expert: Elizabeth Gray	Organization: ENV-RCRA	Signature: Signature on file	Date: 4/3/13
Responsible Line Manager: Mike Saladen	Organization: ENV-RCRA Team Lead	Signature: Signature on file	Date: 4/4/13
Responsible Line Manager: Anthony Grieggs	Organization: ENV-RCRA Group Leader	Signature: Signature on file	Date: 4/4/13

CONTROLLED DOCUMENT

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Users are responsible for ensuring they work to the latest approved version.

Chemical Preservation of Water Samples	No. ENV-RCRA-QP-066.3	Page 2 of 7
	Effective Date: April 4, 2013	

History of Revisions

Document Number <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
0	03/07	New Document.
1	03/09	ENV SOPs converted at this time to QPs; revision tracking numbers set to next in sequence. Procedure ownership passed from the Water Quality Team to the Technical Support and Compliance Assurance Team.
2	03/11	Biennial review and revision.
3	04/13	Biennial review and revision, new format implemented.

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Chemical Preservation of Water Samples	No. ENV-RCRA-QP-066.3	Page 4 of 7
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1.0 PURPOSE

This Environmental Protection Division–Water Quality & RCRA Group (ENV-RCRA) procedure describes the process for the chemical preservation of water samples.

2.0 SCOPE

This procedure applies to ENV-RCRA personnel, contract personnel, and students conducting chemical preservation of water samples either in the field at time of sample collection or in the TA-59-1-Basement Lab.

2.1 HAZARD REVIEW

The hazard level of the work specified in this procedure results from the sample preservation steps is considered **moderate** and is controlled by application of [IWD 005, NPDES Outfall Compliance Sampling](#), Part I, Step 7.

3.0 RESPONSIBILITIES

The following personnel require training before implementing this procedure:

- ENV-RCRA personnel, contractors, and students conducting chemical preservation of water samples.

The training method for this procedure is “self-study” (required reading) and demonstration of proficiency depending on the experience of the personnel. All training is documented in accordance with [ENV-DO-QP-115, Personnel Training](#).

Actions specified within this procedure, unless proceeded with “should” or “may,” are to be considered mandatory (i.e., “shall”, “will”, “must”).

3.1 PREREQUISITES

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- UTrain Curricula 131, *Field Worker Training*
- UTrain Curricula 7579, *ENV-RCRA NPDES Compliance Sampling*
- UTrain Curricula 2810, *Hazardous Waste Generator*

4.0 DOCUMENT CONTROL/RECORDS MANAGEMENT

The following records generated as a result of this procedure are to be submitted in accordance with [ENV-DO-QP-110 Records Management](#). Copies should also be submitted to the Storm Water Sampling Team Leader.

- Copy of Sample Collection Log/Field Chain of Custody form(s)
- Completed sampling field sheets
- Log Book entries

5.0 WORK PROCESSES

5.1 CHEMICAL PRESERVATION

Effluent samples are collected in the field. Chemical preservation is conducted in the field immediately (within 15 minutes) following sample collection. Preservation may also be conducted in the TA-59-1 Basement Lab if it is practicable to do this within 15 minutes of sample collection. The personnel processing the samples shall refer to Sample Collection Log/Field Chain of Custody form for sample container and preservation requirements for the collected samples.

Preserved samples shall be placed, along with the chain of custody documentation, inside the truck refrigerator or in the field sample receiving refrigerator in the TA-59-1 Basement Lab.

Warning: Preservation entails the addition of acid or base to a sample. Acids used include hydrochloric acid (HCl), nitric acid (HNO₃), and sulfuric acid (H₂SO₄). The base used in preservation is sodium hydroxide (NaOH). These are all strong acids and bases that can cause severe burns and are particularly dangerous to the eyes. Extreme care should be taken when using these acids and bases. Follow the precautions for sample preservation in Step 7 of IWD 005, Part I, [NPDES Outfall Compliance Sampling](#).

To preserve samples in the field or in the TA-59-1 Basement Lab, perform the following steps:

Step	Action
1	Don gloves, protective eyewear, and lab coat or long sleeve shirt.
Note: Open-toed shoes are not allowed during preservation.	
2	Verify two 500-ml containers of Neutra-Sol are readily available for use.
3	Preserve (add acid or base) samples according to the requirements on the sample container label. Preservation vials are labeled with the type of preservative as well as the volume of sample each vial will preserve.
4	Securely affix lid to sample container. Clean and dry the exterior of sample container, ensure lid is on securely, and check sample container for leakage and breakage.

5	Apply chain-of-custody tape to the lid/bottle.
6	Carefully place sample containers in the sample truck refrigerator or cooler with frozen “blue ice.”
7	Complete the sampling field sheet and the Sample Collection Log/Field Chain of Custody form (Attachment 1).
8	Following the Environmental Protection –Environmental Data and Analysis Group (ENV-EDA) Sample Management Office (SMO) requirements for accepting samples (WES-EDA-OP-219), submit samples to SMO for shipment to the appropriate analytical laboratory.
9	Retain a copy of the Sample Collection Log/Field Chain of Custody form when relinquishing custody of samples to the ENV-EDA SMO.
10	Provide a copy of the Sample Collection Log/Field Chain of Custody form to the Program Lead or DMR Data manager.

Rinse all used sample collection bottles and preservation vials at the sink in the TA-59-1 Basement Lab and dispose in the trash accordingly: Place plastic/poly containers/vials in the trash. Place unbroken used glass bottles/vials in a cardboard box, close the box with tape, and dispose of the box in the dumpster. Carefully place any broken glass in the Broken Glass Box in the TA-59-1 Basement Lab.

Note: Only non-hazardous wastes are generated by this operation. Clean the area where the samples have been preserved.

6.0 REFERENCES

None

7.0 DEFINITIONS

None

8.0 ATTACHMENTS

Attachment 1- Sample Collection Log/Field Chain of Custody Form

[Click here for “Required Read” credit.](#)

ATTACHMENT 1- SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY FORM

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID:					EVENT NAME:				
SAMPLE ID:					WORK ORDER:				
	<u>AS PLANNED</u>	<u>AS COLLECTED</u>			<u>AS PLANNED</u>	<u>AS COLLECTED</u>			
DATE COLLECTED (MM/DD/YYYY):	_____				FIELD MATRIX:	WOE	_____		
TIME COLLECTED (HH:MM):	_____				MEDIA:	_____			
PRS ID:	_____				SAMPLE TECH CODE:	DC	_____		
LOCATION ID:	_____				FIELD PREP:	UF	_____		
LOCATION TYPE:	_____				FIELD QC TYPE:	REG	_____		
TOP DEPTH:	_____				SAMPLE USAGE:	COMP	_____		
BOTTOM DEPTH:	_____				EXCAVATED:	YES / NO / NA			

PRIORITY	ORDER	CONTAINER	#	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS

SAMPLE COMMENTS:

LOCATION COMMENTS:

FIELD PARAMETERS:

COLLECTED BY (PRINT)

RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Excess/Salvage Equipment Request Form

Date: _____

Custodian Name	Z Number	Telephone	Group	
Description	Bar Code Number	Manufacturer	Serial Number	Model Number
Condition: <input type="checkbox"/> Operable <input type="checkbox"/> Repairable <input type="checkbox"/> Not Repairable			Property's Current Location (TA, Bldg., Room)	

Please fill in all applicable boxes

Property with Memory Retention Capability

Classified: All magnetic media (including internal hard disks) have been removed and handled according to [P204-2 Classified Matter Protection and Control Handbook](#).

Non-Classified: Hard-drive/memory removed Hard-drive/memory not removed

Signature _____ Z # _____ Date _____ Organization _____

Environment, Safety, and Health (ES&H) Information

<p>Radiological contamination possible?</p> <p><input type="checkbox"/> Not contaminated; history of use known.</p> <p><input type="checkbox"/> Contamination possible; history of use not known*</p> <p><input type="checkbox"/> Contamination known or possible; history of use known*</p> <p>*Released by RCT (Name, Signature, Date)</p>	<p>If property contains any of the following hazards, contact your organization's Waste Coordinator for assistance.</p> <p><input type="checkbox"/> Chemicals/Liquids <input type="checkbox"/> Lead</p> <p><input type="checkbox"/> Asbestos <input type="checkbox"/> Oil</p> <p><input type="checkbox"/> Explosives <input type="checkbox"/> Biological</p>
---	--

High Risk Certification

If you have a question, contact the Disposition Office at 665-8079 or e-mail disposition@lanl.gov.

1. Is this item routinely sold to the general public through a scientific supply store or Wal-Mart, Note: Do not answer yes if this item was modified or enhanced.	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Is this item on the U.S. Munitions List (22 CFR 121)? Examples of items on the Munitions List include: firearms, ground control equipment, navigation equipment, satellites and related equipment, high-power radio-frequency systems, nuclear weapons design and test equipment. If yes, list category below. Category: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Is this item found on the Nuclear Supplier's Group Trigger List (IAEA Infcirc/254/Part 1)? Examples of items on the Trigger List include: reactor equipment and parts, nuclear grade graphite, reprocessing equipment and parts, uranium isotope separation equipment and parts, heavy water production equipment and parts, uranium conversion equipment and parts. If yes, list category below. Category: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. Is there any reason why this item should not be released to the general public?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. Could the release of this item result in bad publicity for the Laboratory?	<input type="checkbox"/> Yes <input type="checkbox"/> No

I certify that the information provided above is correct and that this property is safe for release to the general public.

Signature _____ Z # _____ Date _____

Property will be relocated and stored while it is pending pickup by the excess crew? Yes No New Location: _____

Copy of this 1893 form was provided to the customer as a receipt for their property? Yes No

Property Specialist Signature: _____ Z # _____ Date _____ EPIS # _____

Property Custodian should retain a copy of this 1893 form for his or her records

LA-UR-11-10371

Approved for public release; distribution is unlimited.

Title: Los Alamos National Laboratory Storm Water BMP Manual

Author(s): Lemke, Terrill W.

Intended for: Internal Guidance Document



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Los Alamos National Laboratory

Storm Water BMP Manual



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Prepared by:
ENV-RCRA



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ACRONYMS

AOC	Area of Concern
BFM	Bonded Fiber Matrix
BMP	Best Management Practice
CGRP	Cerro Grande Rehabilitation Project
DOE	Department of Energy
ECB	Erosion Control Blanket
EM&R	Emergency Management & Response
ENV-RCRA	LANL Water Quality Group
EPA	Environmental Protection Agency
FGM	Flexterra or other Flexible Growth Medium
HDPE	High Density Polyethylene
IECA	International Erosion Control Association
LANL	Los Alamos National Laboratory
MgCl	Magnesium chloride
MSGP	Multi-Sector General Permit
MSS	Maintenance and Site Services
NM	New Mexico
NMED	New Mexico Environment Department
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PAM	Polyacrylamide
RECP	Rolled Erosion Control Product
SPCC	Spill Prevention Control and Countermeasure
SWMUs	Solid Waste Management Units
TRM	Turf Reinforcement Mat
TSD	Triangular Silt Dike
UV	Ultraviolet
WMC	Waste Management Coordinator

INTRODUCTION

This guidance document was developed to provide information on the selection, function, installation, inspection, and maintenance of Best Management Practices (BMPs) for storm water management, sediment and erosion control and the management of other potential surface water pollutants at Los Alamos National Laboratory (LANL). Its intent is to provide a consistent approach in the selection and use of BMPs at LANL. The information provided in this document is not intended to replace an engineering design where such designs may be applicable, but should be used in support of and in conjunction with the LANL Engineering Standards and specifications. This document is also not inclusive of all the BMPs that may be applicable at LANL.

WHAT IS A BMP?

BMP stands for Best Management Practice.

BMPs can be procedures, practices, or physical structures or controls.

BMPs minimize the potential for pollutant transport.

BMPs can be either temporary or permanent.

HOW TO USE THIS GUIDANCE DOCUMENT

The BMPs identified in this manual are common industry practices, are types or categories that can be utilized with a variety of “off the shelf” products, and are those that have proven effective for LANL conditions and climates. However, the BMP industry is dynamic. New products and innovations are continually being introduced. If new or modified BMPs not identified in this guidance document are identified or desired for use, the LANL Water Quality & RCRA Group (ENV-RCRA) should be consulted for guidance and approval. Installation of manufactured BMPs should follow installation guidance and recommendations as provided by the manufacturer.

This manual is organized in the following sections:

Section	Purpose
1 - LANL Considerations	Local and State standards, specifications, and concerns
2 - Good Housekeeping and Scheduling Practices	Practices and administrative controls to minimize potential pollutant contact with storm water
3 - Sediment Controls	Retain sediment onsite
4 - Runon/Runoff Control	Minimize erosion and sediment transport by reducing runoff velocity and minimizing potential pollutant contact with storm water
5 - Erosion Controls	Prevent erosion from starting

1. Start by looking at the BMP Use Matrix in Section 1.2, to help you select appropriate BMPs.
2. Go to the detailed BMP information to see information on proper usage, useful combinations and alternatives.
3. Use the detailed BMP information to learn more about installation and maintenance requirements.

INTRODUCTION

Construction Sites/Activities

- Use this manual to help choose BMPs when a design is not available.
- Use this manual to supplement information provided in the LANL Engineering Standards and construction specifications.
- Use this manual to ensure BMPs are properly installed and maintained.

MSGP Facilities

- Use this manual to help select additional BMPs if current controls are not adequate.

Individual Storm Water Permit / Solid Waste Management Units (SWMUs)

- Use this manual to select new BMPs based on site conditions and needs.
- Use this manual to provide guidance on how to install new BMPs, and inspect and maintain existing BMPs.

Best Management Practice Use Matrix

BMP	Page(s)	Location					Purpose					Properties		
		Drainage Area Size (Acre)	Slopes > 3:1	Use on Flat Terrain/ Slopes <3:1	Impervious Surface	Use in Channels	Erosion Control	Sediment Retention	Dust Control	Divert Flow	Reduce Flow Velocities	Longevity	Installation/ Design	Cost
Silt Fence	17	≤ 1	Y	Y			Y				1 Season	Easy	Low	
Floc Logs	23	≤ 1		Y		Y	Y				Temporary	Moderate	Med	
Gravel bags	23	≤ 1	Y	Y	Y	Y			Y	Y	1 to 2 Years	Easy	Low	
Wattles/Coir logs	23	≤ 1	Y	Y			Y		Y	Y	1 to 2 Years	Easy	Low	
Triangular Silt Dike	27	≤ 1		Y		Y	Y		Y	Y	1 to 2 Years	Easy	Low to Med	
Construction Entrance/Exit	35			Y	Y		Y	Y			Temporary	Easy	Med	
Log Berm and Brush Barriers	39, 49	≤5		Y			Y		Y	Y	Temporary	Easy	Low	
Inlet Protection	43	≤ 1		Y	Y	Y				Y	Temporary to Permanent	Easy	Low	
Sand Bags	43	≤ 1	Y	Y	Y	Y			Y	Y	Temporary	Easy	Med	
Berms	49	≤5		Y			Y	Y		Y	Temporary to Permanent	Easy	Low to Med	
Rock Check Dams	57	≤ 10		Y		Y				Y	Temporary or Permanent	Easy	Low	
Waterbars and Runouts	61			Y		Y			Y	Y	Temporary to Permanent	Easy	Low	
Terracing	65		Y	Y		Y				Y	Temporary to Permanent	Easy	Low	
Surface roughening	71		Y	Y		Y				Y	Temporary to Permanent	Easy	Low	
Sediment Traps	77	≤ 1		Y		Y				Y	Temporary to Permanent	Moderate to difficult	Med	
Storm water detention basin	81		Y			Y	Y			Y	Temporary to Permanent	Difficult	Med to High	
Flexterra (FGM)	87		Y	Y			Y		Y		Temporary	Moderate	Med	
Hydromulch	87		Y	Y			Y		Y		Temporary	Moderate	Med	
Seeding	87		Y	Y		Y			Y		Temporary to Permanent	Moderate	Low	
Mulch	87			Y			Y		Y		Temporary	Easy	Low	
Tackifiers	91		Y	Y			Y		Y		Temporary	Easy	Med	
Turf Reinforcement Mats	95		Y	Y		Y				Y	Permanent	Can be difficult on Steep Slopes	Med	
Erosion Control Blankets	95		Y	Y			Y		Y		1-2 years	Can be difficult on Steep Slopes	Med	
Gabions	101	≤ 10	Y	Y		Y				Y	Permanent	Difficult	Med to High	
Rip Rap	105	≤ 10	Y	Y		Y				Y	Permanent	Moderate	Med	
Outlet Protection	101, 105	≤ 5	Y	Y		Y				Y	Temporary to Permanent	Easy to Moderate	Low	
Permanent Capping	109			Y			Y				Permanent	Difficult	High	

LANL CONSIDERATIONS

LANL ENGINEERING STANDARDS

The Los Alamos National Laboratory Engineering Standards are comprised of several mandatory Functional Series documents including the Engineering Standards Manual (ESM), master guide specifications, standard details, example drawings, and a drafting manual. The purpose of the Engineering Standards is to define the minimum technical requirements for the design and construction of new and existing structures at LANL.

This Manual should supplement and support use of the Engineering Standards. As specified in their respective sections, storm water detention basins, riprap, and permanent capping must be designed using the Engineering Standards to ensure proper function of these BMPs. The Engineering Standards are also to be used in the design and construction of berms and check dams in excess of two feet in height.

Additionally, if the failure of a BMP has the potential to cause injury, loss of life, or property damage, the Engineering Standards would supersede the use of this document and the Standards should then be applied in the design and specification of the BMP. The Engineering Standards would provide design procedures and criteria associated with but not limited to:

- The sizing of controls for management or conveyance of storm water.
- Sizing or specifying material suitable for the applicable forces and stresses exerted on a BMP.
- Proper construction requirements to ensure a safe and functioning BMP.

When utilizing the LANL Engineering Standards for BMP design, the ESM and the master guide specifications should both be used. The ESM can be found at http://engstandards.lanl.gov/ESM_Chapters.shtml#esm3, and the master guide specifications are found at <http://engstandards.lanl.gov/specs.shtml>. For additional guidance on the applicability of the Engineering Standards for BMP design, contact the LANL Water Quality Group (ENV-RCRA).

SWMUs and AOCs

- Do not direct storm water to a Solid Waste Management Units (SWMU), Area of Concern (AOC).
- Water should not be encouraged to pond on a SWMU or AOC.
- Based on the site constituents, environmental media (e.g. soil, sediment, surface and ground water) may constitute solid waste and/or hazardous waste. If there is any potential for accumulated sediment or other media to be considered waste, a waste determination must be made and documented. For guidance, see the Laboratory's procedures on Waste Management.
- BMPs used on SWMUs or AOCs may be considered waste based on site constituents and BMP use. Consider the use of biodegradable or permanent BMPs that can be left on site.

SPCC Plans

As per the LANL procedures and EPA Regulations, any facility or Project with a total aboveground storage capacity greater than 1,320 gallons with a minimum container size of 55 gallons must have a Spill Prevention Control and Countermeasures (SPCC) Plan. This includes not only diesel storage tanks, but also equipment such as compressors and drill rigs.

Contact the LANL Water Quality Group (ENV-RCRA) for guidance and support.

STATE REQUIREMENTS

Velocity Dissipation For soil disturbing activities subject to NPDES Construction General Permit coverage, State requirements mandate that runoff velocity from a construction project cannot increase from pre-development rates. Pre-development is defined as prior to any original disturbance. Install velocity dissipation devices such as check dams and detention ponds. Sites over 10 acres must install storm water detention ponds.

Sediment Yield For soil disturbing activities subject to NPDES Construction General Permit coverage, State requirements mandate that sediment yield from a construction project cannot increase from pre-development rates. Stabilize disturbed areas and utilize appropriate erosion controls.

Liquid Discharges onto the Ground Request assistance from the LANL Water Quality Group (ENV-RCRA) to gather and submit information for preparation of a NMED Notice of Intent to Discharge (NOI) or LANL Un-permitted Liquid Discharge Log Report.

Examples: planned potable water, storm water drainage from secondary containment units, fire suppression test/flush, steam condensate, fire hydrant flush, pothole water, waterline disinfect/flush, land application of groundwater.

REFERENCES

**LANL
ENGINEERING
STANDARDS AND
CONSTRUCTION
SPECIFICATIONS**

<http://engstandards.lanl.gov/>

**LANL
CONSTRUCTION
ACTIVITIES
COMPLIANCE**

http://int.lanl.gov/environment/h2o/cw_npdes.shtml

**EPA
CONSTRUCTION
BMP MENU**

http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4

**EPA NPDES
CONSTRUCTION
GENERAL
PERMIT (2008)**

http://www.epa.gov/npdes/pubs/cgp2008_finalpermit.pdf

**EPA NPDES
MULTI-SECTOR
GENERAL
PERMIT (MSGP)
(2008)**

http://www.epa.gov/npdes/pubs/msgp2008_finalpermit.pdf

**EPA NPDES
INDIVIDUAL
PERMIT –
NM0030759 (2010)**

<ftp://ftp.nmenv.state.nm.us/www/swqb/NPDES/Permits/NM0030759-LANLStormwater.pdf>

**INDUSTRY
ORGANIZATIONS**

Land and Water Magazine
<http://www.landandwater.com/>

Stormwater Magazine
<http://www.stormh2o.com/>

IECA <http://www.ieca.org/>
The International Erosion Control Association (IECA) is devoted to helping solve the problems caused by erosion and its byproduct—sediment.

Good Housekeeping



- Options and Alternatives**
- Waste and Material Storage and Transport
 - Vehicle and Equipment BMPs
 - Street Sweeping
 - Washout Areas

- Objectives**
- Reduce or eliminate runoff pollutants

Description Good housekeeping includes controls that are practices (as opposed to structural controls) that are used to reduce or prevent pollutants.

Applications Low cost alternative to structural BMPs.

Limitations Only prevents the initial migration of pollutants from the source.

Performance and Longevity In general, use of practices to prevent pollutants from contact with storm water is extremely effective.

Good housekeeping practices are implemented before project activities begin and throughout project activities. These practices are temporary in nature and are only meant to last through the construction activity process.

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control	x		
Runoff Control	x		
Good Housekeeping			x

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Good housekeeping	x			

Design and Construction Guidance

Material storage

- Designate material storage areas away from the nearest watercourse and in locations that do not receive a substantial amount of upslope runoff.
- Store soils uphill of BMPs or the excavation.

- Hazardous materials, fluids, and chemicals should be placed within covered storage, or a lined berm or other appropriate secondary containment.
- Drums containing liquids or hazardous materials should be stored on secondary containment pallets that minimize storm water accumulation.

Wastes

- Designate a waste collection site that does not drain to a watercourse and that does not receive a substantial amount of upslope run-on.
- Refuse containers should have lids that will remain closed to prevent rain exposure. Bins should be leak proof.
- Waste collection should be scheduled to prevent overflow of refuse.
- Trash, material cuttings, and any other waste should be managed or disposed of at the end of each workday and prior to an anticipated storm event.
- Portable lavatories should be used and maintained in accordance with manufacturer's recommendations; staked to the ground to prevent being knocked over by wind; and lavatory waste must be treated off-site.

Material Transport or Movement

- Material should be transported in appropriate containers or vehicles so that facility locations outside the project boundaries and public roadways will not be adversely impacted through sediment tracking or waste spillage.
- Spill control equipment should be present during any transfer operations.
- Movement of liquid filled containers or transfers of oil or chemicals will not occur during precipitation events
- Containers must be upright and secured to the vehicle/hand truck it is being transported on
- Drums are not to be rolled or tipped, even while empty, to prevent damage to containers
- Containers will be inspected before and after they are transported for leaks or damage.
- Storm drain covers will be used at adjacent storm drains if necessary to prevent a potential spill from entering the storm drain before it would be controlled.
- Transfers from portable containers to equipment occur away from storm drains. Spigots or pumps should be used, do not pour directly from drums. Consider placing absorbent mats before a transfer occurs.

Vehicle and Equipment Refueling & Maintenance

Vehicle and equipment control techniques include:

- Properly covering and providing secondary containment for fuel drums and other similar materials.
- Refueling of equipment shall be conducted at least 100 feet from any storm drain, drainage, or wetland, including dry arroyos.
- Refueling operations will be completed such that head space is provided within fuel tanks to allow for fuel expansion.
- Develop and implement spill prevention and cleanup plan.

- Maintain a spill kit on site.
- Use a covered, paved area dedicated to vehicle maintenance.
- Wash vehicles and equipment only at facilities approved for washing activity.
- All vehicles and equipment will be observed for leaks and if found drip pans will be used until fixed.
- Leaks will be fixed as soon as practicable and leaking vehicles and equipment will be removed from service and repaired.
- Spills of all products will be cleaned up and managed per applicable state and federal regulations.

Potholing

- Spoils must be properly disposed of.
- Discharge spoils only in approved designated areas.
- Do not discharge to the environment any glycol treated water.

Concrete Washouts

Concrete washouts should be used to contain concrete and liquids when rinsing equipment used for mixing or delivering concrete, or for excess concrete. They consolidate solids for easier disposal and prevent contaminated water from mixing with runoff.

- Washouts should be located a minimum of 100' from a watercourse or storm drain and in a location that allows convenient access for concrete trucks and equipment.
- Containment areas will not be constructed in areas designated as Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), or Treatment Storage and Disposal Facilities (TSDFs).
- Washouts are typically built below grade to prevent breaches and reduce runoff.
- Washouts should be sized to manage both concrete washout and storm water accumulation from precipitation events.
- Use appropriate control measures that act as a continuous line barrier to prevent the runoff of discharges and the co-mingling of discharges with storm water.
- Prefabricated washout containers must protect against spills and leaks, be watertight, and should be used in accordance with manufacturer specifications.
- Inspect washout area for damage and repair as necessary to ensure structure integrity.
- Once a washout facility has reached 75% capacity the materials should be removed and properly disposed of.

Street Sweeping

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways.

- Vacuuming is essential because sweeping alone may cause dust pollution and off-site sediment transport.
- Points of site egress are especially vulnerable to off-site sediment tracking.

- A proper construction entrance/exit may be needed if street sweeping efforts are not sufficient to prevent sediment from leaving the site.
- Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).
- Sweeping should be performed at a frequency necessary to minimize visible sediment tracking from the site.

Inspection and Maintenance

- Check that materials are properly stored.
- Check that washout areas are being used.
- Check for vehicle leaks and proper maintenance.
- Check for tracking of sediment from site.

What not to do...



Sweeping without vacuuming causes severe dust migration leading to sediment transport offsite.



Improper waste disposal and storage of waste products. Containerize and separate waste items for proper disposal.

Scheduling Practices



- Options and Alternatives**
- Preservation of Existing Vegetation
 - Timing Considerations
 - Spill Prevention

- Objectives**
- Reduce or eliminate runoff pollutants

Description Scheduling practices are controls that are practices (as opposed to structural controls) that are used to reduce or prevent pollutants.

Applications Low cost alternative to structural BMPs.

Limitations Only prevents the initial migration of pollutants from the source.

Performance and Longevity In general, use of practices to prevent pollutants from contact with storm water is extremely effective.

Scheduling practices are implemented before project activities begin. These practices are temporary in nature and are only meant to last through the construction activity process.

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control	x		
Runoff Control	x		
Good Housekeeping			x

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Scheduling Practices	x			

Design and Construction Guidance

Downstream Impacts

Consider ways to ensure that runoff from your project does not affect sensitive locations downstream of your project such as wetlands, archaeological sites, Threatened and Endangered Species habitat, or SWMUs.

Timing Considerations

The timing and sequencing of soil disturbing activities can also be utilized as a BMP.

Construction site phasing involves disturbing only part of a site at a time to minimize erosion and runoff from inactive parts.

- Some projects may have timing restrictions for biological restrictions.
- Complete grading activities and stabilize disturbed areas on one part of the site before grading and construction commence at another part.
- Begin stabilizing the site or portions of the site as early as possible in the construction project.
- Consider installing permanent storm water management BMPs as early as possible in the construction project.
- Utilize permanent BMPs in place of temporary BMPs where possible.
- Plan to do construction outside of the rainy season (July-Sept) when possible.
- When working during monsoon season (July-Sept) recognize that sudden intense storms may occur and arrange your project so that pollutants are not left exposed to storm water and so that water does not run into excavations.
- In late February the ground starts to thaw and freeze.
- Do not drive heavy equipment on saturated soil.
- Plan revegetation efforts to coincide with the monsoon season.
- Re-seed prior to or at the beginning of the monsoon season to take advantage of seasonal rains.
- Schedule stabilization of disturbed areas as soon as possible.

Preservation of Existing Vegetation

- Existing vegetation includes low-growing vegetation classified as grasses and shrubs; and piñon-juniper, ponderosa pine and mixed conifer vegetation is classified as forested.
- Existing vegetation provides erosion control and storm water infiltration.
- Plan the project to disturb as small amount of existing vegetation as possible.
- Use paved areas for staging of equipment and waste bins.
- Preserve trees when possible.
- Stockpile topsoil from clearing and grubbing operations for reuse as soil conditioning to improve outcome of vegetative stabilization.
- Reuse brush from clear and grub operations as brush barriers or chop it into mulch.

Reusable BMPs

Reduce waste at the Lab by utilizing reusable BMP products such as S-Fence,

Eco-Blok, Gravel Bags, Triangular Silt Dike, and construction entrance tracking devices. These products can be re-used over and over again and moved between jobs.

Spill Prevention, Response and Reporting

Spill Prevention includes inspecting equipment regularly for safety, cleanliness and leaks; and implementation of appropriate controls. Equipment found to be leaking should be removed from service and repaired. When possible, park equipment on asphalt or concrete to minimize generation of waste materials caused by spills on soil.

If a spill occurs, the following procedures shall be followed:

WHO	Contact Responsibilities	Response Duties
Onsite workers	Contact EM&R at 7-6211 or 911 if necessary	Qualified workers may, but are not required to, clean up simple/small spills
EM&R	If EM&R is notified of a spill event, they will contact all additional applicable parties including ENV-RCRA	Respond per contingency plan
ENV-RCRA Water Quality	Completion of spill reports that are reportable to federal and state agencies. Provide oversight for spill mitigation activities.	Provide information to federal and state agencies.

Disposal occurs by the Waste Management Coordinator (WMC) per LANL Procedure P409 Waste Management <http://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=P409&FileName=P409.pdf>.

ENV-RCRA will complete required state, federal, and DOE Order 231.1A ORPS reporting requirements, in accordance with Laboratory and DOE policies and federal and state regulatory reporting requirements per P 322-3 Manual for Communication, Investigation, and Reporting Abnormal Events <https://policy.lanl.gov/pods/policies.nsf/MainFrameset?ReadForm&DocNum=P322-3&FileName=P322-3.pdf>.

Inspection and Maintenance

- Check for spills.

Silt Fence and S-Fence™



Product Types

- Silt fence
- S-Fence™

Alternatives

- Depending on surface and site conditions; gravel bags, wattles, or Triangular Silt Dike may be used.

BMP Objectives

- Sediment Control
- Sheet Flow Runoff Control
- Wind Erosion Control

Description

Silt fences are typically used as temporary perimeter controls around sites where construction activities will disturb the soil. They can also be used within the interior of a site. A silt fence consists of a length of woven, permeable geotextile, stretched between anchoring posts spaced at regular intervals along the site at low/downslope areas. The filter fabric should be entrenched in the ground between the support posts. When installed correctly, silt fences create ponding of runoff from the site, allowing transported sediment to settle out. Silt fences can be an effective barrier to sediment leaving the site.

The S-Fence is made from HDPE material and is much stiffer than the silt fence material. It is buried 3 inches in the ground and can be secured to an existing chain link fence or can be installed by itself and fastened to wood stakes. Each section is 7 feet long and comes in two heights: 10 inch and 14 inch. S-Fence is designed to allow water to flow through it and significantly reduces erosive energy and provides particle filtering.

Applications

Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as sheet flow. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length. Silt fence should not be used for runoff velocity control or placed in areas of concentrated runoff such as drainage channels and storm drain inlets and outlets. Silt fence should be installed along the contour to minimize channeling of runoff. They may also be placed perpendicular to prevailing winds at staggered intervals to address wind erosion. The same applications apply to S-Fence.

Limitations

- Do not install silt fences along areas where rocks or other hard surfaces will prevent uniformly anchoring the fence posts and entrenching the filter fabric. Improper installation prevents proper function.
- Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Do not install silt fences across streams, ditches, or waterways.
- High winds can make the filter fabric deteriorate faster, so installing fences in open, windy areas should be avoided.
- When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Siting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting storm water from these pools, causing further erosion damage.
- UV exposure degrades silt fence filter fabric, causing separation of the fabric strands which leads to greater potential for holes and wind damage.

Performance and Longevity

Studies have approximated the following effectiveness ranges for silt fences constructed of filter fabric that are properly installed and well maintained:

- Average total suspended solids removal of 70 percent
- Sand removal of 80 to 90 percent
- Silt-loam removal of 50 to 80 percent
- Silt-clay-loam removal of 0 to 20 percent.

Removal rates are highly dependent on local conditions and installation.

Silt fence in the LANL area will typically experience the onset of degradation due to UV exposure over a period of 6 to 12 months and will need to be maintained or repaired due to damage from wind and runoff.

S-Fence can also be used as a perimeter control but is made from an HDPE material and has a functional life greater than 4 years. It can also be reused. The product will stand up to winds and UV exposure and can be recycled at the end of its life.

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control			x
Runoff Control		x	
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Silt Fence	x			
S-fence	x			x

Design and Construction Guidance

Materials

Silt Fence

- The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, polyester, or polyethylene yarn.
- Choose the material based on the minimum synthetic fabric requirements shown in Table 1.

Table 1. Minimum requirements for silt fence fabric

Physical property	Requirements
Filtering efficiency	75%-85% (minimum): highly dependent on local conditions
Tensile strength at 20% (maximum) Elongation	Standard strength: 30 lb/linear inch (minimum) Extra strength: 50 lb/linear inch (minimum)
Ultraviolet radiation	90% (minimum)
Slurry flow rate	0.3 gal/ft ² /min (minimum)

S- Fence Product Characteristics

- Unit weight, 10" / 14" (Lbs/ft) (max) 0.35 / 0.48
- Reusable YES
- Functional life (minimum)(years) 4+
- Filter capability – AOS (ASTM D4751) (microns) 250
- Dimension – length per module (ft) 7
- Percentage Open Area (COE 22125-86) (min %) 20%
- Dimension (freeboard height in inches) 10.0 / 14.0
- Tensile Yield ASTM D-638 (lb/in²) 1800 - 2800
- Installed freeboard height (inches) 7.0 / 11.0
- Ultimate Tensile Strength: ASTM D-638 (lb/in²) 2000 - 2800
- Recyclable Post consumer #2 YES
- Service temperature (deg F) -30 to 160

Installation

- Standard-strength fabric can be reinforced with wire mesh behind the filter fabric to increase the effective life of the fence.
- Attach the filter fabric to wood or metal stakes at least 4 feet long. Stakes should have a minimum diameter of 2 inches if a hardwood like oak is used or at least 4 inches in diameter if soft woods such as pine are used. When using metal posts in place of wooden stakes, they should weigh at least 1.00 to 1.33 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties.
- Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches in a shingle pattern in the direction of runoff flow.

- Excavate a trench to anchor the bottom of the fabric fence at least 6 inches below the ground surface. The trench should be backfilled and the soil compacted over the toe of the filter fabric. Alternatively use a slicing machine to install the filter fabric.
- Install posts along the length of the fence at a height of 18 to 36 inches above the original ground surface. Posts should be driven into the ground a minimum of 12 inches. If standard-strength fabric is used with wire mesh, space the posts no more than 10 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 6 feet apart. Attach the filter fabric to the posts.
- The ends of the silt fence should be turned uphill to prevent flow from running around the ends of the fence.
- Install silt fence at least 6 feet from the toe of a slope.
- Once installed, silt fence should remain in place until all areas upslope have been permanently stabilized by vegetation or other means.

Inspection and Maintenance

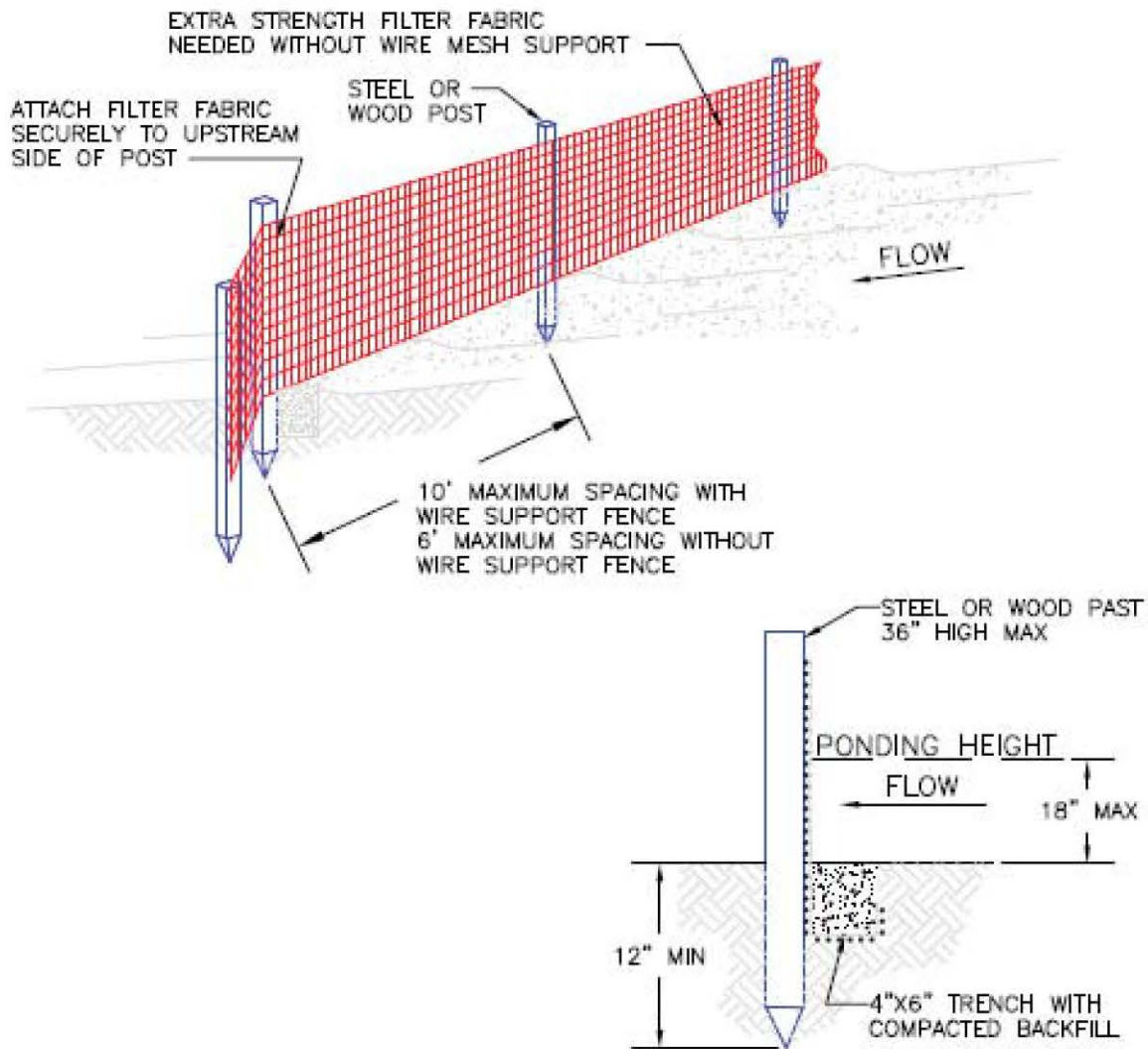
- Inspect fences to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence.
- If gaps or tears are found, repair or replace the fabric immediately.
- Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height.
- Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event.
- When removing the fence, remove the accumulated sediment as well.

What not to do...



Silt fence should be properly entrenched for proper operation.

SILT FENCE

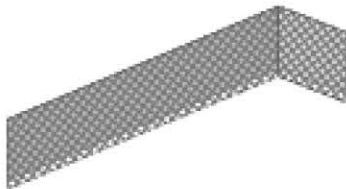
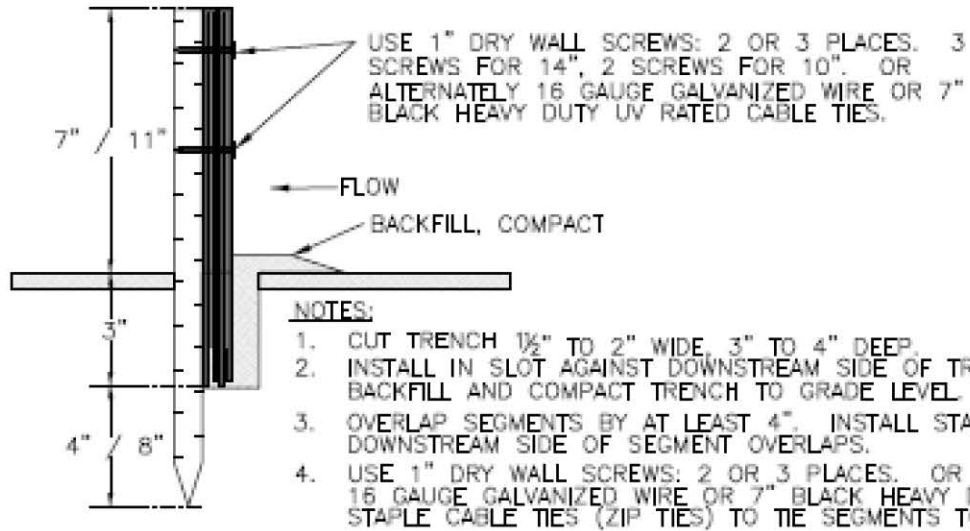


TRENCH DETAIL

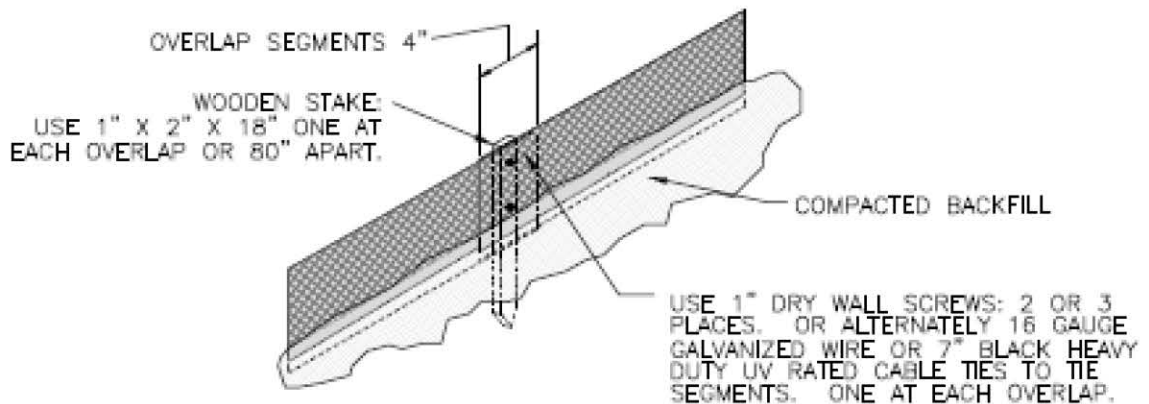
NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. WHEN USING WIRE MESH SUPPORT, EXTEND WIRE INTO TRENCH A MINIMUM OF 2 INCHES AND NO MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
3. THE ENDS OF THE SILT FENCE SHALL BE TURNED UPHILL.
4. PLACE SILT FENCE AT LEAST 6 FEET FROM THE TOE OF A SLOPE.
5. PONDING HEIGHT SHALL BE A MAXIMUM OF 18 INCHES WITH TRENCH INSTALLATION AND 9" WITHOUT TRENCHING.

ERTEC™ S-FENCE™



- NOTES:**
1. DOG-LEG AT END-OF-RUNS TO CONTAIN SEDIMENT.
 2. INSTALL ON SAME CONTOUR TO LIMIT SCOUR AND FLOW CONCENTRATION. DOG-LEG PERIODICALLY IF ON DOWN-HILL RUN TO MINIMIZE VELOCITY SCOUR.



Fiber Rolls



- | |
|--|
| <p>Product Types</p> <ul style="list-style-type: none"> • Straw Wattles • Terra-Tubes® • Coir Logs • Compost Socks • Gravel Bags <p>Alternatives</p> <ul style="list-style-type: none"> • Silt fence • Triangular Silt Dike |
|--|

- | |
|---|
| <p>BMP Objectives</p> <ul style="list-style-type: none"> • Sediment Control • Reduce Runoff Velocity • Inlet Protection |
|---|

Description

Fiber rolls are tube-shaped erosion-control devices filled with straw, flax, rice, coconut fiber material, gravel, or composted material. Common types of this BMP include: straw wattles, coir logs, compost socks, gravel bags, and Terra-Tubes®. Straw wattles are wrapped with UV-degradable polypropylene netting for longevity or with 100% biodegradable materials like burlap, jute, or coir. Coir logs are very similar to straw fiber rolls but are comprised of long lasting coconut fiber. They are also resistant to being consumed by wildlife. Compost socks and gravel bags are three dimensional tubular devices comprised of woven mesh fabric or other similar material and filled with gravel, rock or compost material. Terra-Tubes® are similar to fiber rolls except they are treated with special polymers that react (flocculate) with suspended soil particles, increasing the ability of the suspended solids to settle.

These devices can be used to break up a slope length, reducing the effects of runoff on long or steep slopes. They also help reduce sediment loads to receiving waters by filtering runoff or capturing sediments. Fiber roll BMPs can be used as check structures to reduce runoff velocity and can be placed around storm drain inlets for velocity and sediment control.

Applications

- Along the toe, top, face, and at-grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- Along the perimeter of exposed soil areas.
- Gravel bags only can be used as check dams in unlined ditches.
- Around temporary stockpiles (on dirt).
- Around storm drain inlets (see Section 3.5).

Limitations

- They have a limited sediment capture zone.
- Some may have problems with ice buildup.
- Must be trenched in to function properly.
- Straw and rice fiber rolls are susceptible to damage and consumption by wildlife.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control			x
Runoff Control		x	
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Straw, Coir logs	x	x		
compost socks	x			x
gravel bags/snakes	x			x

Design Criteria and Construction Specifications

Materials

- Most will come prefabricated. Some may require filling onsite, such as gravel bags and compost socks.
- Straw fiber rolls must be at least 8” diameter. To be effective, fiber rolls at the toe of slopes must be at least 20 inches in diameter. An equivalent installation, such as stacked smaller-diameter fiber rolls, can be used to achieve a similar level of protection.
- Compost socks: the compost shall be free of any refuse, contaminants or other materials toxic to plant growth. Non-composted products will not be accepted. Filter socks used for erosion control are usually 12 inches in diameter.
- Gravel bags: filled with clean 3/4” crushed or 1/4” pea gravel. If subject to impact from equipment or vehicles, fill bags only ½ to ¾ full with non-angular rock.
- Terra-Tubes® can be used where additional reductions in turbidity are required.
- Stakes installed per manufacturer recommendations.

Installation.

- On projects with slopes, install fiber rolls along the contour with a slight downward angle at the end of each row to prevent ponding at the midsection. Turn the ends of each fiber roll upslope to prevent runoff from flowing around the roll.
- Install fiber rolls in shallow trenches dug 3 to 5 inches deep for soft, loamy soils and 2 to 3 inches deep for hard, rocky soils.
- Determine the vertical spacing for slope installations on the basis of the slope gradient and soil type. General Guidance is as follows:
 - 1:1 slopes = 10 feet apart
 - 2:1 slopes = 20 feet apart
 - 3:1 slopes = 30 feet apart
 - 4:1 slopes = 40 feet apart

- Fiber rolls can be anchored in the following ways:
 1. Drive the stakes through the middle of the fiber roll and deep enough into the ground to anchor the roll in place. About 3 inches of the stake should stick out above the roll, and the stakes should be spaced 3 to 4 feet apart.
 2. Stakes may be placed on each side of the roll tying across with a natural fiber twine or staking in a crossing manner ensuring direct soil contact at all times.
- Gravel bags do not require staking.
- Terminal ends of fiber rolls may be dog legged up slope to ensure containment and prevent channeling of sedimentation.
- Backfill the length of the fiber roll with the excavated soil and compact.

Inspection and Maintenance

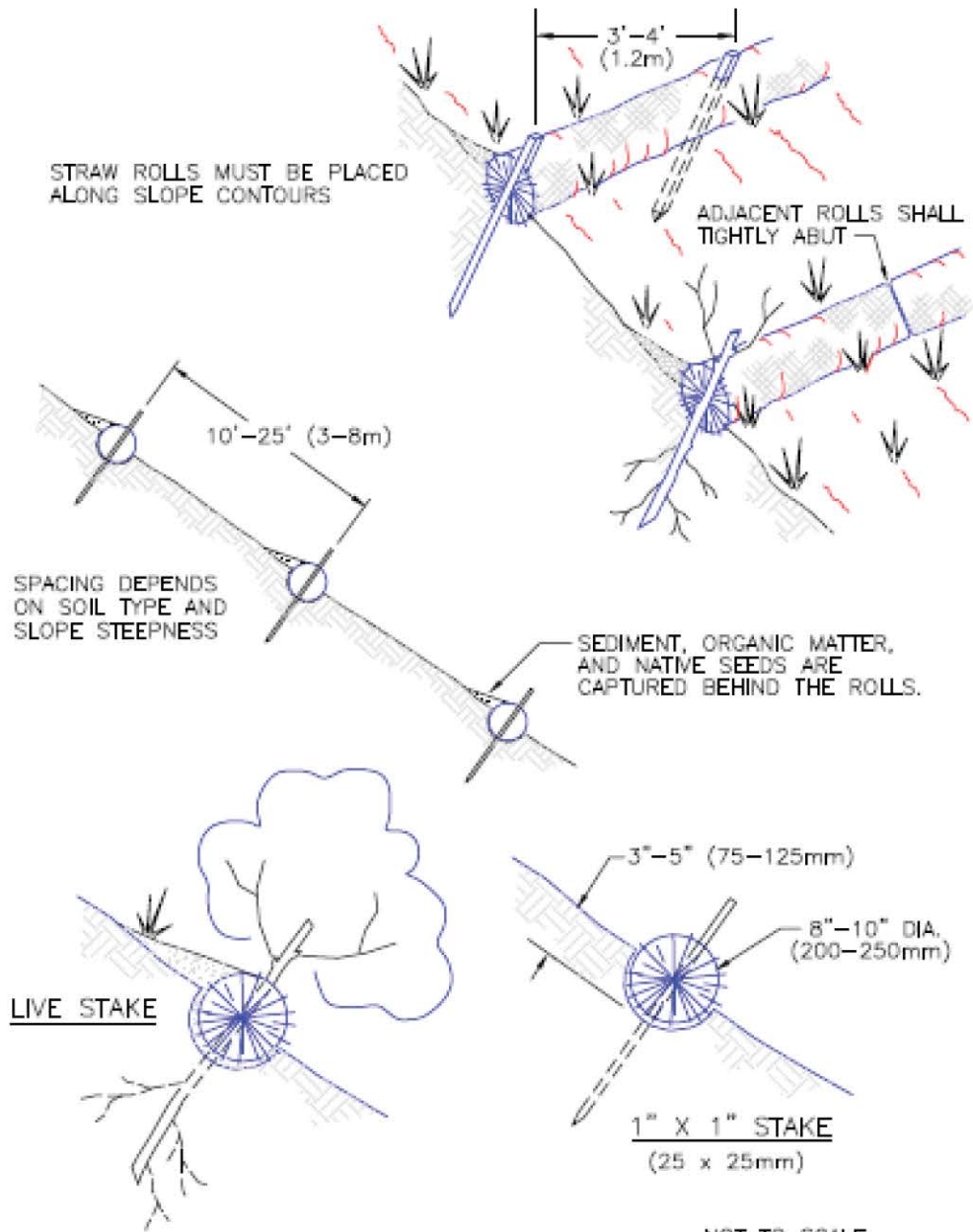
- Ensure that the rolls remain firmly anchored in place and are not crushed or damaged by equipment traffic.
- Check that fiber rolls are trenched in and no gaps exist under the rolls.
- Check that fiber rolls are adequately aligned with the next roll. Either overlapped uphill of the next or doglegged.
- Check that fiber rolls are securely anchored.
- Repair or replace split, torn, unraveled, or slumping fiber rolls.
- Rills or gullies upslope of the rolls and any undercutting is to be repaired.
- Sediment deposits shall be removed when the sediment reaches one-third of the fiber rolls functional freeboard height. Removed sediment shall be deposit within the project in such a way that the sediment is not subject to erosion by wind or water.
- Additional fiber rolls can be placed on top of existing ones to increase sediment capacity.

What not to do...



A rill is forming under the fiber roll. The rill should be filled in. The fiber roll should be properly entrenched into the soil so that water velocity is decreased and water is forced to pool behind to promote sedimentation and flow over the fiber roll.

STRAW ROLLS



NOTES:

1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

Triangular Silt Dike



- Alternatives**
- Silt fence (perimeter control)
 - Gravel bags
 - Rock check dams
 - Berms (flow diversion)

- BMP Objectives**
- Velocity Dissipation
 - Sediment Trapping
 - Perimeter Sediment Control

Description

A Triangular Silt Dike (TSD) is a prefabricated triangular shaped piece of foam encased in filter fabric with built in aprons on both sides of the foam body. It is typically used as a temporary control to help reduce the velocity of storm water in a channel or swale or as a perimeter sediment control. A TSD can also be used as a diversion berm to divert storm water around a site or direct the storm water within a site. TSDs can withstand light vehicle traffic.

Applications

- Use in channels and swales as a temporary check dam.
- Use as a diversion berm to divert water within or around the site, or as a temporary lined channel.
- Use as inlet protection.
- Use as a sediment control around disturbed areas and soil stockpiles.

Limitations

- Ends of TSD sections must be tightly joined to prevent storm water from bypassing the control.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention		x	
Sediment Control			x
Runoff Control			x
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Triangular Silt Dike	x	x		x

Design Criteria and Construction Specifications

Locate TSD as you would other similarly used BMPs.

- Tuck the ends of adjacent flaps on the dike together to ensure there are no gaps between TSD sections and secure with U-shaped staples, pressing the staples through the fabric and foam material.
- Trench in and staple the leading edge (apron) on the uphill sides to prevent undercutting.
- Staple the apron to the ground at the base of the dike on the downhill side.
- Ensure that the dikes are placed appropriately for the specific use (see check dam and silt fence sections)
- When used as a check structure, ensure that the center of the TSD is lower than the outside edges. This can be done at any point by driving one or more U-shaped staples into the TSD and compressing the foam.

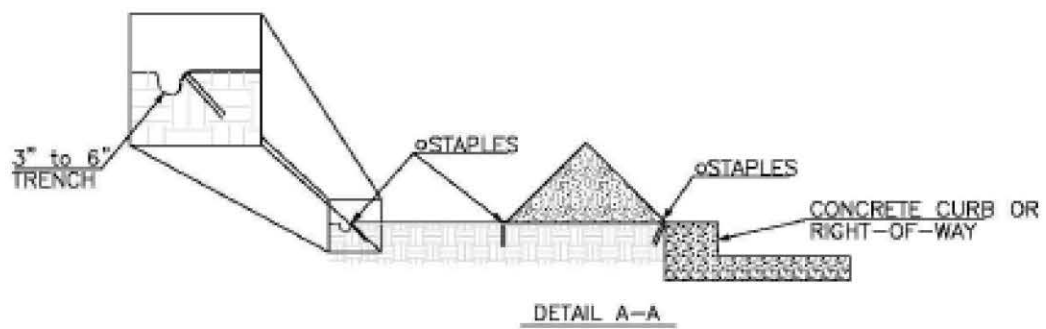
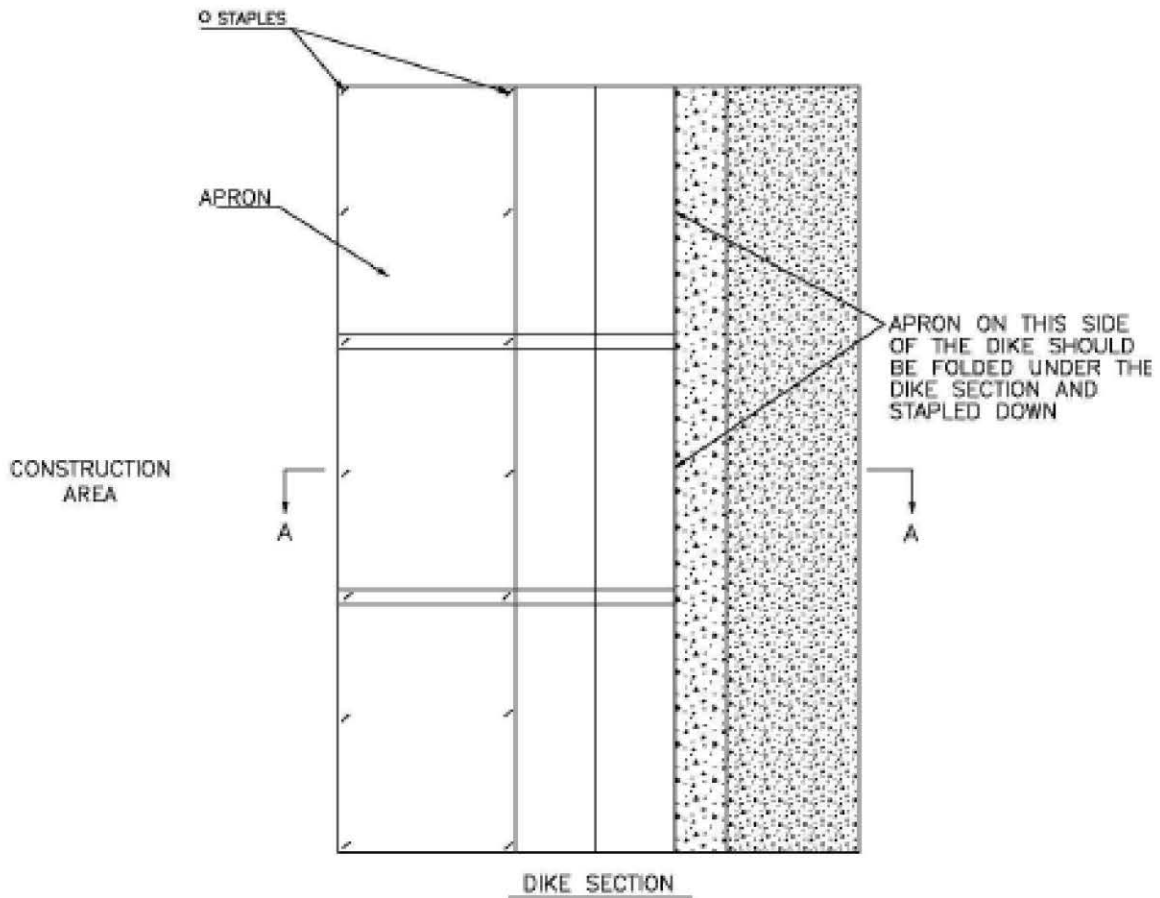
Inspection and Maintenance

- Evidence of erosion, undercutting, bypassing, or other damage in the surrounding area.
- Removed sediment accumulations shall not be placed within any drainage, either above or below the BMP. Removed sediment shall be stabilized to prevent future migration from storm water runoff.

What not to do...

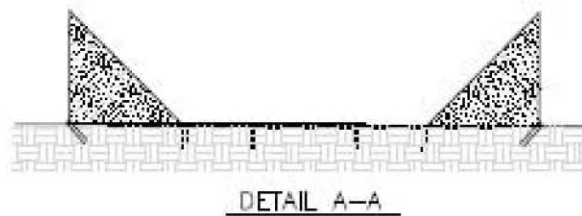
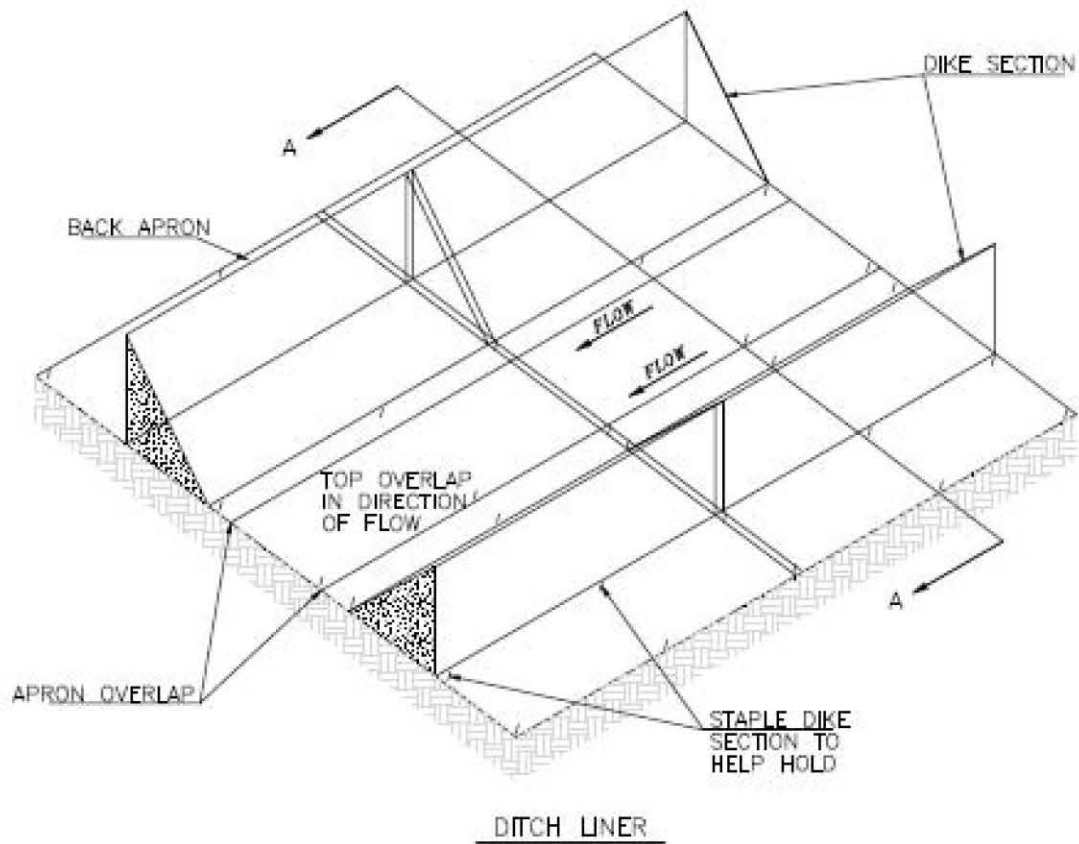
Note that the Triangular Silt Dike sections are not properly joined together and that cinder blocks have been utilized to fill the gap. Sediment accumulations need to be removed from the Triangular Silt Dike.

TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER

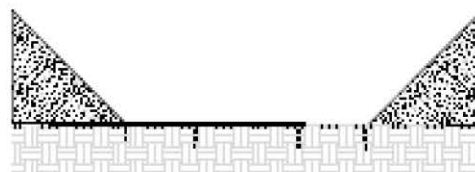
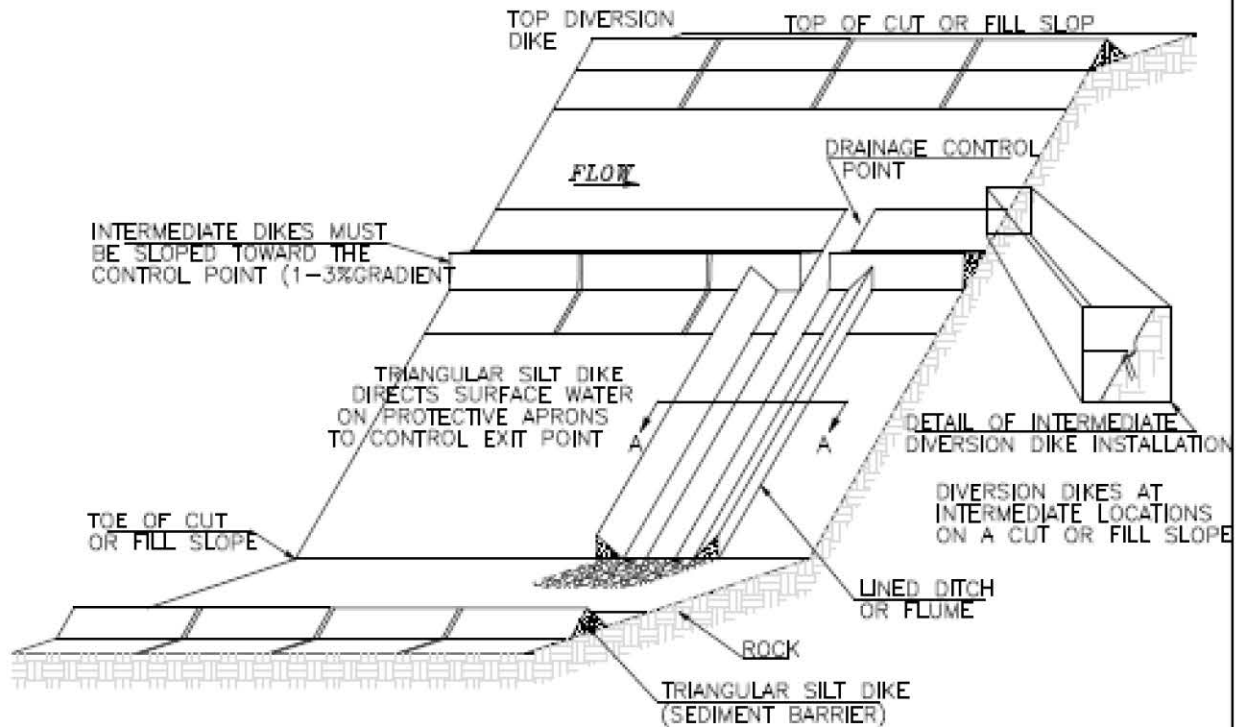


STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE 7' UNIT AS SHOWN ON THE DIAGRAMS.

TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

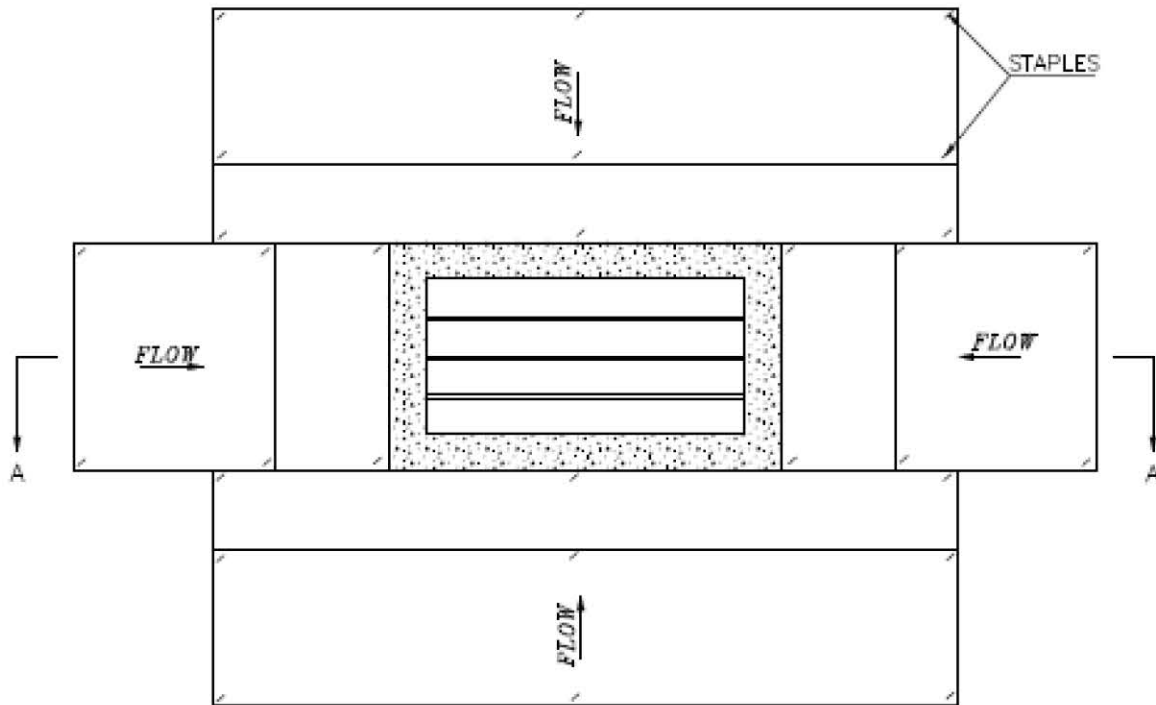


TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DIKES

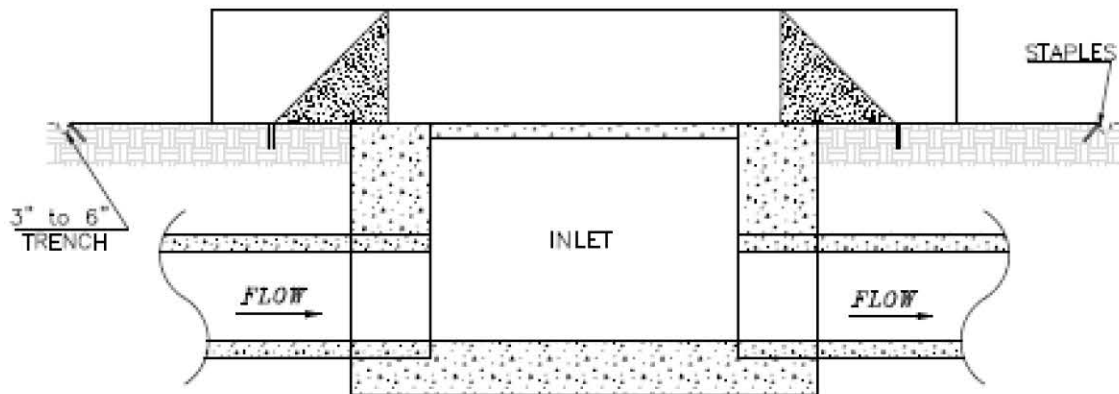


TEMPORARY DITCH LINER
DETAIL A-A

TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS

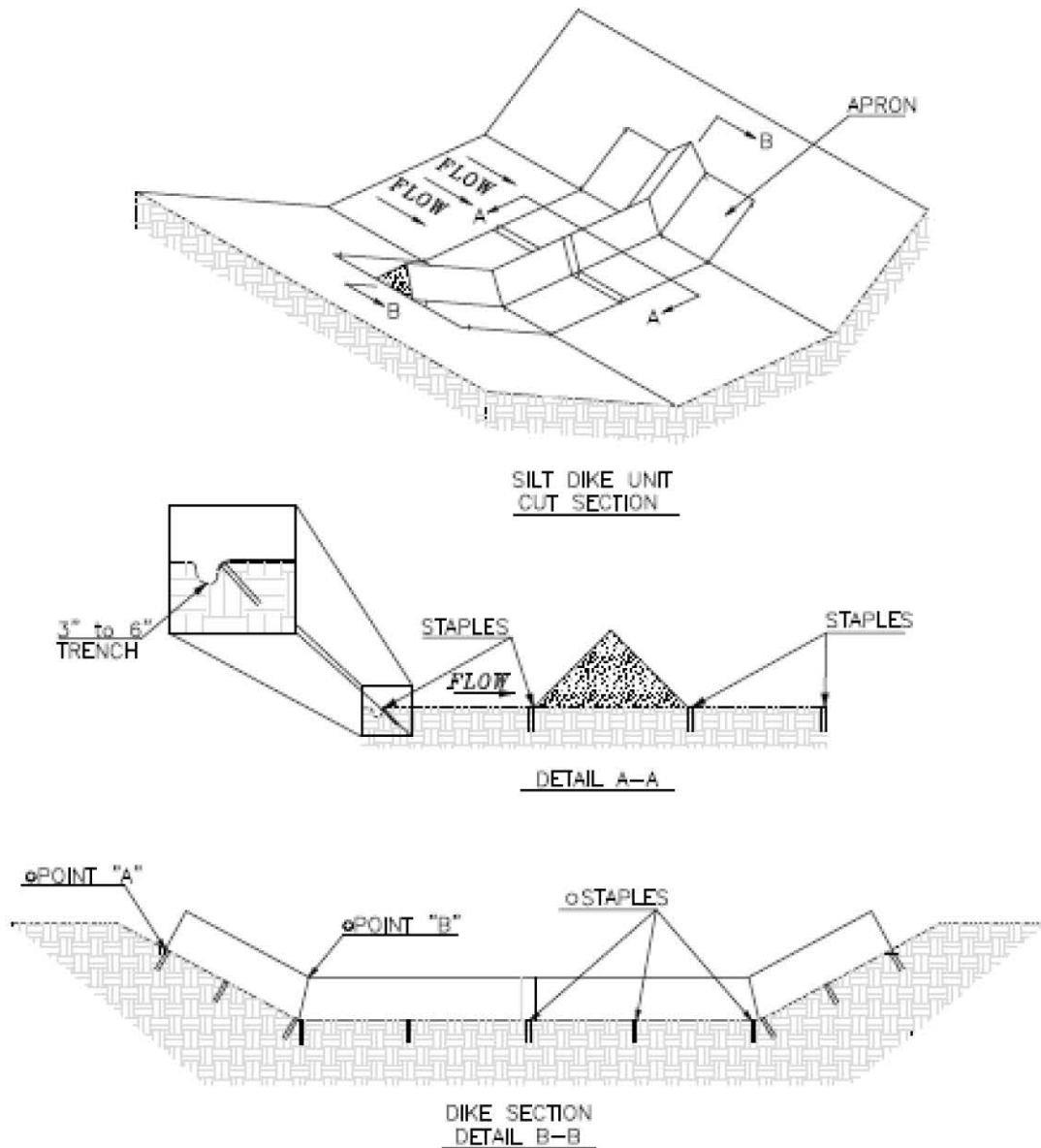


DROP INLET
PLAN VIEW



DETAIL A-A

TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH



o POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

o STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE 7' UNIT AS SHOWN ON THE DIAGRAMS

Construction Entrance/Exit



Product Types

- Rock
- Grizzly Tracker® or similar
- Tire washer

Alternatives

- Sweeping

BMP Objectives

- Good Housekeeping
- Sediment Control

Description

A temporary construction entrance/exit is an area with a singular or series of controls established to manage and reduce off-site tracking of sediment from equipment and vehicles. It reduces the sediment that collects on vehicle tires and minimizes off-site tracking of sediment.

Applications

- Locations where mud tracking is a problem during wet weather or where dust is a problem during dry weather.
- Locations where construction activities are adjacent to roadways.

Limitations

- May require replacement of rock during project.
- Requires a large entrance space.
- Can be high maintenance when rock is the only material used.
- Must be used in conjunction with sweeping for optimal performance.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control		x	
Runoff Control	x		
Good Housekeeping			X

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Gravel/Rock	x			
Grizzly Tracker®		x		x

Design Criteria and Construction Specifications

- Ensure that entrance cannot be bypassed by vehicles and equipment.

Rock entrance

- The rock used for pad construction shall be 4-6 inch maximum size aggregate. Do not use base course.
- Geo-textile fabrics must be used to improve the stability of the pad foundation.
- Rock shall be spread to a minimum thickness of 6 inches.
- Rock placement shall conform to the grade and dimensions shown on the design drawings.
- The pad shall extend the full width of the entrance/exit. Minimum pad width shall be 10 feet.
- Minimum pad length shall be 50 feet.

Grizzly Tracker® or similar

- Install per manufacturers recommendations, typically a minimum of 16'.

Wheel Wash Stations

- Use per manufacturers recommendations.

Inspection and Maintenance

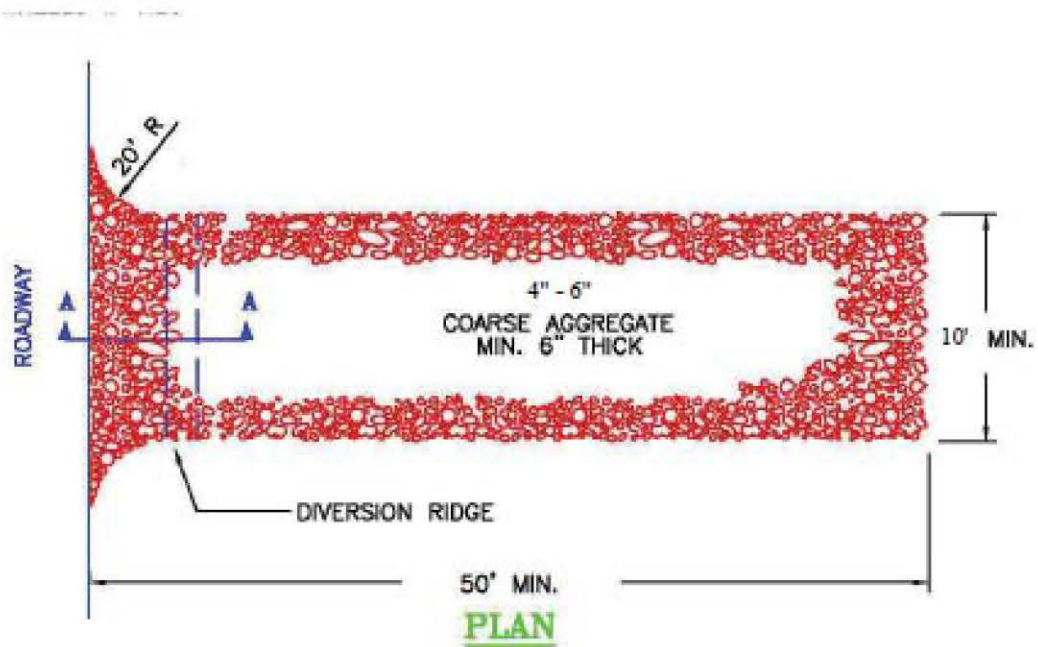
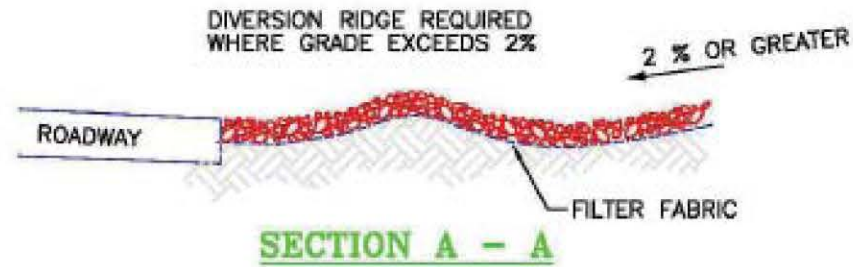
- Inspect for sediment accumulations and the need to remove the accumulations or replace gravel.
- Inspect for compaction of the rock into the surrounding ground, creating a surface that does not adequately shake vehicles as they pass over the entrance. As required, add additional layers of rock to the pad to prevent off-site tracking of sediment.
- Inspect for signs of vehicles bypassing the entrance and block off alternate egress routes.

What not to do...



Failure to install a construction entrance has lead to sediment transport offsite.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL MINIMIZE SEDIMENT TRACKING OR TRANSPORT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE ADDING ADDITIONAL LAYERS OF GRAVEL, REPAIR AND/OR CLEANOUT OF MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC ROADWAYS.

Brush Barrier



- Product Types**
- Logs
 - Brush
 - Felled Trees
 - Prefabricated Juniper Bales
- Alternatives**
- Silt fence
 - Fiber Rolls
 - Berms

- BMP Objectives**
- Sediment Retention

Description Branches, limbs, and brush are piled at the downhill edge of the site to provide minor runoff pooling to reduce offsite sediment transport.

- Applications**
- Place below the toe of exposed and erodible slopes and at low points of site perimeter.
 - Downslope of exposed soil areas.
 - Linear construction projects.

- Limitations**
- Adequate brush may not be readily available.
 - Cannot be used on steep slopes (>3:1).
 - Only applicable for sheet flow runoff and minor concentrated flow.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control		x	
Runoff Control		x	
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
brush barrier	x	x		

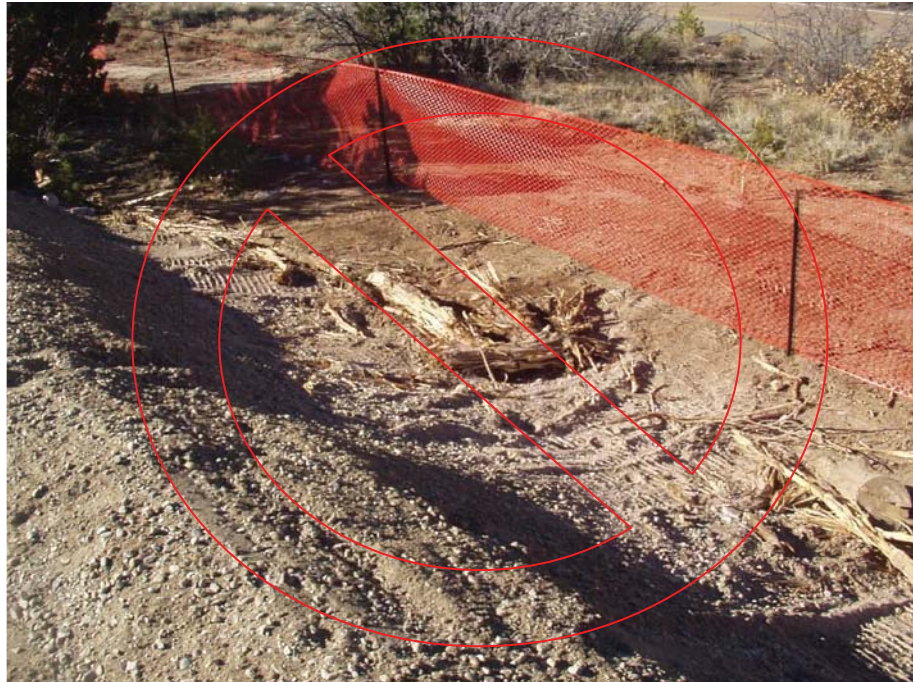
**Design Criteria
and Construction
Specifications**

- Barriers can be constructed of cleared and grubbed materials such as brush and logs.
- Brush barriers can be covered with a filter cloth to stabilize the structure and improve barrier efficiency if fabric can be entrenched and anchored on the upslope side.
- Ensure that brush and tree limbs are not removed from an area of contamination.
- Juniper Bales are premade in bound form.
- When placed at the toe of a slope, the barrier should be installed a minimum of 5-6 feet away from the toe of the slope.
- Pile barrier material uniformly in a row, minimizing voids. Minimize the amount of top soil included with the barrier material. Fill gaps with appropriate loose material. To anchor the barrier, place wooden stakes along the downhill edge.
- Logs shall be entrenched into the ground in order to capture sediment. Soil berms may be used to help entrench logs where extreme rock areas are encountered.
- Juniper bales should be embedded in a trench that has been excavated to a minimum depth of 4 inches. Backfill material shall be firmly compacted. Bales should tightly abut one another. Anchor the bales in place with 2 x 2 inch stakes or rebar through each bale.
- Ensure barriers are only located in areas with sheet flow runoff or minor concentrated flow.

**Inspection and
Maintenance**

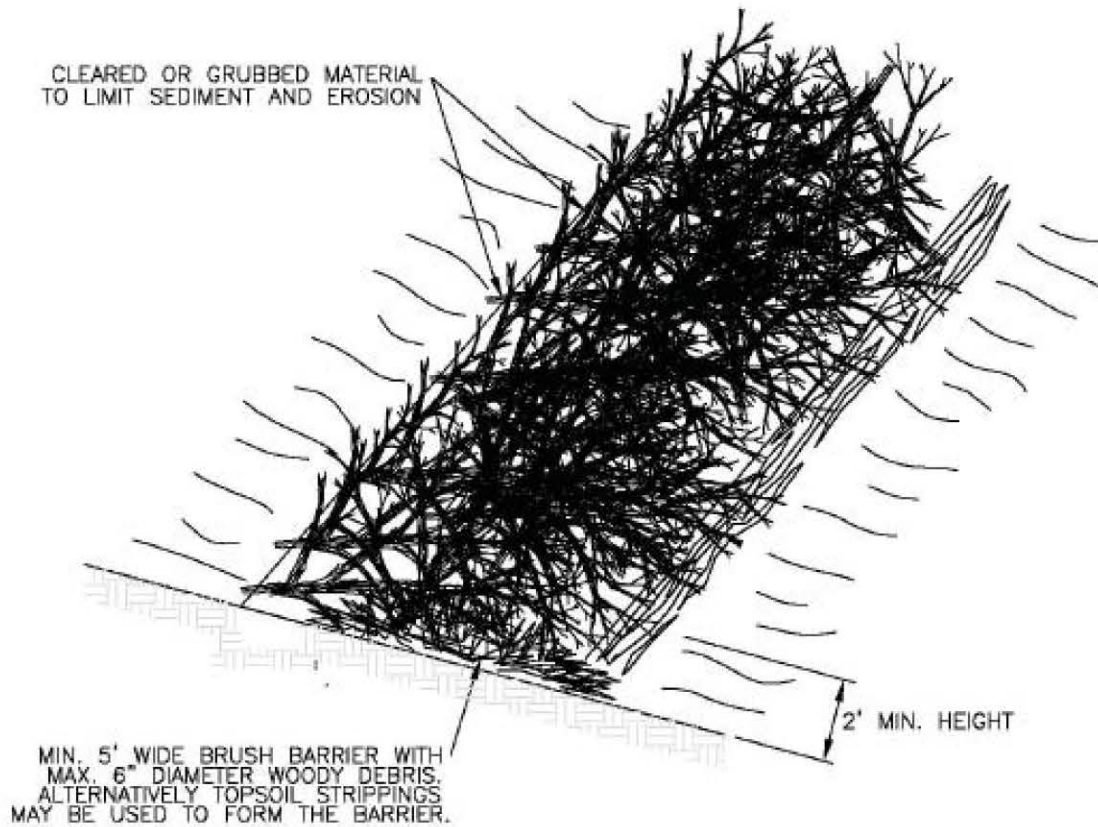
- Ensure logs and bales are entrenched into ground or have adequate berming to capture sediment.
- Look for gaps in brush barriers
- Barriers can be left in place throughout final stabilization as final site conditions allow or barriers can be shredded and used as mulch on the site.
- Closely inspect juniper bales for deterioration.
- Remove accumulated sediment when it reaches 1/3 to 1/2 the height of the barrier. Removed sediment accumulations shall not be placed within any drainage, either above or below the BMP. Removed sediment shall be stabilized to prevent future migration
- If channels form through or around the barrier, the barrier should be reconstructed to eliminate the channels.
- If barriers are subject to concentrated runoff, or are undermined or overtopped, replace with a more appropriate BMP or add additional controls to the site.

What not to do...



Notice how the down slope perimeter is unprotected with minimal brush, insufficient for adequate sediment control.

BRUSH BARRIER



NOTES:

1. BARRIER MAY BE CONSTRUCTED WITH CLEARED OR GRUBBED MATERIAL SUCH AS BRUSH, TREE LIMB, ROOT MATERIAL, SOIL, AND ROCK.
2. PONDING HEIGHT SHALL NOT EXCEED 2/3 OF THE HEIGHT OF THE BARRIER.
3. BARRIER SHALL BE INSTALLED A MINIMUM OF 5 TO 6 FEET FROM THE TOE OF A SLOPE.

Storm Drain Inlet Protection



- | |
|---|
| <p>Product Types</p> <ul style="list-style-type: none"> • Block and Gravel • Gravel bags • Prefabricated Inserts and Pop-ups • Prefabricated Inlet Filters • Eco Blok |
| <p>BMP Objectives</p> <ul style="list-style-type: none"> • Sediment Control • Runoff Control |

Description The purpose of inlet protection is to filter sediment while still allowing storm water to drain to the inlet or to create ponding around an inlet to allow transported sediment to settle out. These measures are temporary and are implemented before a site is disturbed.

Applications Where sediment laden surface runoff may enter an inlet.

- Limitations**
- Typically requires additional upstream controls for optimal performance.
 - Most effective only when placed in a sump condition.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention	x		
Sediment Control			x
Runoff Control	x		
Good Housekeeping			x

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Block and gravel	x			
Gravel bags, prefabricated inserts, pop ups, and inlet filters	x			x

Design Criteria and Construction Specifications

- Choose the BMP appropriate for the location and type of inlet. Some hold up to traffic or are low profile, and some are suitable for use in sites still under construction that require higher ponding levels.
- *Block and Gravel:* Block and gravel inlet barriers should be at least 1 foot high (2 feet maximum). Lay the bottom row of blocks at least 2 inches below the soil surface, flush against the drain for stability. Place one block in the bottom row on each side of the inlet on its side to allow drainage. Place 1/2-inch wire mesh over all block openings to prevent gravel from entering the inlet. Place gravel (3/4 to 1/2 inch in diameter) outside the block structure at a slope no greater than 2:1.
- Install in a sump condition
- Ensure BMP does not divert flow and create downstream flooding.
- Ensure BMP placed in locations subject to traffic have overflow capabilities to minimize potential for upstream flooding and traffic hazards.
- *Pre-manufactured devices:* Install per manufacturer’s instructions.

Inspection and Maintenance

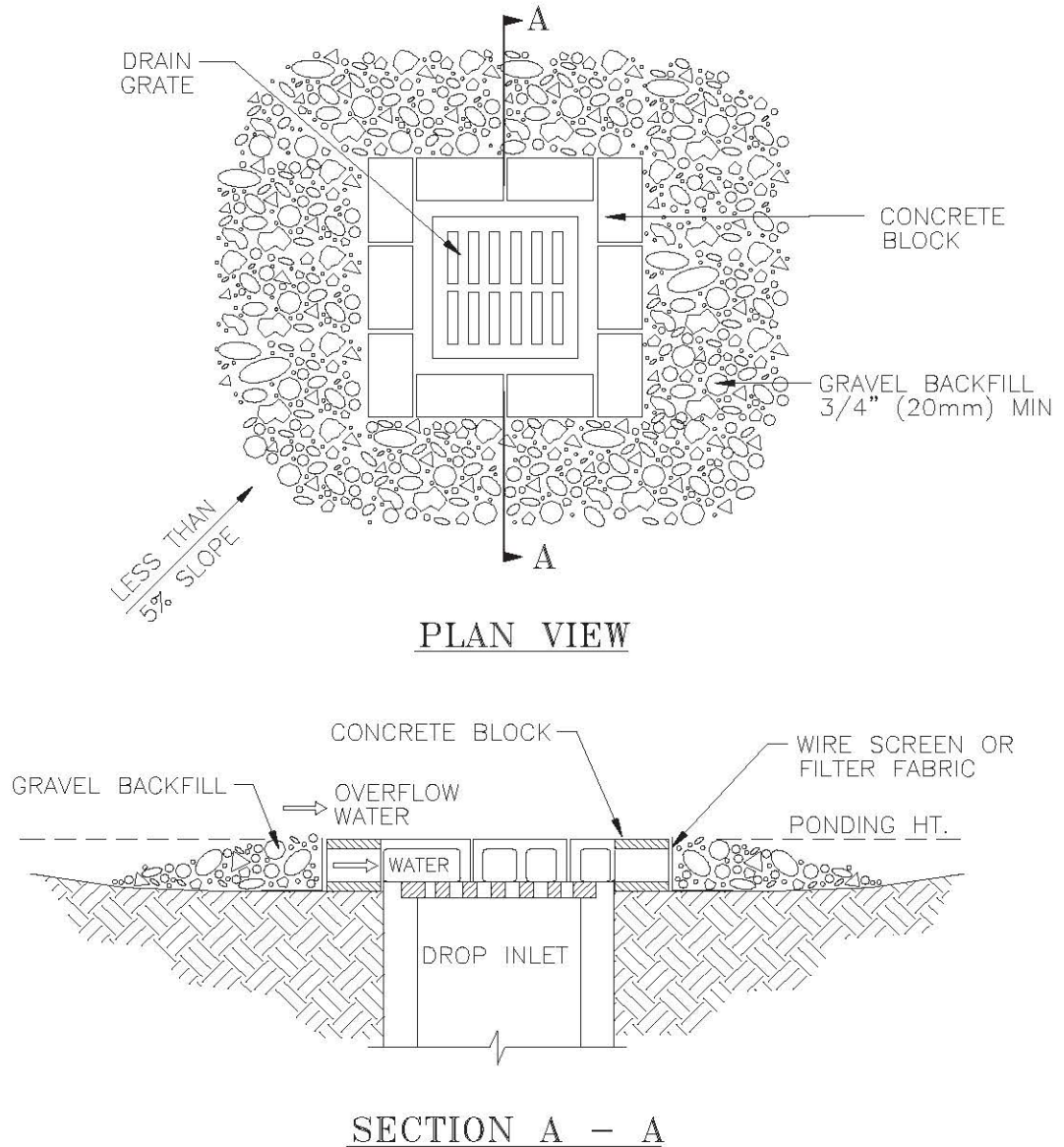
- Ensure there is a spillway
- Accumulated sediment shall be removed when it reaches 1/3 to 1/2 the height of the inlet protection.
- Storm drain inlet protections shall be removed when the area has been finally stabilized.
- Removed sediment accumulations shall not be placed within any drainage, either above or below the BMP. Removed sediment shall be stabilized to prevent future migration from storm water runoff.
- Ensure there are no gaps under or between elements of the inlet protection.
- Check materials for tears.

What not to do...



Remove sediment and debris in a timely manner from storm drains.

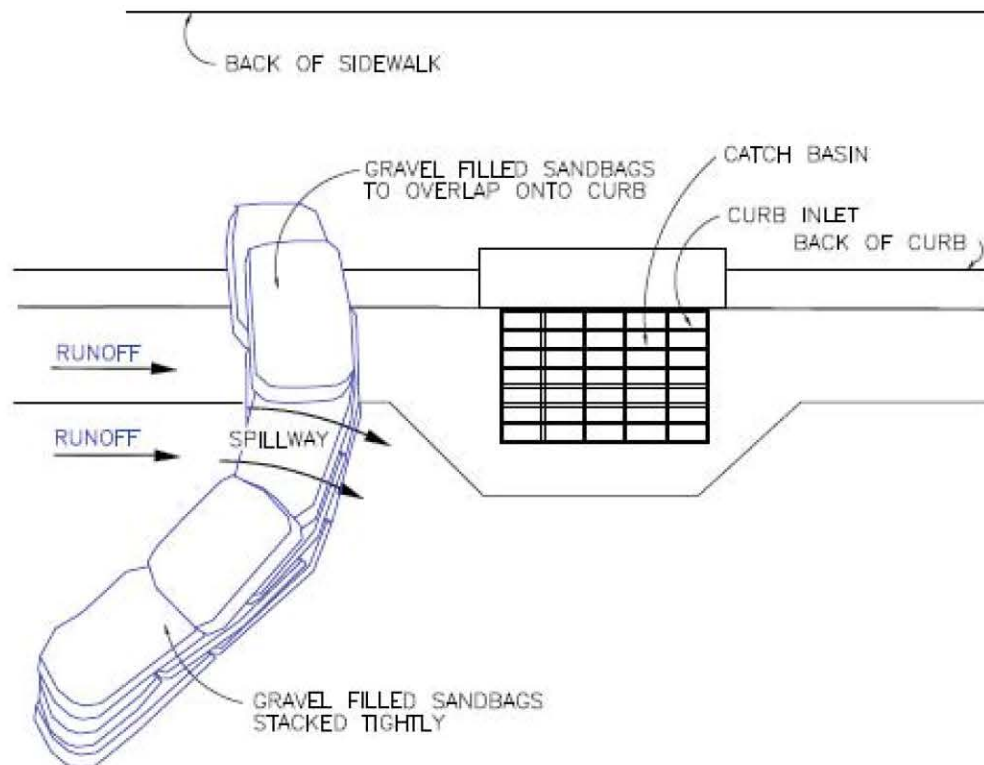
BLOCK AND GRAVEL DROP INLET SEDIMENT BARRIER



NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL (LESS THAN 5%) DRAINAGE AREAS.
2. BLOCKS SHALL BE EMBEDDED IN A TRENCH AROUND THE INLET TO A MINIMUM DEPTH OF 3", WITH THE ENDS TIGHTLY ABUTTING.
3. BACKFILL THE BLOCKS WITH GRAVEL TO ASSIST IN SEDIMENT RETENTION.
4. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET.

CURB AND GUTTER SEDIMENT BARRIER

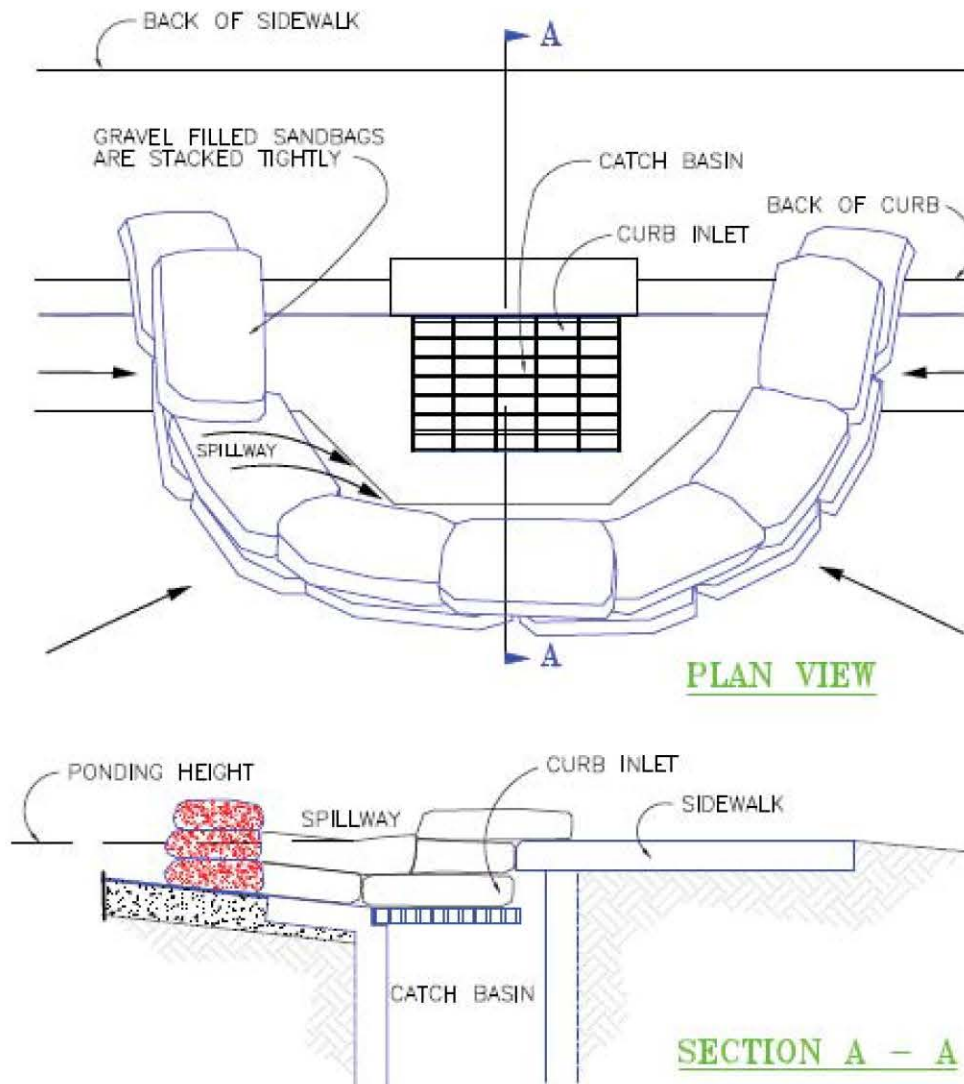


PLAN VIEW

NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS SHOULD BE FILLED WITH 3/4" DRAIN ROCK OR 1/4" PEA GRAVEL LAYERED AND PACKED TIGHTLY.
3. ENSURE THAT SANDBAG MATERIAL SHALL BE A TYPE OF GEOTEXTILE THAT WILL NOT RAPIDLY DETERIORATE.
4. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.

CURB INLET SEDIMENT BARRIER (SANDBAGS)



NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS SHALL BE FILLED WITH 3/4" DRAIN ROCK OR 1/4" PEA GRAVEL LAYERED AND PACKED TIGHTLY.
3. ENSURE THAT SANDBAG MATERIAL SHALL BE A TYPE OF GEOTEXTILE FABRIC THAT WILL NOT RAPIDLY DETERIORATE.
4. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.

Berms and Channels



- Options and Alternatives**
- Swale/berm combination
 - Rock berms
 - Log berms
 - Triangular Silt Dike®

- BMP Objectives**
- Runoff Control
 - Run-on Diversion

Description

Berms and channels are most often used to prevent run-on from eroding an exposed or disturbed area, and to divert sediment-laden runoff to a sediment trap, sediment basin or other suitable, stabilized discharge outlet. When used as a temporary control, berms are most often constructed from compacted soil or loose gravel, stone, or crushed rock. Berms may serve as a permanent structural control when constructed from asphalt, concrete, or other similar material. Channels can be incorporated into a berm design or function as a stand-alone BMP, and are typically constructed from compacted soil or lined with a suitable material.

Applications

Effective in diverting run-on away from unprotected areas and reducing flow velocities; effective to retain small amounts of runoff and sediment onsite.

Limitations

- A berm with a height of over 2 feet or located in an area where failure of the berm would result in damage to facilities, the environment or other safety issues requires an engineered design.
- Increased potential for failure if the upslope gradient is too great, resulting in high velocity flows.
- Earth berms may require vegetative stabilization to prevent erosion of the berm itself.
- Excessive sediment accumulation on upslope side of berm needs frequent clean-out.
- Channels may require engineering calculations to ensure the channel material is adequate to withstand flow velocity and shear stress.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention		x	
Sediment Control		x	
Runoff Control			x
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Earth and base course	x	x		
Asphalt and concrete			x	
Prefabricated channels and culverts	x	x	x	x
Prefabricated barriers	x			x

Design and Construction Guidance

- Berms should be constructed during initial land-disturbing activities and must be operational prior to upslope land disturbance.
- A shallow trench or swale to contain the diverted run-on/runoff can be incorporated into the berm design.
- Where applicable, on-site material should be used for berm construction.
- Berm material needs to meet requirements for gravelly clay or sandy clay. Do not use gravelly sand or gravelly loam to construct berms.
- When used as a perimeter or down slope control, berms should divert runoff to a sediment trapping control such as a sediment trap or basin.
- Berms should be located so as to minimize damage by construction operations and traffic.
- Triangular Silt Dike® berms can be used in locations subject to minor traffic flow.
- Earth berms must be adequately compacted to prevent failure.
- Logs must be delimbed, trenched in and backfilled. If necessary, secure with wooden stakes on either side of the log.
- Rock berms must be constructed of large angular rock. Height and depth of the berm is dependent on the expected storm water flow. Ends of berm should be brought forward to help contain the flow.
- Channel material must be adequate to withstand flow velocity and shear stress.
- Ensure channels are designed and constructed with a defined flow line adequate to convey flows.
- Spillways on berms should be at least 6 inches in depth and should be protected against scour. Use rock or TRM for stabilization of the spillway.

Inspection and Maintenance

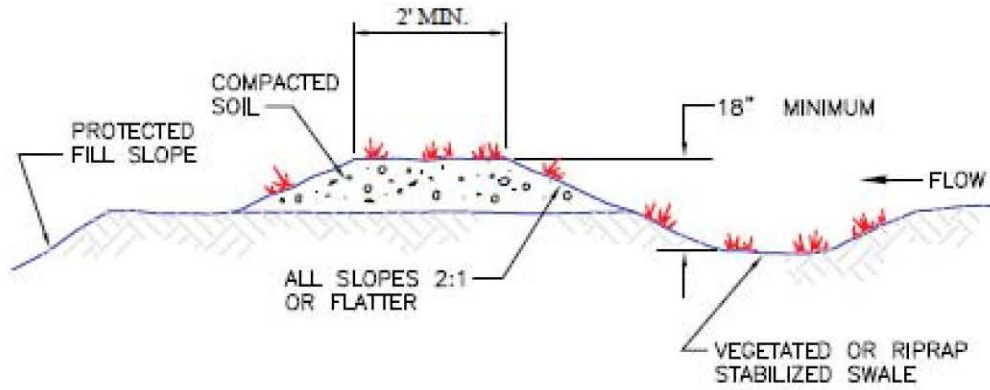
- Seeded areas which fail to establish a vegetative cover shall be reseeded as necessary.
- Damage from vehicle or construction traffic shall be repaired prior to the end of each working day or prior to the next storm event, whichever is sooner.
- Conduct required repairs immediately.
- Temporary berms may be removed when the site has been finally stabilized or when drainage patterns changed so that the berms are no longer functional.
- Berms that are designed to trap sediment should be cleaned out as necessary or after each storm event.
- Inspect for erosion or other damage, and repair.

What not to do...

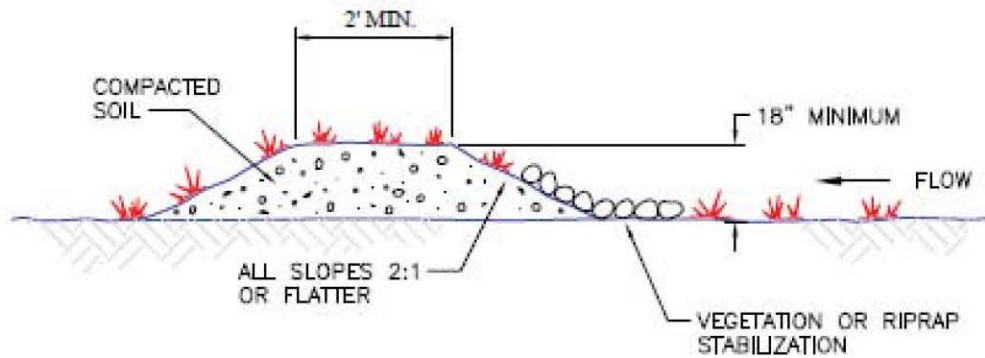


Berm was not well stabilized and could not stand up to run-on flows. Berms and swales should be designed and constructed to handle site specific run-on or run-off flows.

EARTH BERM



TYPICAL FILL DIVERSION

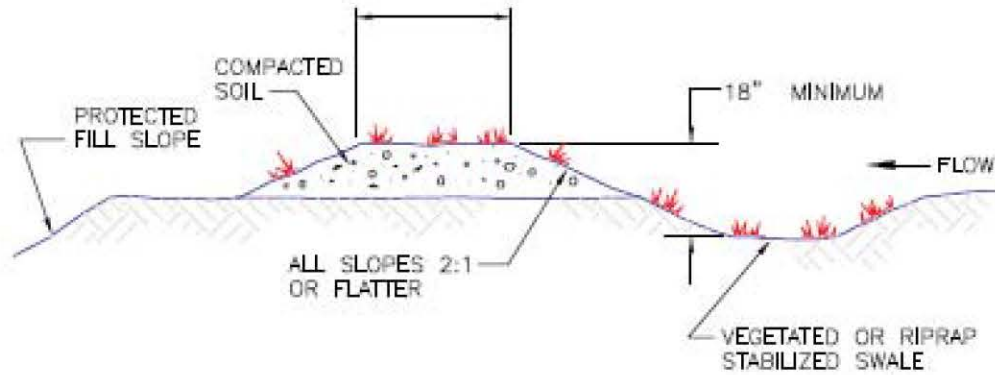


TYPICAL TEMPORARY DIVERSION DIKE

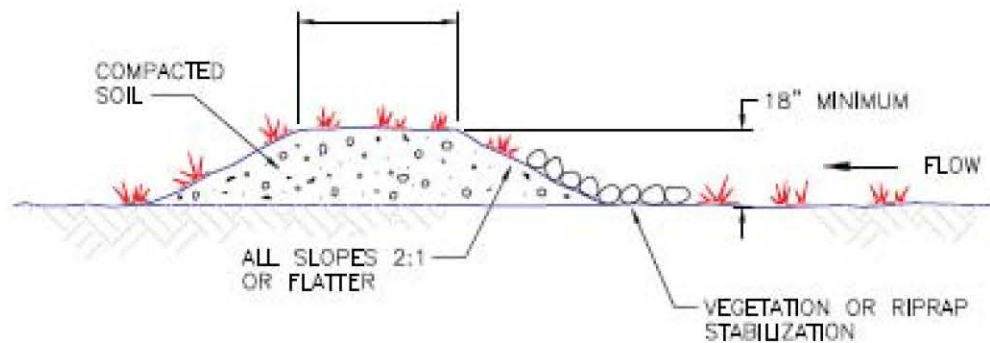
NOTES:

1. THE CHANNEL BEHIND THE BERM SHALL HAVE A POSITIVE GRADE TO A STABILIZED OUTLET.
2. THE BERM SHALL BE ADEQUATELY COMPACTED TO PREVENT FAILURE.
3. THE BERM SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT SEEDING, MATTING, OR OTHER APPLICABLE MEASURES.
4. THE TOP OF THE BERM SHALL HAVE A MINIMUM WIDTH OF 2 FEET AND ALL SIDE SLOPES SHALL BE 2:1 OR FLATTER.

EARTH BERM



TYPICAL FILL DIVERSION

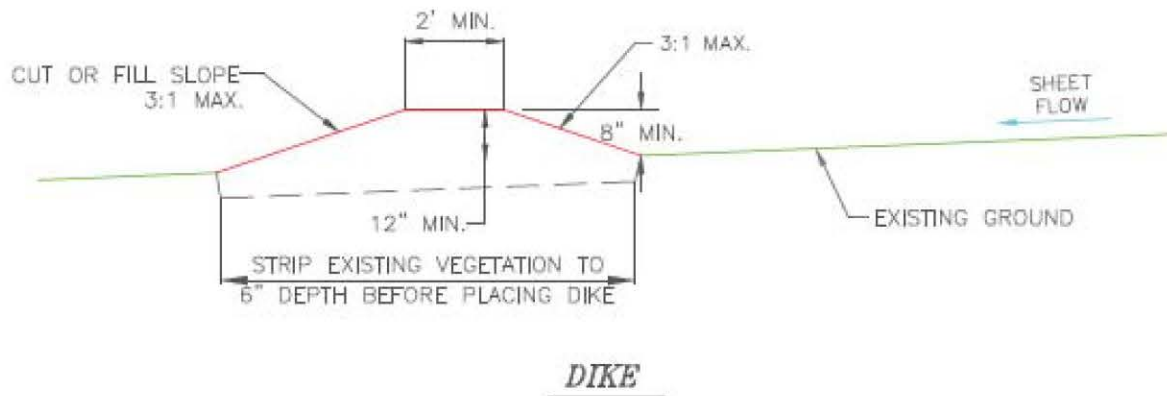
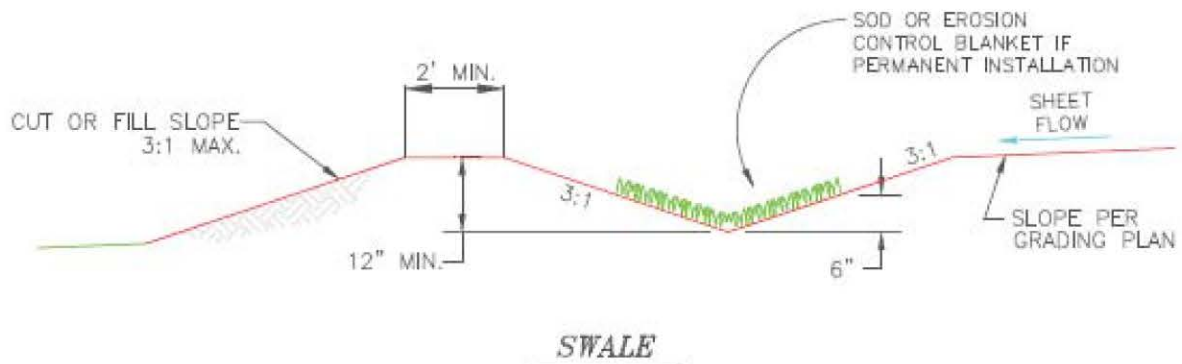


TYPICAL TEMPORARY DIVERSION DIKE

NOTES:

1. THE CHANNEL BEHIND THE BERM SHALL HAVE A POSITIVE GRADE TO A STABILIZED OUTLET.
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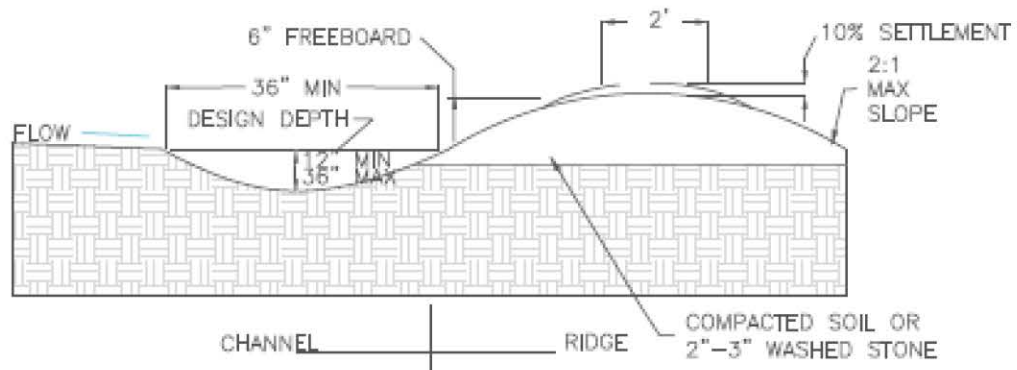
EARTH BERMS & SWALES



NOTES:

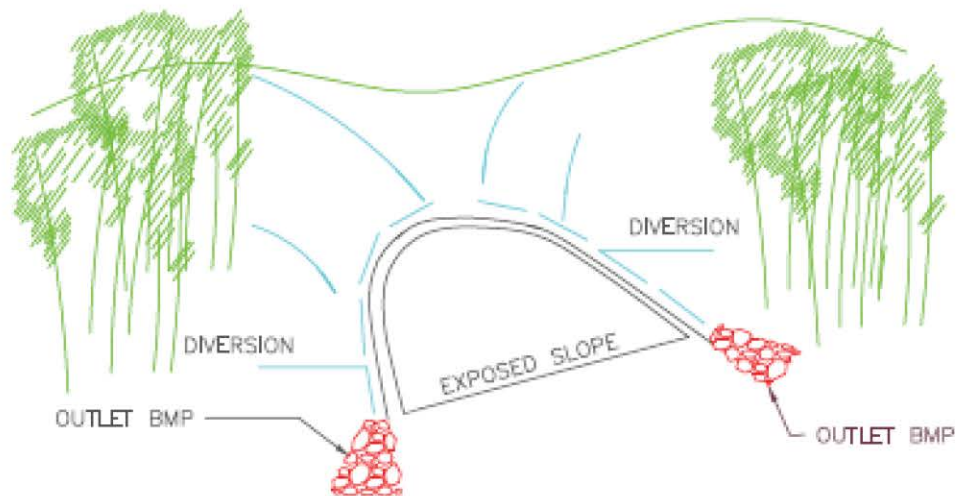
1. DIKE SHALL BE COMPACTED TO DENSITY EQUAL TO THAT SPECIFIED FOR ADJOINING AREA (90% STANDARD PROCTOR DENSITY, MINIMUM).
2. MINIMUM 1% GRADE MUST BE PROVIDED FOR SWALE OR ALONG UPSLOPE SIDE OF DIKE FOR PROPER DRAINAGE.

EARTH BERMS & SWALES

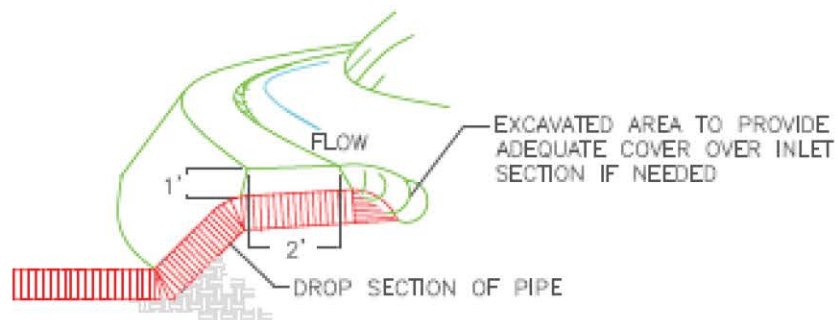


CROSS SECTION

ALL SURFACE STABILIZED WITH MULCH, SEED OR GRAVEL

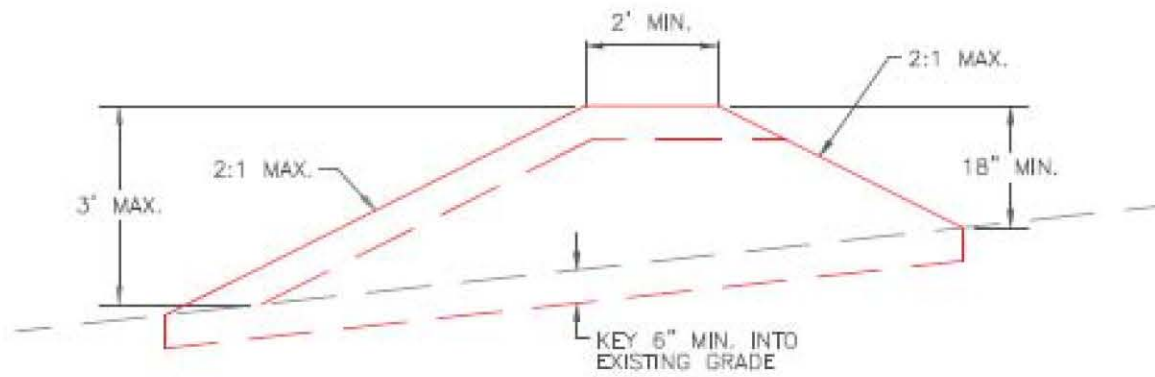
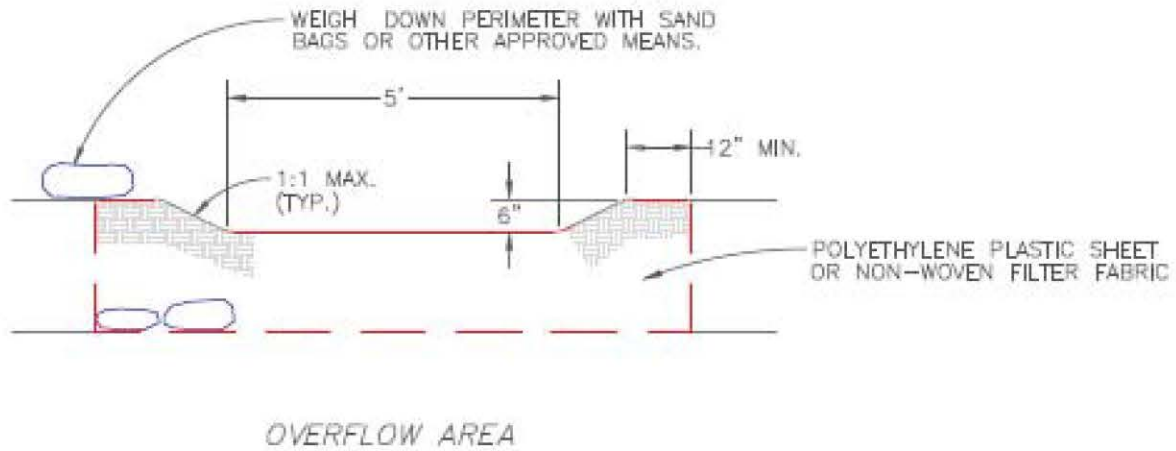


TYPICAL PERIMETER PROTECTION



TYPICAL TOP OF SLOPE INSTALLATION

TEMPORARY SILT CONTAINMENT BERM



NOTES:

1. SOIL IN BERM SHALL BE FIRMLY COMPACTED.
2. AT EACH END OF BERM, TURN BERM UPSLOPE AND EXTEND UNTIL GROUND SURFACE RISES TO TOP OF BERM ELEVATION.
3. PROVIDE OVERFLOW AREAS AT 200 FT. MAX. INTERVALS.

Check Dams



Alternatives

- Stabilize channel with TRM, asphalt or concrete.

Options

- Gravel bags
- Rock
- Logs
- Prefabricated Juniper Bales
- Triangular Silt Dike®
- Other prefabricated products

BMP Objectives

- Sediment Retention
- Reduction in runoff velocity
- Erosion Control

Description

A check dam is a small dam constructed across a channel, drainage ditch or other area of concentrated flow. Check dams reduce erosion and promote sedimentation by reducing runoff flow velocity and encouraging sediment to settle out. Check dams are usually constructed of rock, gravel bags, sandbags or other proprietary products and may either be a temporary or permanent structural control.

Applications

- Use to minimize down cutting in channels, retain sediment, and reduce velocity.
- Useful in temporary ditches that will be removed after construction.

Limitations

- A check dam with a height of over 2 feet or located in an area where failure of the check dam would result in damage to facilities, the environment or other safety issues requires an engineered design.
- Significant sediment accumulations behind the check structure may destroy vegetation lining the channel.
- Requires regular maintenance and sediment removal.
- May not be used in a drainage that is a perennial stream.
- May cause increased erosion if not installed correctly.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention		x	
Sediment Control			x
Runoff Control			x
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Rock, logs, juniper bales		x	x	
Gravel bags, Triangular Silt Dike	x			x

Design and Construction Guidance

- Check dam must be located in a defined channel to reduce runoff velocity or retain sediment.
- If high flows are expected, ensure scour protection has been installed on the downstream of the check dam.
- Check dams should be spaced at a distance to allow the elevation of the ponded water from the downstream check dam to match the elevation of the toe of the upstream dam.
- Flows must be directed over the check dam.
- When using rock, ensure the material diameter is appropriate to create ponding.
- Straw bales and wattles should not be used as check dams.
- The center of a check dam must always be lower than its outside edges and the channel bank height to allow proper flow over the check structure.

Installation:

- Should be installed as soon as possible while construction activities are occurring.
- The center of the dam should be at least six-inches lower than its edges.
- Check dam material should be entrenched into the sides and bottom of the channel to ensure flow does not go around or under the check dam.
- Rock should be placed individually by hand or by mechanical methods (no dumping of rock).

Inspection and Maintenance

- Check for damage and erosion caused by flows around or under the dam structure. Repair erosion around a check dam and lower the center if required.
- Remove any debris that would impede flow over the check dam.
- When the sediment has reached a height of approximately one-half the original height of the dam (measured at the center), remove accumulated sediment from the upstream side of the dam.
- Remove check dams made from temporary materials when the adjacent site is stabilized.
- Before removing a check dam, remove all accumulated sediment from the channel. If sediment is placed on adjacent slopes, stabilize it with native vegetation.

What not to do...

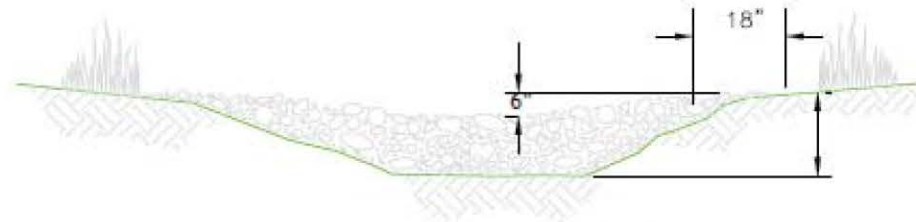


Silt fence cannot be used as a check structure and is not designed for concentrated flow.

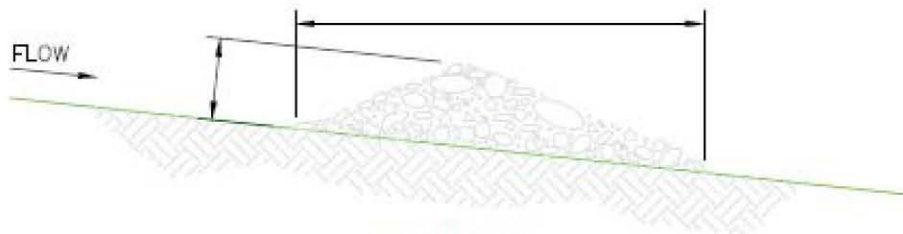


Notice how runoff bypassed the check structures. Channel banks must be sufficient to withstand flows and the dam center must be lower to allow flow over the check dam.

ROCK CHECK DAM

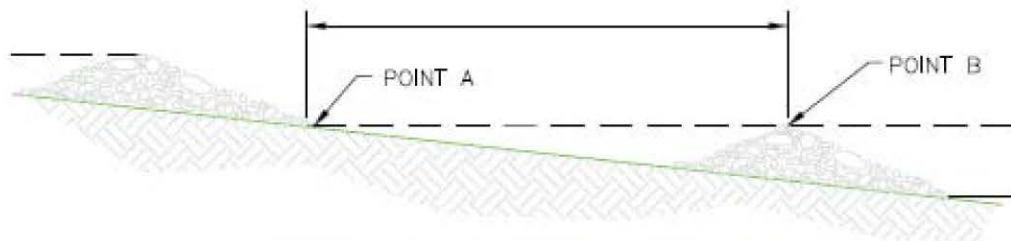


VIEW LOOKING UPSTREAM



SECTION A

X = THE DISTANCE SUCH THAT POINT A AND B ARE OF EQUAL ELEVATION.



SPACING BETWEEN CHECK DAMS

NOTES:

1. ROCK CHECK DAMS SHALL BE CONSTRUCTED WITH 2-15 INCH MAXIMUM SIZE AGGREGATE ROCK.
2. WHERE APPLICABLE, KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW AROUND DAM.
3. PROVIDE AN ENERGY DISSIPATOR ON THE DOWNSTREAM SIDE OF THE DAM TO REDUCE DOWNSTREAM EROSION.

Waterbars and Runouts



- Options and Alternatives**
- Paved roads
 - Culverts
 - Grade road with a high center

- BMP Objectives**
- Runoff Control
 - Erosion Control

Description

Features that are used on sloping roads or other linear projects to reduce flow length and to direct runoff from a disturbed area into stabilized areas.

Waterbars are constructed at an angle across the road or disturbed area to prevent water from running a long distance and causing erosion, and to direct runoff into stabilized areas.

Runouts or **Turnouts** are breaks in a roadside ditch to allow water to exit the ditch and discharge into a stabilized area. This reduces erosion potential and sediment accumulation in the ditch.

Applications

Use on dirt or gravel roads, or other longer disturbed areas with a slope, to prevent rills from forming.

Limitations

May require rebuilding after large storms or if driven over while soil is saturated.

Performance and Longevity

- Good results for spreading out runoff flows and thereby reducing erosion.
- Longevity is good, dependent on traffic and storm events.

Performance	Poor or N/A	Good	Excellent
Erosion Prevention			x
Sediment Control	x		
Runoff Control			x
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
waterbars and turnouts		x		

Design and Construction Guidance

Spacing between waterbars and runouts should be based upon site conditions and surface material. General spacing guideline is as follows:

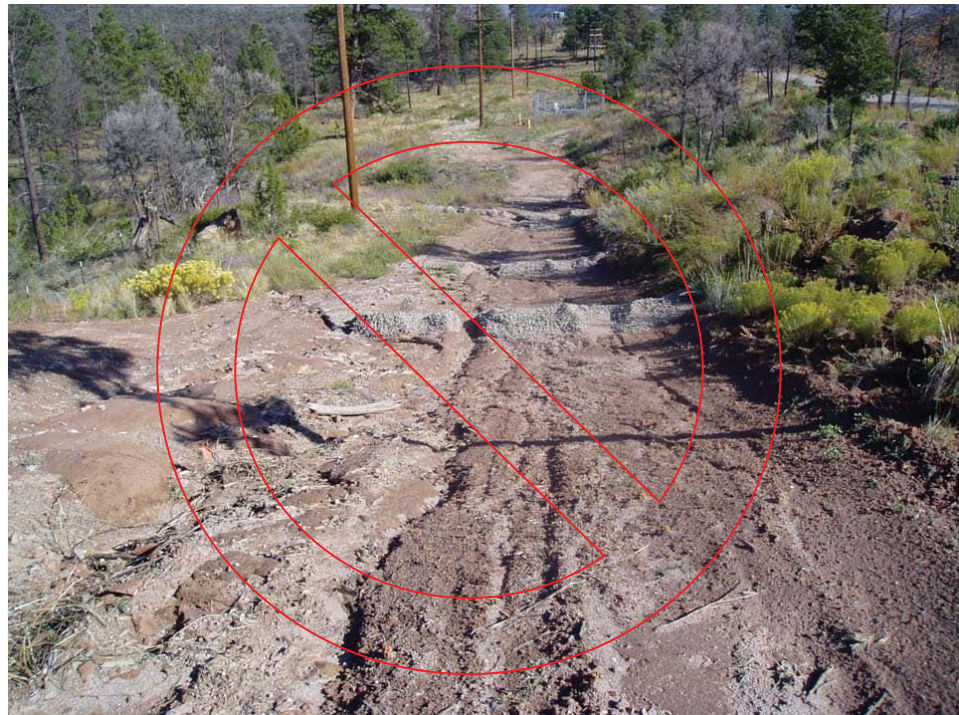
Slope	Distance between waterbars or runouts
3%	200'
5-10%	100'
>10%	50'

- Waterbars should have a small dip on the uphill side to convey runoff along the base of the waterbar. They should cross the road at a 30 degree angle to the road. This angle prevents excess sediment buildup and reduces the chances of the water jumping the bar.
- Runouts – construct at a frequency to allow water to leave the roadway at regular intervals (see above). Cut an exit in the roadside channel and stabilize the exit as below if needed. When possible, flatten out the outflow area rather than channelizing it.
- If needed install rock or TRM stabilized outlet or other method per design.

Inspection and Maintenance

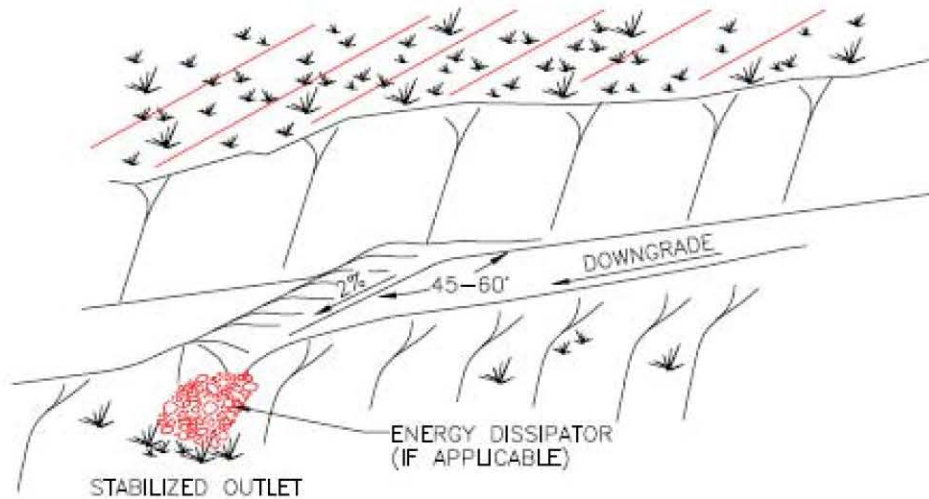
- Check that runouts and waterbars are graded properly to drain towards a stabilized outlet, and are the proper size and distance apart.
- Inspect for erosion blowouts after rainfall. Backfill and compact any rills that may form.

What not to do...

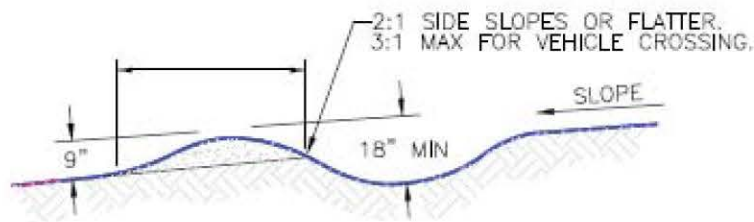


Notice how waterbars are ineffective in diverting and reducing erosive velocity of water. Loose uncompacted soil was used and waterbars were not installed at an approximate 30 degree angle to the road. Water jumped the bars and was not diverted.

WATERBAR



WATERBAR



SECTION

NOTES:

1. FOR AREAS OF SIGNIFICANT VEHICULAR TRAFFIC, WATERBARS SHALL BE STABILIZED WITH GRAVEL.
2. DIVERSION BERMS SHOULD HAVE A MINIMUM POSITIVE GRADE OF 2%.
3. WATERBARS SHALL BE CONSTRUCTED AT AN ANGLE OF 48 TO 60 DEGREES FROM THE CENTERLINE.
4. WATERBARS SHALL OUTLET ONTO AREAS STABILIZED BY EITHER NATURAL OR CONSTRUCTED MEANS.

Terracing



Options and Alternatives

- Can be constructed solely by grading
- Can be constructed or reinforced with logs or fiber rolls
- May require storm drain piping or other stabilized rundown
- Retaining walls
- If terracing is not possible, increased slope stabilization is required

BMP Objectives

- Runoff Control
- Erosion Control

Description

Gradient Terracing is a term used to describe a ridge and channel arrangement constructed across the face of a slope at regular intervals. This break in grade shortens slope lengths. Each “step” catches material which sloughs from above, and provides a level site where vegetation can become established. Storm water runoff is captured and redirected to a stable outlet. Terracing slopes reduces erosion by decreasing runoff velocities, trapping sediment, increasing water infiltration and promoting vegetative cover.

Applications

- Gradient terracing is useful on longer, steeper slopes that have been cleared and are prone to erosion problems.
- Stair-step grading is useful in areas containing rock.
- Should be used when there is a need for reduction in water flow velocity.

Limitations

- Terracing is not suitable for use on sandy or thin cover soils, or on excessively steep slopes, and may cause sloughing if too much water infiltrates the soil.
- Terracing requires stable runoff outlets.
- Soils should be stabilized with vegetation post construction
- Terracing for long slopes may require an engineered slope stabilization design.

Performance and Longevity

Terraces are generally meant to be permanent, though they can be used in soil staging piles as well.

Performance	Poor or N/A	Good	Excellent
Erosion Prevention		x	
Sediment Control	x		
Runoff Control		x	
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
terracing	x	x		

Design and Construction Guidance

- Terraces can be simple breaks in the slope or an engineered design with rundowns.
- Stair steps should be wide enough to work with standard earth moving equipment. Though in some cases narrow terraces and the use of hand tools may be sufficient.
- Make the vertical cut distance less than the horizontal distance.
- Slightly slope the horizontal step slightly inclined back towards the hill.

Terrace spacing

Average slope	Horizontal spacing	Vertical spacing
2%	125 ft	2.5 ft
6%	60 ft	3.5 ft
10%	45 ft	4.5 ft
14%	40 ft	5.5 ft

- Terraces should not be constructed completely along the contour, they should slope slightly downhill to direct water towards the stabilized rundown.
- Place fill slopes with a gradient steeper than 3:1 in lifts not to exceed 8 in. and make sure each lift is properly compacted.
- Install slope drain piping or rock or TRM stabilized rundown per design.
- If desired to further slow runoff, roughen the face of the slopes using tracking or create shallow grooves using normal tilling, disking, or harrowing to create a series of ridges and depressions that run across the slope and on the contour. Make grooves formed by such implements close together, less than 10 in. and not less than 1 in. deep.
- Apply seed, fertilizer, and mulch according to LANL Construction Specifications.

Inspection and Maintenance

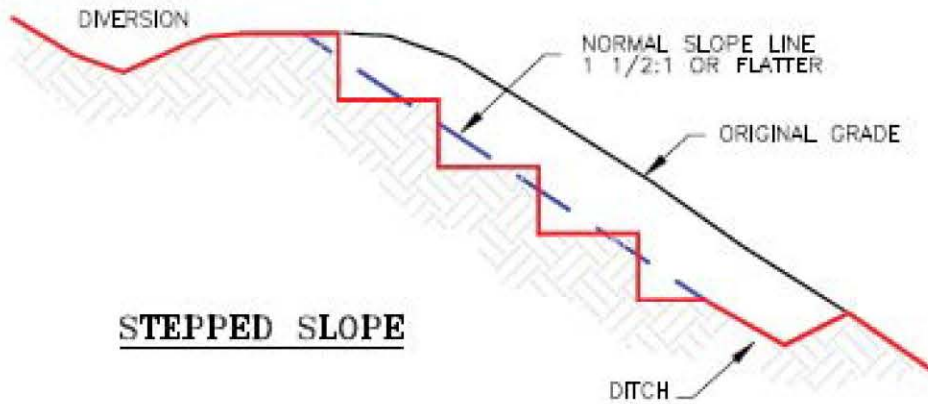
- Check that terraces are graded properly to drain backwards into the hill and to run towards a stabilized outlet.
- Inspect that stabilization measures such as vegetation are installed and functioning.
- Inspect slopes for erosion blowouts after rainfall.
- Take action as necessary to ensure proper drainage and slope stability. Backfill and compact any rills that may form.

What not to do...

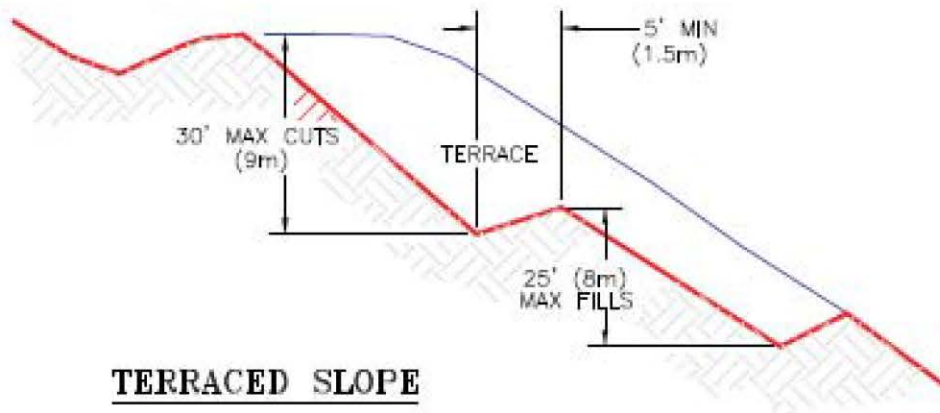


Water must run along the contour and not jump the terraces.

STEPPED OR TERRACED SLOPE



STEPPED SLOPE



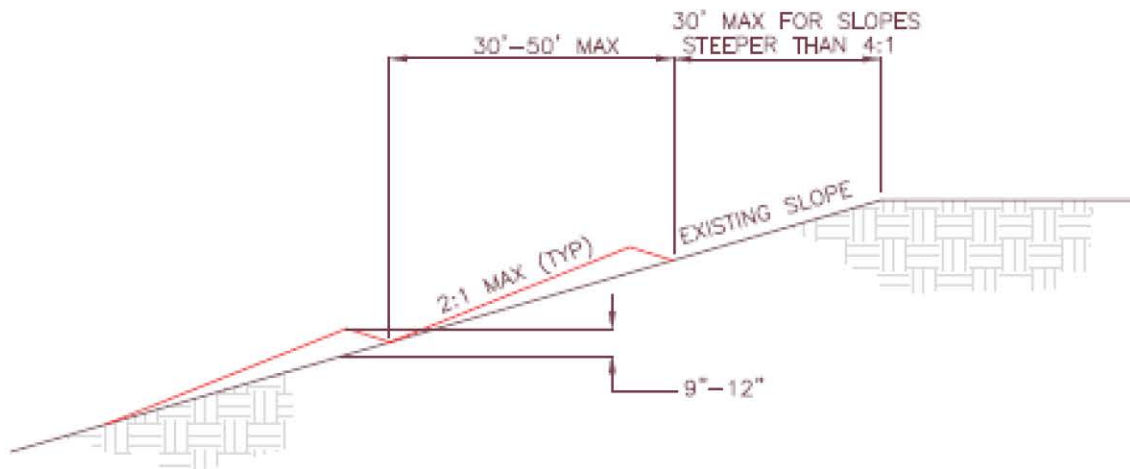
TERRACED SLOPE

NOTES:

1. VERTICAL CUT DISTANCE SHALL BE LESS THAN HORIZONTAL DISTANCE.
2. VERTICAL CUT SHALL NOT EXCEED 2 FT. (0.6m) IN SOFT MATERIAL AND 3 FT. (0.9m) IN ROCKY MATERIAL.

NOT TO SCALE

GRADIENT TERRACES



NOTES:

1. MAXIMUM CONTINUOUS LENGTH OF 2:1 SLOPE SHALL BE 15'.
2. TERRACE SHALL SLOPE AT 1%-3% AND DRAIN TO AN ADEQUATE OUTLET.
3. TERRACES MAY ONLY BE FORMED BY CONSTRUCTION OF A BERM.

Surface Roughening



- Options and Alternatives**
- Use a grader or tiller
 - Use a soil stabilizer like Gorilla Snot or Durasoil

- BMP Objectives**
- Temporary soil stabilization
 - Reduce erosion potential & trap sediment
 - Aid in establishing vegetative cover

Description The use of mechanized equipment to provide a rough texture to soil surfaces.

Applications Used on bare soil surfaces on a slope. Surface roughening or scarification is a technique used for creating unevenness on bare soil to help prevent slope erosion and formation of rills.

Limitations Does not permanently stabilize area.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention		x	
Sediment Control	x		
Runoff Control		x	
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Surface roughening	x			

Design and Construction Guidance

- Roughening methods with agricultural equipment include tilling, disking, and harrowing.
- Tracking with equipment **MUST BE DONE UP AND DOWN THE SLOPE.**
- Factors to be considered in choosing roughening or tracking include slope steepness, long term slope maintenance and mowing requirements, type of soil, and whether the slope is formed by cutting or filling.
- Roughening can be performed during any stage of grading activity.

- Grooves should be less than 10 inches apart and not less than one inch deep.
- Apply fertilizer, mulch, top soil, or other soil amendments as necessary after surface roughening.

Inspection and Maintenance

- Check that roughening was performed in the correct direction.
- Check for erosion and rilling to be repaired.

What not to do...

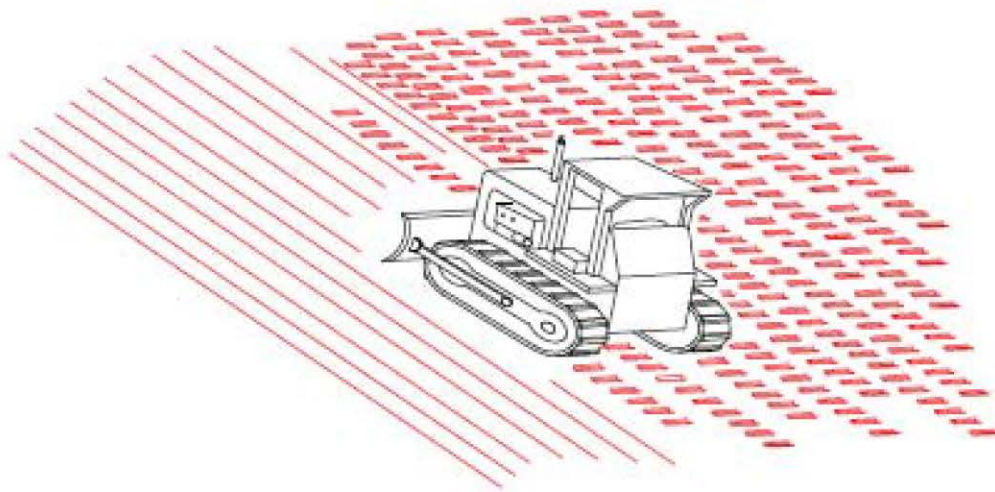


Note that the exposed slope was graded with no tracking. This allowed storm water runoff to concentrate and form rills in the soil.



Note that the slope was track-walked in the wrong direction. This will cause rills to form as water will be allowed to follow the grooves in the soil and gain velocity causing erosion. Track walking with machinery up and down the slope creates grooves that will catch seed and fertilizer and will promote mulch cover to stay on the slope. It will also slow water velocity and reduce runoff and erosion.

SURFACE ROUGHENING

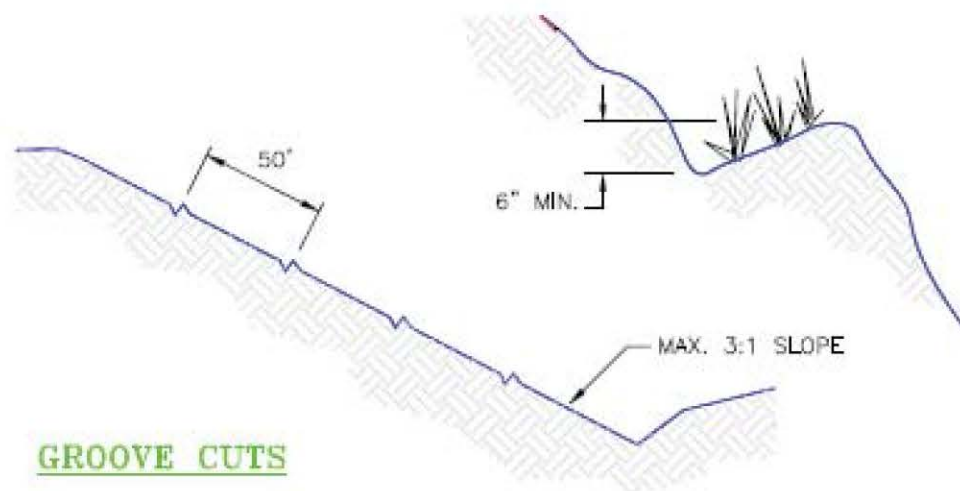
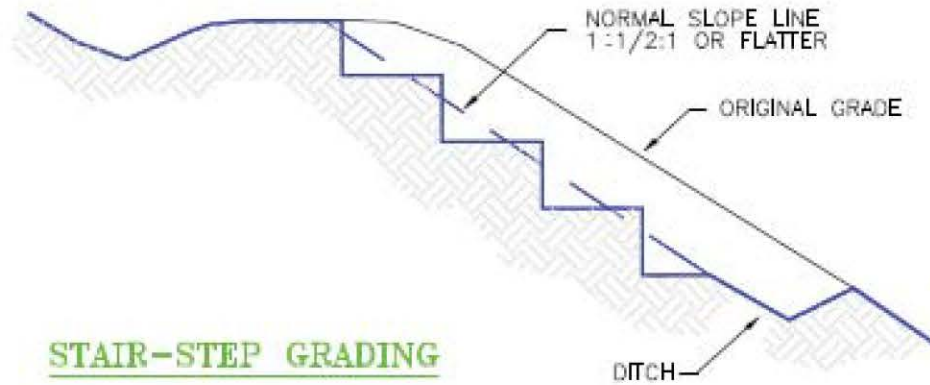


TRACKING

NOTES:

1. USE OF TRACKED MACHINERY SHOULD BE LIMITED TO SANDY SOILS THAT DO NOT EASILY COMPACT.
2. AVOID TRACKING ON CLAY SOILS.
3. OPERATE TRACKED MACHINERY PERPENDICULAR TO THE CONTOURS.
4. SEED AREA FOLLOWING ROUGHENING.

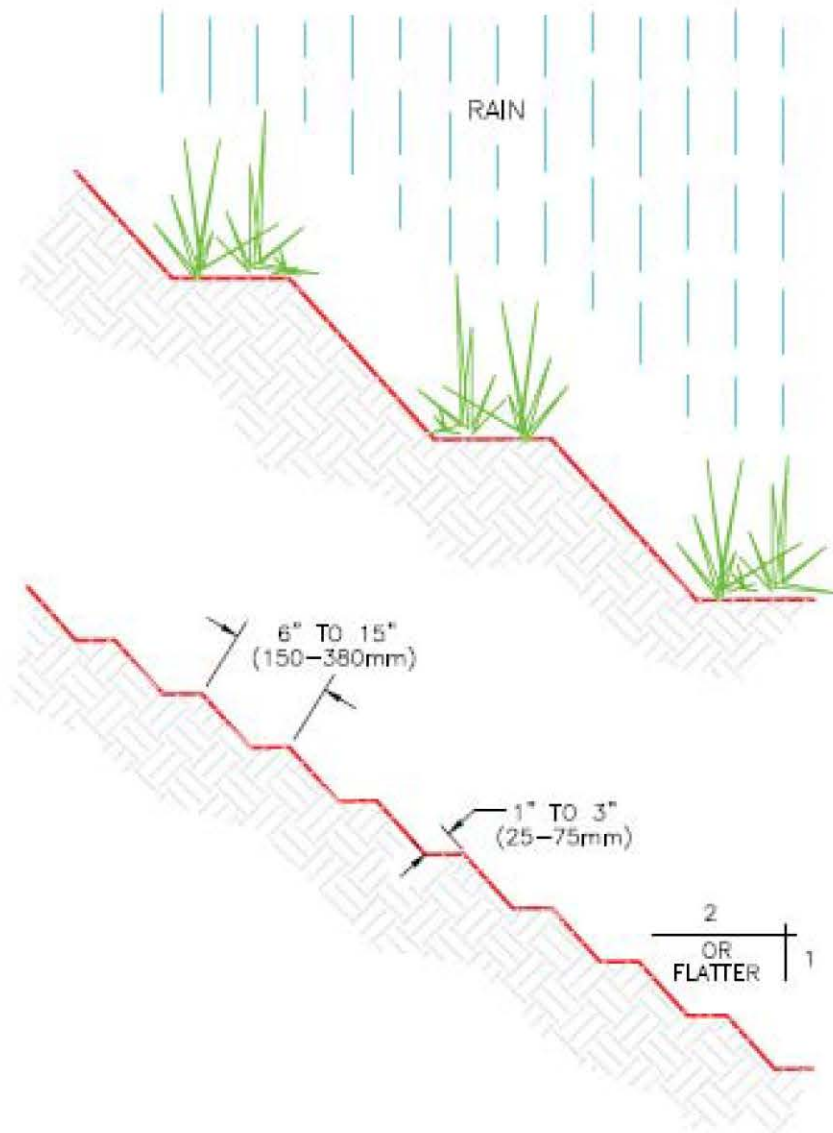
SURFACE ROUGHENING



NOTES:

1. STAIR-STEP GRADING SHALL BE USED FOR SLOPES GREATER THAN 2:1.
2. GROOVE CUTS SHALL BE USED ON SLOPES OF 3:1 OR LESS.
3. CONSTRUCT STAIRS WIDE ENOUGH TO WORK WITH STANDARD EARTH MOVING EQUIPMENT.
4. CONSTRUCT CUTS PARALLEL TO THE CONTOURS.
5. VERTICAL CUTS SHALL NOT EXCEED 2 FT IN SOFT MATERIAL AND 3 FT IN ROCKY MATERIAL.

GROOVED OR SERRATED SLOPE



NOT TO SCALE

Sediment Traps



- BMP Objectives**
- Sediment retention
 - Runoff velocity reduction
 - Controlled release (flowrate) at outlet

Description

Sediment traps are typically excavated depressions or naturally low areas with earthen embankments, or other similar structures, surrounding all or a portion of the trap footprint. They are used to detain storm water runoff to facilitate the settling of suspended sediment prior to release of the runoff. Sediment is deposited and retained in an area of specified size identified as a settling zone. The amount of sediment retained, as well as the particle size of the retained sediment, is dependent upon soil characteristics and runoff detention time. Traps also help to reduce runoff velocity through detention, and runoff is generally released from a sediment trap via a spillway that functions similar to a weir and through infiltration into the soil. Sediment traps are most commonly used as temporary BMPs.

Sediment traps are used to detain storm water runoff to facilitate the settling of suspended sediment and to release it at a reduced rate through a controlled outlet structure. The ponding of storm water allows sediment to drop out. Sediment accumulations must be removed periodically. Sediment traps are typically smaller in size than basins and do not have pipe outlets.

Applications

- At locations where runoff velocity or sediment deposition is a concern.
- At locations of concentrated flow.
- At locations where site runoff, either during or after construction, must be released at a specified rate.

Limitations

- A single sediment trap should only be used for small drainage areas.
- Use of sediment traps for large drainage areas will require the construction of a series of coordinated traps.
- Sediment traps are typically temporary BMPs. Use of traps as permanent structures will require regular and frequent inspection and maintenance.
- Water cannot be ponded on SWMUs at LANL and must be released within 96 hours.

Performance and Longevity

Performance	Poor or n/a	Good	Excellent
Erosion Prevention	x		
Sediment Control			x
Runoff Control			x
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Sediment trap	x			

Design and Construction Criteria

- Sediment trap cut and fill slopes should have a maximum slope of 3:1.
- Sediment traps shall not be located within a natural watercourse.
- Traps shall not be used as permanent structures.
- Sediment trap outflow must discharge through a stabilized low point.
- Spillways should be designed to provide the trap with a minimum 1.5 foot settling zone and 1 foot sediment storage zone.
- Embankment fill material should be placed in 6 inch lifts and compact each lift with a compactor or the appropriate earth moving equipment.
- Stabilize the trap embankment, with seed and erosion control blankets, seed and hydromulch, or other appropriate stabilization.
- The basin entrance should be as far as practicable from the outlet to maximize time for runoff detention and sediment settling.
- Ensure drainage basins fully discharge within 96 hours by releasing runoff through a control structure or through infiltration into the soil.

Inspection and Maintenance

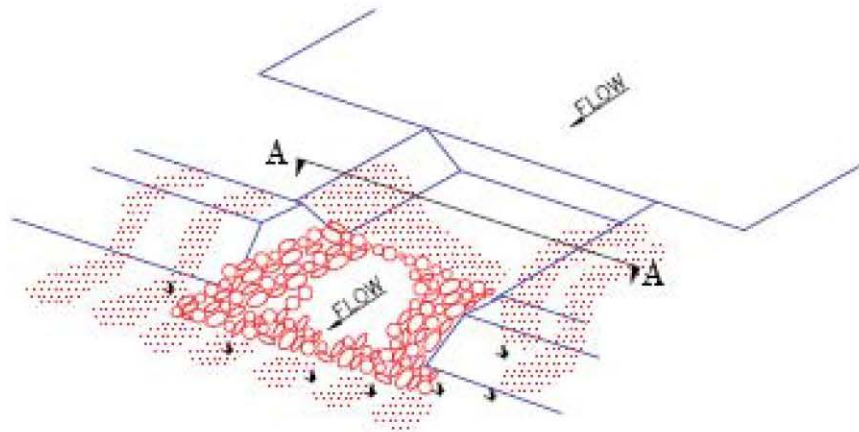
- Ensure that outlet and spillway are lower than pond edges and are adequately stabilized
- Inspect for effectiveness in controlling storm water runoff and sediment settling.
- Inspect inlet, outlet and embankment slopes for damage such as vegetation loss, bank stability, debris build-up, erosion, and rock displacement.
- Remove accumulated sediment when it exceeds 25% of the design sediment storage volume.
- Removed sediment accumulations shall not be placed within any drainage, either above or below the trap to prevent future migration from storm water runoff.
- Removed sediment shall be stabilized to prevent future migration from storm water runoff.
- Potentially contaminated sediment may require disposal.

What not to do...



There is no defined/armored pathway for water to flow in and out of the pond.

SEDIMENT TRAP



PERSPECTIVE VIEW



SECTION A - A

NOTE:

1. CUT AND FILL SLOPES IN TRAPS SHALL BE 3:1 OR FLATTER.
2. ENSURE THAT FILL MATERIAL FOR EMBANKMENTS IS FREE OF ROOTS, WOODY VEGETATION, AND LARGE STONES.
3. STABILIZE EMBANKMENTS WITH SEED, MULCH, MATTING, OR OTHER APPLICABLE MEASURE.
4. LINE THE TRAP OUTLET AREA WITH FILTER FABRIC PRIOR TO PLACEMENT OF STONE OR GRAVEL.
5. SEDIMENT TRAPS SHALL NOT BE USED FOR DRAINAGE AREAS EXCEEDING 5 ACRES IN SIZE.

Storm Water Detention Basins



Useful combinations

- PAM application

BMP Objectives

- Sediment retention
- Runoff velocity reduction
- Controlled release (flowrate) at outlet

Description

Storm water detention basins are typically excavated depressions or naturally low areas with earthen embankments, or other similar structures, surrounding all or a portion of the basin footprint. They may also be underground systems located beneath asphalt or concrete surfaces. Underground systems can be comprised of concrete, corrugated metal pipe, or high density polyethylene material in various geometric configurations.

Detention basins are used to detain storm water runoff to facilitate the settling of suspended sediment and to release runoff at a reduced rate through a controlled outlet structure. The ponding of storm water allows sediment to drop out. Sediment accumulations must be removed periodically.

Applications

- At locations where runoff velocity or sediment deposition is a concern.
- At locations of concentrated flow.
- At locations where site runoff, either during or after construction, must be released at a specified rate.

Limitations

- Required basin size is highly dependent upon the ground cover and associated runoff characteristics of the surrounding drainage area. If areas surrounding the basin are developed after the basin is constructed the basin may not be adequate in size to handle increased flows.
- Basins can require a significant area to accommodate the runoff storage area, maintenance access, and the control structure.
- Basins will require an engineered design.
- If areas surrounding the basin are developed after the basin is constructed the basin may not be adequate in size to handle increased flows.
- Water cannot be ponded on SWMUs at LANL and must be released within 96 hours.

Performance and Longevity

Performance	Poor or n/a	Good	Excellent
Erosion Prevention	x		
Sediment Control			x
Runoff Control			x
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
detention basin		x	x	

Design and Construction Criteria

- Detention basins should be designed by a qualified engineer.
- Basins should be located where loss of containment would not cause loss of life or property damage, and shall not be located in a natural watercourse.
- Consider, based on site conditions, the installation of a trash rack on the top of control structure standpipes to minimize the potential for entry of debris into the pipe.
- Provide an emergency spillway with the crest elevation being a minimum of six inches lower than the top of the basin berm. Ensure that the emergency spillway is stabilized with concrete, filter fabric and rock, turf reinforcement mat, or other appropriate material.
- Embankment fill material should be placed compacted prior to stabilization.
- Ensure that fill material for embankments is free of roots, woody vegetation, and large stones.
- Stabilize the basin and basin embankment, with seed and erosion control blankets, seed and hydromulch, or other appropriate stabilization.
- Design the basin configuration to facilitate future maintenance.
- Ponding depth should be based on settling zone size and projected fall velocity of the minimum sediment size.
- The basin entrance should be as far as practicable from the outlet to maximize time for runoff detention and sediment settling.
- Ensure drainage basins fully discharge within 96 hours by releasing runoff through a control structure or through infiltration into the soil.
- The lowest drain hole on the riser pipe should be a minimum of 6" above the ground surface to facilitate settling of suspended sediment.
- Provide appropriate BMPs at the outlet of basin control structure.
- Basins shall be constructed prior to the start of any major land disturbing activities.

Inspection and Maintenance

- Closely inspect embankments for undermining, erosion, or other damage.
- Ensure that outlet and spillway are lower than pond edges and are adequately stabilized
- Inspect for effectiveness in controlling storm water runoff and sediment settling.
- Inspect inlet, outlet and embankment slopes for damage such as vegetation loss, bank stability, debris build-up, erosion, and rock displacement.

- Ensure standpipe drain holes are clear of debris or other matter that would restrict flow.
- Remove accumulated sediment when it exceeds 25% the design sediment storage volume.
- Removed sediment accumulations shall not be placed within any drainage, either above or below the basin to prevent future migration from storm water runoff.
- Removed sediment shall be stabilized to prevent future migration from storm water runoff.
- Potentially contaminated sediment may require disposal.

What not to do...

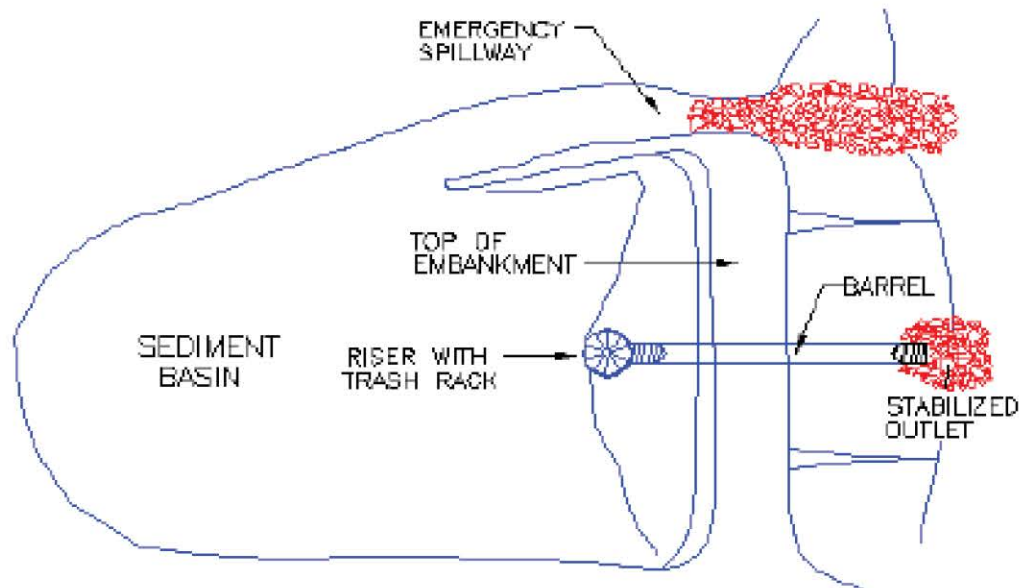


Embankments of pond should be stabilized following initial grading of pond.

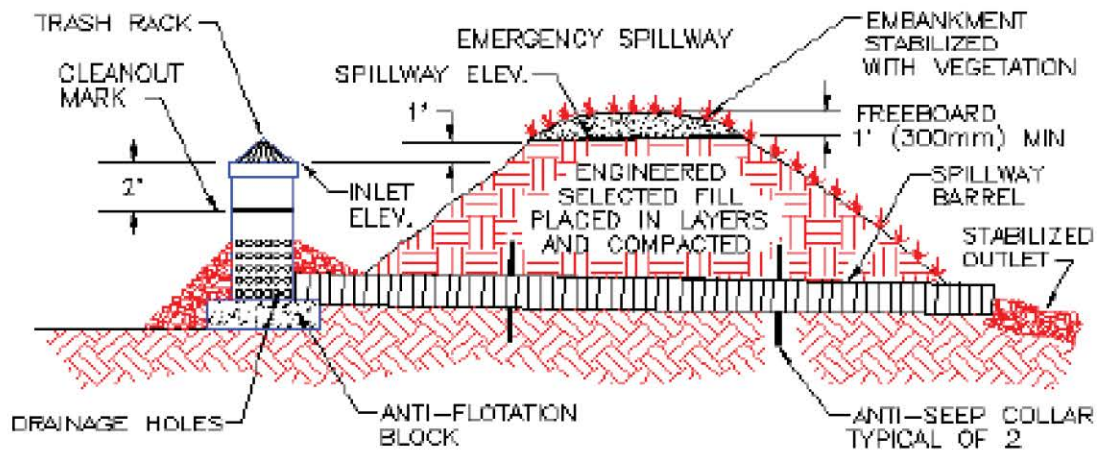


Standpipe overflow height is higher in elevation than the basin spillway.

TYPICAL SEDIMENT BASIN



PLAN



SECTION

NOTES:

1. BASINS SHALL BE USED FOR AREAS GREATER THAN 5 ACRES IN SIZE.
2. ENSURE THAT FILL MATERIAL FOR EMBANKMENTS IS FREE OF ROOTS, WOODY VEGETATION, AND LARGE STONES.
3. LINE THE BASIN OUTLET AREA WITH FILTER FABRIC PRIOR TO PLACEMENT OF STONE OR GRAVEL.
4. ENSURE THAT THE EMERGENCY SPILLWAY IS NOT CONSTRUCTED FROM FILL MATERIAL.
5. STABILIZE EMBANKMENTS AND EMERGENCY SPILLWAY WITH SEED, MULCH, MATTING, OR OTHER APPLICABLE MEASURES.

Revegetation



- Options**
- Seed in conjunction with hydromulch
 - Seed in conjunction with erosion control blanket installation
 - Seed in conjunction with other types of mulch products
- Alternatives**
- Use Turf Reinforcement Mat
 - Preservation of existing vegetation

- BMP Objectives**
- Temporary or permanent soil stabilization
 - Increase infiltration and reduce erosion and sediment transport

Description

Revegetation is the establishment of short-term or long-term vegetative cover, through seeding, on disturbed surfaces or other areas that pose a high risk of erosion. Seeding can provide temporary or permanent stabilization with reduced erosion, runoff, and sediment transport. Temporary seeding can be used on any temporary earthen structure, construction sites, topsoil stockpiles, etc. Typical areas appropriate for permanent seeding include denuded areas where long-term vegetative cover is desired, buffer areas, steep slopes, stream banks, and areas where soils are unstable.

Applications

- Temporary or permanent stabilization at construction sites, topsoil stockpiles, etc.
- Denuded areas where long-term vegetative cover is desired, buffer areas, steep slopes, stream banks, and areas where soils are unstable.

Limitations

- Establishment of vegetation can take one or more growing seasons and is dependent upon growing conditions (temperature, rainfall, soils, etc.).
- May require ongoing irrigation and maintenance to establish vegetation.
- Incorrect revegetation methods may inhibit growth and may not be fully evident until after the growing season.
- Effectiveness can be greatly reduced if rills or gullies are allowed to form underneath blankets, or if hydromulch is subject to concentrated flows.
- Soil may require agronomic evaluation and/or amendment before revegetation can be successfully implemented or established.

Performance and Longevity

Performance	Poor	Good	Excellent
Erosion Prevention			x
Sediment Control		x	
Runoff Control	x		
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Revegetation		x		

Design Criteria and Construction Specifications

Design Criteria: Use LANL Master Specification 32 9219 for detailed guidance on seedbed preparation, applicable seed mixes, seeding operations, application rates, and mulch cover products. (http://engstandards.lanl.gov/specs/32_9219R3.doc)

- Seeding should be initiated as soon as practicable following completion of soil disturbing activities.
- Permanent seeding should be applied prior to seasonal rains or freezing weather.
- If soil is compacted, loosen soil with disking, raking or harrowing. Remove large clods and stones, or other foreign material that would interfere with seeding equipment and installation of erosion control blankets (ECB).
- If seeding requires harrowing, tracking, or furrowing, these activities shall be conducted horizontally across the face of the slope.
- Native species appropriate to site conditions should be used wherever possible.
- Seed shall be applied uniformly using calibrated broadcast spreaders, mechanical drills, or hydroseeders.
- Do not seed during windy weather, or when topsoil is dry, saturated or frozen.
- Apply slow-release organic fertilizers in accordance with manufacturer recommended rates.
- The application of mulch shall immediately follow seeding.
- Apply hydromulch and soil amendments in accordance with manufacturer's specifications.
- Select appropriate mulch material or erosion control blanket based on slope, required longevity, irrigation or non-irrigation, and site and soil conditions.
- If hydraulically applying mulch as part of the broadcast seeding process, use a 2-step process. Apply seed with a tracer. Once seed is applied, apply full complement of mulch. This will allow seed to be in good contact with soil surface and not suspended in the mulch matrix.
- Mix hydromulch slurry in a tank with an agitation system and spray, under pressure, uniformly over soil surface.
- Lay ECBs loosely and maintain direct contact with the soil. Do not place over protruding objects; rocks, bushes, etc.
- Install storm water diversion and conveyance controls as needed to divert concentrated flows away from seeded areas.

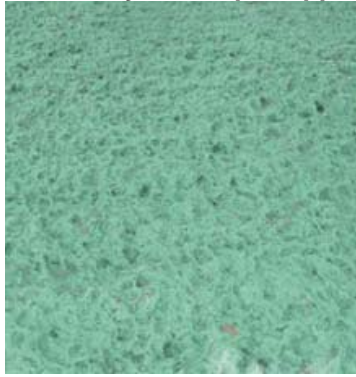
Inspection and Maintenance

ECB and Hydromulch Usage Table

	slopes steeper than 1:1	slopes flatter than 1:1	slopes flatter than 2:1	slopes flatter than 3:1	channels
Permanent blankets (TRM)	x	x	x	x	x
BFM, FGM hydromulch	x	x	x	x	
Wood fiber hydromulch, compost mulch			x	x	
Straw/coir ECBs			X	x	
Coir ECBs		x	X	X	

- Ensure seed and mulch is applied at the specified rate.
- Inspect seeded area for uniform application of seed and mulch.
- For hydromulch applications on slopes, inspect the mulch application from multiple directions (i.e., looking both up and down the slope) to ensure uniform application and no “shadowing” (absence of mulch on the back side of a furrow caused by spraying hydromulch from only one direction).
- Ensure ECBs are properly trenched, overlapped, and anchored. Check that rocks, sticks, or vegetation are not interfering with the blanket’s contact with the ground.
- Ensure that ECBs have been placed such that they maintain contact with the ground surface.
- Inspect seeded area for evidence of erosion (rills, gullies).
- Check for erosion and undermining. Backfill and compact any rills. Install storm water diversion and conveyance controls as needed to divert concentrated flows away from seeded areas.
- Repair torn or windblown blankets.
- Inspect reseeded areas for uniform growth of vegetation. Check for areas for damage by vehicles or other equipment.
- Install storm water diversion and conveyance controls as needed to divert concentrated flows away from seeded areas.

Visual Key for Proper Application (Flexterra-FGM shown)

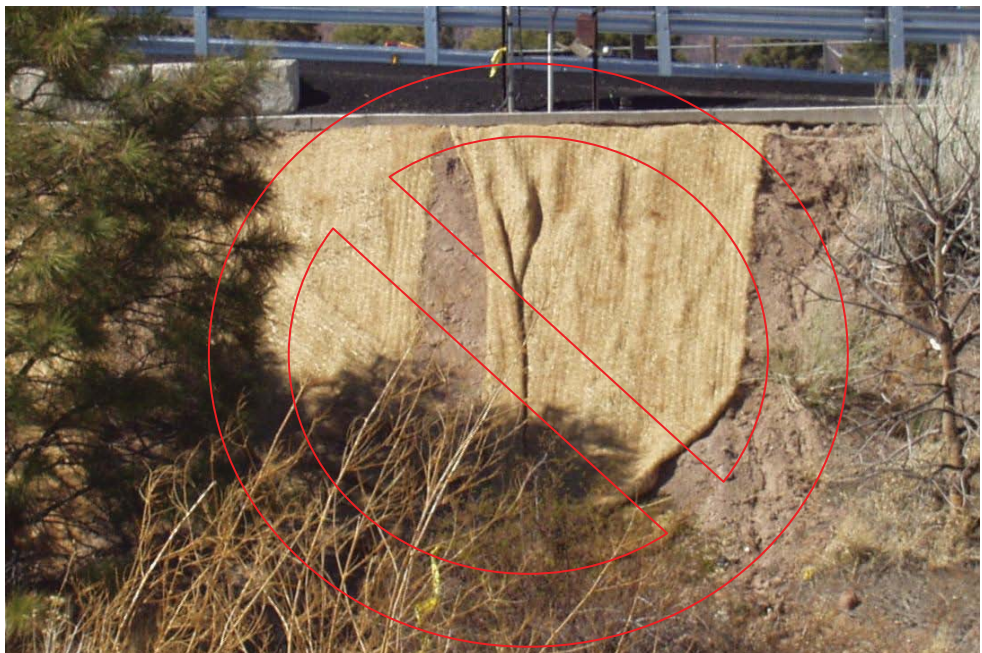


Proper Application: 3,000 lb/acre - 4.1 mm thick



Improper Application (thin)

What not to do...



Properly prepare seed bed and ensure mulch or blanketing is installed correctly in order to promote vegetation growth and control erosion.

Temporary Stabilization



- Options and Alternatives**
- Rock mulch
 - Base course
 - Recycled wood mulch
 - Hydromulch (without seed)
 - Temporary seeding - with annual cover crops
 - For dust control (see Section 3.5)

- BMP Objectives**
- Erosion Control

Description

Temporary stabilization is used for short-term stabilization; when it is known that the area will be disturbed again or when stabilization methods such as seeding are out of season. The use of rock or recycled wood chip mulch can break up raindrop impact. Hydromulch can be used without seed to provide short-term erosion protection. Dust control additives such as gorilla snot bind the clay particles to provide short-term erosion protection.

Applications

- Efficient method of providing immediate, temporary erosion control.
- Use to stabilize a site during winter until seeding can begin.
- Stabilize a portion of a site or soil piles until final grading occurs.

Limitations

- Not a permanent control; re-application may be required throughout the season to achieve effective erosion control.
- Not appropriate during all seasons.

Performance and Longevity

Performance is not as good as permanent stabilization for erosion control; temporary stabilization generally only lasts for a season. Rock and wood mulch last longer but should not be used alone as permanent stabilization.

Performance	Poor	Good	Excellent
Erosion Prevention			x
Sediment Control		x	
Runoff Control	x		
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Revegetation with Annuals/cover crops	x			
Mulch	x	x		
Base course	x	x		x

Design Criteria and Construction Specifications

- Rock mulch should be applied in a thin layer if it is meant to be used in conjunction with seeding in the future.
- Install hydromulch per manufacturer's recommendations. Select a type of mulch based on longevity needs.
- Temporary seeding can be done with cover crops (e.g., annual barley, oats, winter rye, etc.) or sterile, non-invasive annual species such as Quickguard sterile triticale hybrid or Regreen. See Revegetation Section 5.1 for seeding guidelines.
- Recycled wood mulch (MSS has equipment) can be applied as temporary stabilization in areas that do not receive concentrated flows.

Inspection and Maintenance

- Check for erosion and undermining.
- Backfill and compact any rills.
- Storm water diversion and conveyance controls may be installed to divert concentrated flows away.
- Reapply hydromulch or dust suppression substances as necessary if temporary stabilization period is extended.

What not to do...



Base course should not be used for stabilization in areas of high flow.



Hydromulch should not be applied too lightly or in areas of high flow.

Rolled Erosion Control Products



- Options and Alternatives**
- Turf Reinforcement Mats
 - Erosion Control Blankets
 - Riprap
 - Gabions
 - Engineered Stabilization

- BMP Objectives**
- Erosion control

Combinations and Alternatives

Turf reinforcement mats (TRMs) may be used in conjunction with temporary or permanent sediment and erosion control BMPs to promote vegetation growth. Areas where TRMs are applied should be seeded prior to installation.

Erosion Control Blankets (ECBs) may be used in conjunction with temporary or permanent sediment and erosion control BMPs to promote vegetation growth. Areas where ECBs are applied should be seeded prior to installation.

Description

Turf reinforcement mats are a long term non-degradable rolled erosion control product (RECP) comprised of UV stabilized, non-degradable, synthetic fibers or nettings. TRMs are especially useful in areas such as channels that receive higher velocity flows and on slopes requiring immediate permanent soft stabilization. TRMs can enhance the natural ability of vegetation to protect soil from erosion.

Erosion control blankets are generally a machine produced mat of organic, biodegradable mulch such as straw, curled wood fiber (excelsior), coconut fiber or a combination thereof, evenly distributed on or between photodegradable polypropylene or biodegradable natural fiber netting. ECBs are used to temporarily stabilize and protect disturbed soil from raindrop impact and surface erosion, to increase infiltration, decrease compaction and soil crusting, and to conserve soil moisture. Mulching with erosion control blankets will increase the germination rates for grasses and legumes and promote vegetation establishment. Erosion control blankets also protect seeds from predators; reduce desiccation and evaporation by insulating the soil and seed environment.

Applications

TRMs:

- TRMs may be used in areas where hard armoring or impervious lining would be required.
- Excellent for stabilizing soil in high shear stress/velocity channels or any area exposed to high volume or high velocity storm water runoff such as drainage ditches and runoff conveyance systems. TRMs may be used in channels where shears are up to 11 lbs/ft² and velocities range up to 20 ft/sec.

- May be used on slopes requiring immediate permanent soft stabilization.
- Remain in place as permanent stabilization.
- Helps establish and maintain vegetative cover.

Limitations

- The slopes must be uniform and relatively smooth before installation to ensure complete contact with the soil.
- Should not be used when anticipated hydraulic conditions are beyond the limits of TRMs.
- ECBs will often mask slope failures from all but the most intense scrutiny until erosion is too far along to effectively treat the slope with spot methods.
- Erosion control blankets are generally more expensive than hydroseeding.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention			x
Sediment Control	x		
Runoff Control	x		
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
TRM			x	

Design Criteria and Construction Specifications

Site preparation is essential to ensure that RECPs perform as intended and remain in close contact with the soil. Ensure soil amendments are applied as necessary and seed according to LANL Master Specifications Section 32 9219 Seeding. Choose the appropriate turf reinforcement mat for a channel based on the calculated shear stress and water velocities.

Anchoring:

- U-shaped wire staples, metal geotextile stake pins, or triangular wooden stakes can be used to anchor mats to the ground surface. Wire staples should be a minimum of 11 gauge. Metal stake pins should be 3/16 inch diameter steel with a 1 1/2 inch steel washer at the head of the pin. Wire staples and metal stakes should be driven flush to the soil surface. All anchors should be 6-8 inches long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

Installation of TRM or ECB on Slopes:

- Begin at the top of the slope and anchor the RECP in a 6 inch deep x 6 inch wide trench. Backfill trench and tamp earth firmly.
- Unroll RECP downslope in the direction of the water flow.
- The edges of adjacent parallel rolls should be overlapped 2-3 inches and be stapled every 3 feet.
- When RECP must be spliced, place mats end over end (shingle style) with 6 inch overlap. Staple through overlapped area, approximately 12 inches apart.
- Lay RECP loosely and maintain direct contact with the soil - do not stretch or allow "tenting" of the material.

- RECP should be stapled sufficiently to anchor mat and maintain contact with the soil.
- Staples should be placed down the center and staggered with the staples placed along the edges.

Installation of TRM in channels:

- Dig initial anchor trench 12 inches deep and 6 inches wide across the channel at the lower end of the project area.
- Excavate intermittent check slots, 6 inches deep and 6 inches wide across the channel at 25-30 foot intervals along the channel.
- Cut longitudinal channel anchor slots 4 inches deep and 4 inches wide along each side of the installation to bury edges of matting. Whenever possible extend matting 2-3 inches above the crest of channel side slopes.
- Beginning at the downstream end and in the center of the channel, place the initial end of the first roll in the anchor trench and secure with fastening devices at 1 foot intervals.
- In the same manner, position adjacent rolls in anchor trench, overlapping the preceding roll a minimum of 3 inches.
- Secure these initial ends of mats with anchors at 1 foot intervals, backfill and compact soil.
- Unroll center strip of matting upstream.
- Unroll adjacent mats upstream in similar fashion, maintaining a 3 inch overlap.
- Shingle-lap spliced ends by a minimum of 1 foot with upstream mat on top to prevent uplifting by water
- Anchor overlapped area by placing two rows of anchors, 1 foot apart on 1 foot intervals.
- Place edges of outside mats in previously excavated longitudinal slots, anchor and backfill and compact soil.
- Anchor, fill and compact upstream end of mat in a 12 inch x 6 inch terminal trench.
- Secure mat to ground surface using U-shaped wire staples, geotextile pins, or wooden stakes.

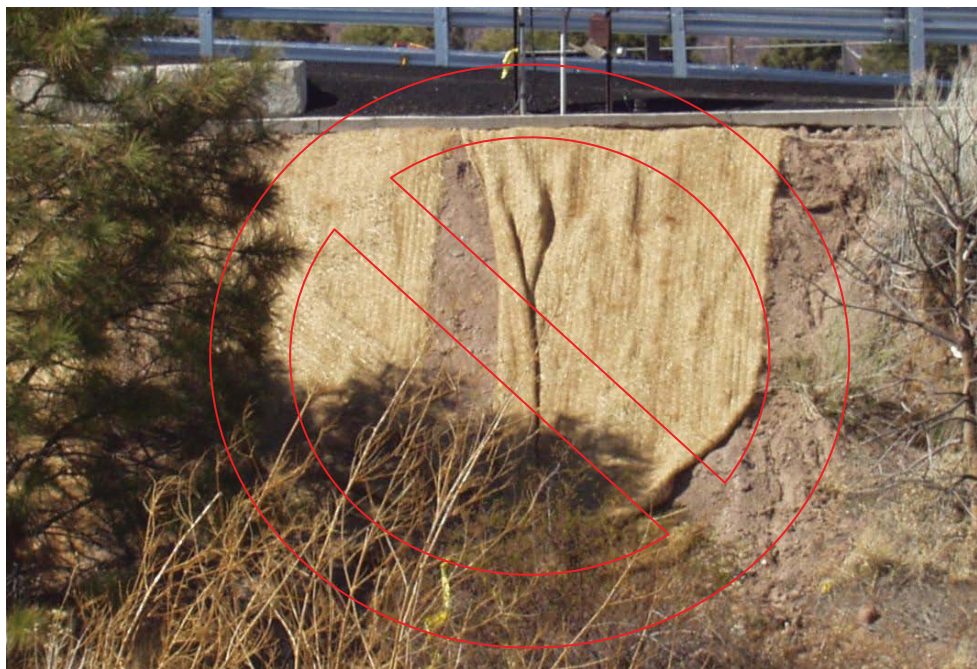
Inspection and Maintenance

- All mats should be inspected periodically following installation.
- Inspect mats after significant rain events to check for erosion and undermining. Any failure should be repaired immediately.
- If washout or breakage occurs, re-install the material after repairing the soil damage

What not to do...



TRM installation was not continued along swale where water flow is concentrated, causing erosion.



Properly anchor blanketing on a properly prepared surface.

Dust Suppression



- Options and Alternatives**
- Stabilize with vegetation, or paving (see Sections 5.1, 5.7)
 - Cover stockpiles with plastic

- BMP Objectives**
- Erosion Control
 - Sediment Control

Description Dust control measures are implemented to prevent the soil from leaving the site. Dust control practices include minimization of soil disturbance, water application, mulching, establishing vegetation, and using soil stabilizers or tackifiers.

Applications Apply dust suppression techniques on any site subject to wind erosion and off-site tracking, especially at construction sites and on roads.

Limitations Some temporary dust controls must be reapplied and/or maintained frequently.

- Performance and Longevity**
- *Mulch* - Can reduce wind erosion by up to 80 percent.
 - *Tillage* - Roughening the soil can reduce soil losses by approximately 80 percent in some situations.
 - *Soil Stabilizers* - Effectiveness of polymer stabilization methods range from 70 percent to 90 percent.

Performance	Poor or N/A	Good	Excellent
Erosion Prevention			x
Sediment Control			x
Runoff Control	x		
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
water and soil stabilizers	x			

- Design Criteria and Construction Specifications**
- *Water Application*: Sprinkling the ground surface with water is an effective dust control method for roads. If this method is to be employed at a construction site, it is recommended that a proper construction entrance/exit be created to prevent tracking sediment off-site.

- Apply water in a manner that does not result in runoff from the site.
- *Soil Stabilizers*: select product and application based on site conditions and required longevity. *Apply in accordance with manufacturer's recommendations.*
- *MgCl* should not be used at LANL.
- *Tillage*: This practice roughens the soil and brings clods to the surface. Plowing should begin on the windward side of the site using chisel-type plows spaced about 12 inches apart, spring-tooth harrows, or similar plows.

Inspection and Maintenance

- If dust is blowing, reapply.
- Temporary dust control measures, such as water, require frequent renewal.

What not to do...



Dust control was not applied sufficiently.

Gabions



- Options and Alternatives**
- Use riprap (see Section 5.5) or RECP (see Section 5.3) for lower flows

- BMP Objectives**
- Sedimentation control
 - Slope stabilization

Description

A gabion is wire enclosed riprap that forms a pervious structure designed to stabilize and protect channels and slopes subject to erosion. By trapping sediment between the stones, gabions also facilitate vegetative growth. The traditional gabion is a rectangular basket used as a building block for retaining walls and grade control structures. Gabion mattresses, which are not as thick as traditional gabions, are used to line storm drain outlets and channel side slopes and bottoms. The wire used in gabion construction is typically double-twist, hexagonal mesh or welded wire.

Applications

In channels for permanent stabilization.

Limitations

- Proper design is essential.
- Expensive and difficult to install.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention			x
Sediment Control			x
Runoff Control	x		
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Gabion			x	

Design Criteria and Construction Specifications

Gabion installation should be designed and specified by qualified personnel in accordance with engineering specifications. Installation shall be completed in accordance with the design requirements and manufacturers' standards and specifications. Additional general information on gabion installation follows:

- Stones are usually rounded river rock and are well graded to promote interlocking.
- Gabions should be filled with minimum of 3-5 inch stone.
- Gabion mattresses should be filled with 4-8 inch stone.
- Baskets shall be constructed of wire mesh specified for this purpose and baskets are attached to each other with proper fasteners.
- Filter fabric must be used underneath the gabions.
 - Connect joints of the filter fabric with a minimum overlap of 1 foot and space anchor pins approximately every 3 feet along the overlap.
 - The ends of the filter fabric shall be buried to a minimum depth of 12 inches.
- Use steel railroad rails, standard weight galvanized steel pipe or steel angles minimum 4" x 4" x 3/8 in. for stakes to anchor to the ground.
- Gabion installation should be done in accordance with the design.
- For channel stabilization place in a trench excavated to 24 in below the toe of the slope of the Embankment or side of channel. Brush, trees, stumps, and other objects that would interfere with placement should be removed. Excavate loose material as necessary to establish a stable foundation for each structure.
- Gabions and gabion mattresses shall be secured to the stream bank or stream bed.
- Place riprap stones in lifts a maximum of 12 inches thick forming a continuous blanket. Some hand placement is necessary to fill in gaps and voids and avoid bulging.
- When gabions are assembled, corners should be first joined together. Untied edges shall be assembled by tying with lacing wire or approved fasteners. Gabion baskets should be joined to each other along adjacent edges, both horizontally and vertically.

Inspection and Maintenance

- Check that filter fabric was used under the gabion.
- Check that gabion is anchored to the ground.
- Check that gabions are fastened to each other.
- Check that baskets are adequately filled with no voids or bulges.
- Check that adjacent slopes have been filled adequately to prevent erosion and scour around the edges of the structure.
- Inspect for erosion and scour around and beneath the gabions.
- Check for excessive slumping, gabions are flexible and minor settling can be accommodated.
- Check for corroding wire mesh.
- Check for excessive growth of bushes, trees and other vegetation that may damage gabions.

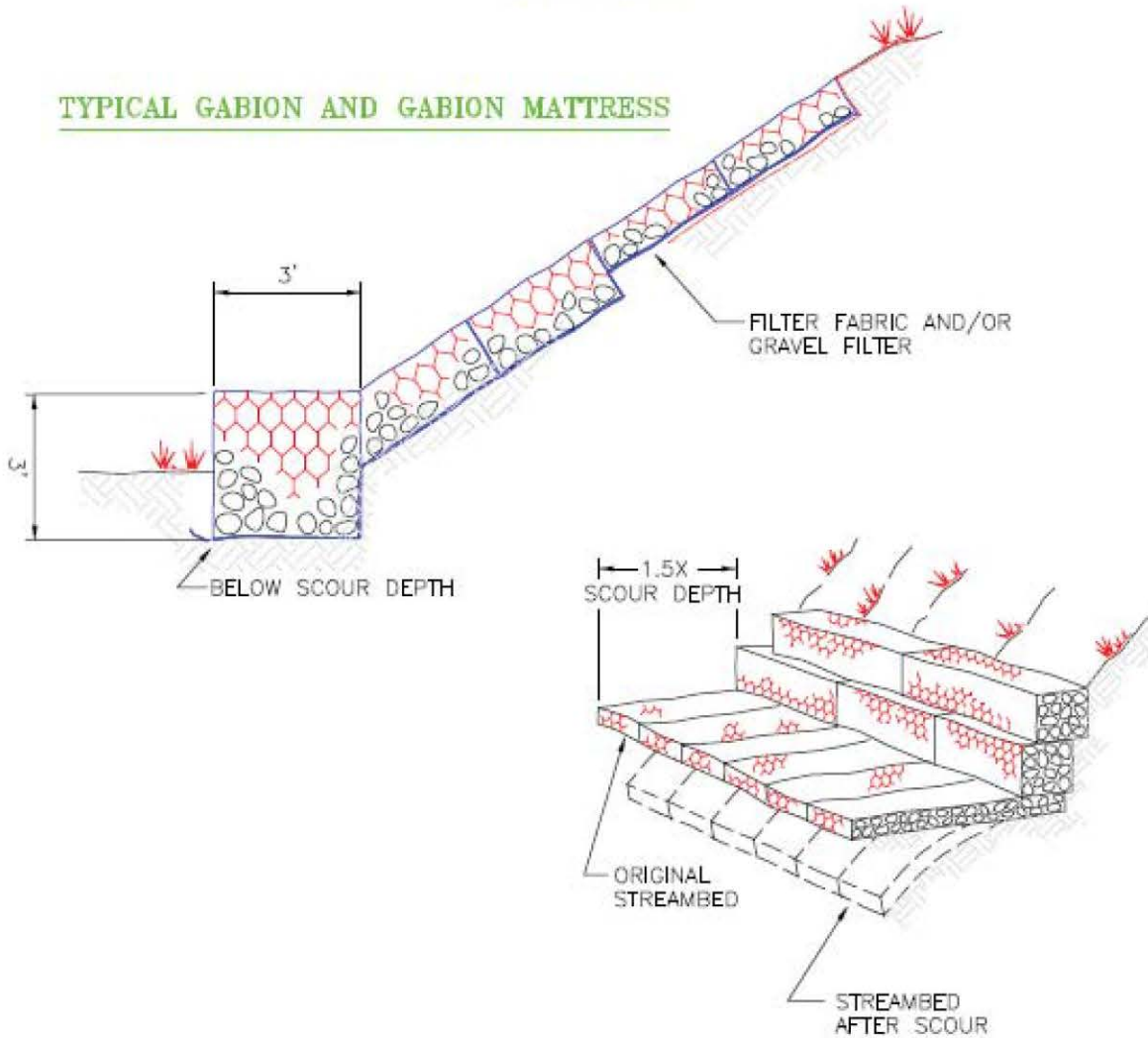
What not to do...



Obstructions not removed from channel before gabion was installed. No filter fabric under the gabions. Scour under the gabions.

GABIONS

TYPICAL GABION AND GABION MATTRESS



TYPICAL GABION APRON

NOTES:

1. WHEN ASSEMBLING GABIONS, FASTEN CORNERS TOGETHER FIRST.
2. SECURE GABIONS TO STREAMBANK OR STREAMBED TO MINIMIZE SCOUR BENEATH OR AROUND THE STRUCTURES.
3. EXCAVATE LOOSE MATERIAL TO ESTABLISH A STABLE FOUNDATION.
4. MINIMIZE VOIDS AND BULGES IN THE GABIONS.

Riprap



<p>Options</p> <ul style="list-style-type: none"> • Can be wire enclosed or loose <p>Alternatives</p> <ul style="list-style-type: none"> • Use TRM for channel install (see Section 5.3) • Vegetation and terracing on slopes
<p>BMP Objectives</p> <ul style="list-style-type: none"> • Erosion control

Description

Riprap is a permanent, erosion-resistant layer made of stones. It is intended to protect soil from erosion in areas of concentrated runoff. Riprap generally consists of crushed rock and for added effectiveness may be placed on filter fabric on a prepared surface. The individual stones are typically angular in shape and well graded to promote interlocking.

Applications

- Riprap is effective in protecting culvert inlets and outlets and preventing scouring and undercutting.
- Useful in the stabilization of stream or channel banks and drainage channels.
- Can be used to stabilize cut and fill slopes, storm drains and slope drains.
- Should be considered where perennial flows or frequent ponding would drown a vegetated lining.

Limitations

- Proper design and stone selection for expected flow velocity is essential.
- Should not be placed on slopes greater than 1.5:1.
- Cost may be a prohibitive factor in large scale applications.
- Difficult to remove sediment accumulations.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention			x
Sediment Control			x
Runoff Control		x	
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Riprap		x		

Design Criteria and Construction Specifications

- Riprap installations should be designed and specified by qualified personnel in accordance with the LANL ESM Section G10 6.0.E.7.a.
- Use stones angular in shape and well graded to promote interlocking.
- Filter fabric must be used underneath.
 - Connect filter fabric joints with a minimum overlap of 1 foot and space anchor pins approximately every 3 feet along the overlap.
 - The ends of the filter fabric shall be buried to a minimum depth of 12 inches.
- Brush, trees, stumps, and other objects that would interfere with riprap placement should be removed.
- Place riprap stones forming a continuous blanket to minimum thickness of 12 inches.
- Place the riprap in a trench excavated to 24 inches below the toe of the slope of the embankment or side of channel.

Inspection and Maintenance

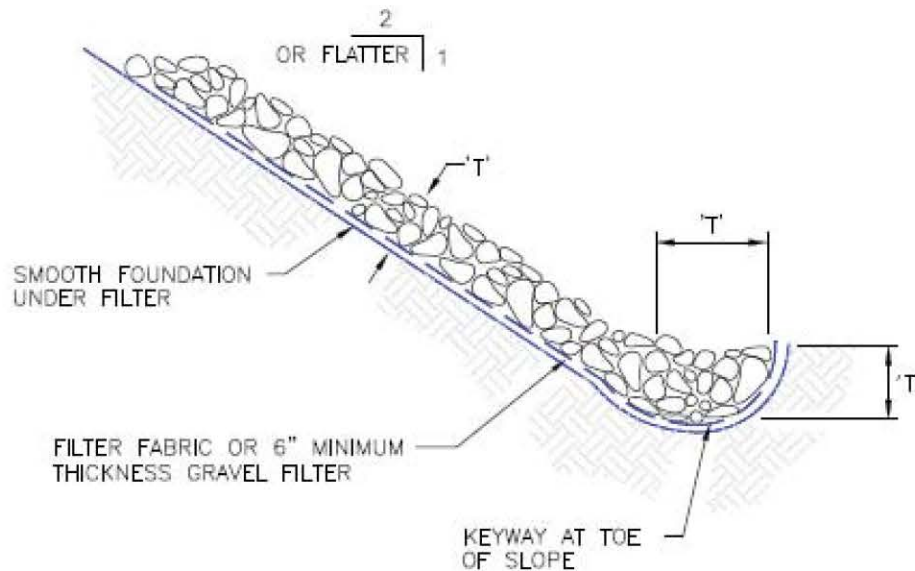
- Check that filter fabric was used under the riprap.
- Check that riprap installed in a channel has a low point in the center to prevent flows from going around the rock.
- For riprap aprons, inspect for erosion around the riprap and dislodgment of stones.
- Check for slumping on hillsides.
- Check for scour or undermining – replace or reposition riprap as necessary.

What not to do...



Properly installed riprap at culvert outlet will control erosion.

RIPRAP



TYPICAL SECTION

NOTES:

1. REMOVE BRUSH, TREES, STUMPS, AND OTHER OBJECTS THAT WOULD INTERFERE WITH RIPRAP PLACEMENT.
2. RIPRAP SHALL BE A MIXTURE OF WELL GRADED STONES.
3. RIPRAP THICKNESS 'T' SHALL BE DETERMINED BY THE ENGINEER. REFER TO SECTION 602 OF THE NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS OF HIGHWAY AND BRIDGE CONSTRUCTION FOR STONE CLASSIFICATIONS.
4. PLACEMENT SHOULD FORM A WELL GRADED MASS OF STONE WITH A MINIMUM OF VOIDS.
5. ENSURE THAT THE FILTER AND UNDERLYING LAYERS ARE NOT DISTURBED DURING RIPRAP PLACEMENT.

Permanent Capping



Options and Alternatives

- Covering exposed areas with vegetation, stone, or concrete
- Diverting water away from the site

BMP Objectives

- Erosion control

Description

Permanent capping can be achieved using asphalt, concrete, geotextile, clay or soil with vegetative cover. Permanent caps are used when no other alternative is available to prevent pollutants at a site from leaving. Permanent capping is used to isolate areas of potential soil contamination from storm water. Used when no infiltration or erosion is allowed.

Applications

Permanent capping is used when no other alternative is available to prevent pollutants at a site from leaving.

Limitations

Expensive engineered control.

Performance and Longevity

Performance	Poor or N/A	Good	Excellent
Erosion Prevention			x
Sediment Control	x		
Runoff Control	x		
Good Housekeeping	x		

Longevity	Temporary (must be removed)	Long term (may need maintenance)	Permanent	Re-useable
Permanent capping			x	

Design Criteria and Construction Specifications

Permanent Caps will be designed and inspected by an engineer at the time of installation.

Materials:

- Material used for capping must be obtained from an uncontaminated source.

Installation:

- Earthen caps must be at least 24 inches thick and should be vegetated or covered with rock or gravel to protect the cap from erosion.
- Asphalt caps should be a minimum of 4 inches thick.

Inspection and Maintenance

- Are there areas of potential damage on the cap? - Look for scour, cracks, trees or large bushes.
- Are run on and run off controls in good condition? – Caps should be constructed with diversions and runoff erosion controls. Look for cracks, missing sections that could allow water to cross the site or get under the cap.
- Are there areas of erosion within 50 feet of the capped area that could migrate towards the cap?
- Any new human caused impacts to the area? - Fences, signs, damage from vehicles, new run on sources.
- Any animal impacts to the area, such as burrows or ant hills?

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Performance Improvement from Abnormal Events

1.0 PURPOSE

This document defines the process for responding to and notifying others of abnormal events at Los Alamos National Laboratory (LANL or the Laboratory). The abnormal event process is part of the LANL Contractor Assurance System (CAS), and is focused on effectively driving continuous performance improvement from each event.

Events that pose an immediate threat to life or property are subject to additional emergency notification requirements. See Section 3.12.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to the Contractor Assurance Officer (CAO), as provided in the [Prime Contract](#). This document derives from the Laboratory [Governing Policies](#), particularly the section on Management Systems, and [SD320](#), *Los Alamos National Laboratory Contractor Assurance System Description Document*.

- Issuing Authority (IA): Contractor Assurance Officer (CAO)
- Responsible Manager (RM): Quality and Performance Assurance–Performance Assurance (QPA-PA) Group Leader
- Responsible Office (RO): Quality and Performance Assurance–Performance Assurance (QPA-PA)

2.2 Applicability

This document applies to all Laboratory workers, including employees of Los Alamos National Security, LLC (LANS), its contractors/subcontractors, students, guests, affiliates, or visitors. This document applies to work-related events on-site, i.e., within the physical boundaries of LANL, and off-site when the workers are (1) in LANL pay status, and (2) working under LANL procedures and requirements. Events involving LANL workers that occur at another Department of Energy (DOE)/National Nuclear Security Administration (NNSA) contractor site and where the work is under that site's procedures and requirements are managed by that contractor's abnormal event process.

Abnormal events include all abnormal conditions, accidents, incidents, or deviations from the planned outcome of a workplace activity that did or could have adversely affect(ed) health or safety of workers, the public, the environment, or the integrity of LANL programs or facilities.

Roles assigned in this document are based on [P313](#), *Roles, Responsibilities, Authorities, and Accountability*. Key roles are filled by the Facility Operations Directors (FODs) and trained investigators from QPA-PA who support the FODs. The term FOD in this document refers to individuals in the Nuclear and High-Hazard Operations Directorate (NHHO), but for events that do not fall within the boundary of an NHHO-managed FOD Unit, refer to individuals outside of NHHO designated to fill the FOD role. Examples of the FOD role served from outside NHHO include:

- Construction/demolition project managers for events within their project,
- Subject matter experts, such as the Environmental Protection (ENV) Division Director, for multi-facility events or events with institutional impact, and
- The Laboratory Deputy Director for all Team Investigations.

Management authority and responsibility for execution of the abnormal event process are assigned to the FODs. FODs may delegate responsibilities and authorities for the abnormal event process to Operations Managers or Duty Officers. Facility-owning Responsible Associate Directors (RADs) establish their involvement in the process through agreements with the FODs. Details of the abnormal event process and procedures are maintained by QPA-PA and found on the [Occurrence Reporting](#) webpage.

Processes related to Operational Emergencies (OEs), security incidents, and the Price-Anderson Amendments Act (PAAA)/Worker Safety and Health (WSH) program are beyond the scope of this document. See Section 3.12.

3.0 PROCEDURE DESCRIPTION

The Laboratory has adopted a graded approach for investigating and resolving abnormal events. See Table 1 for a summary of the three-tier graded approach, and Attachment A, *Abnormal Event Process*, for the process flow at each of the three tiers.

Table 1. Graded Approach to Abnormal Events		
Event Type	Examples	Who Investigates/Resolves
High-significance Occurrence Reporting and Processing System (ORPS)-reportable events are subject to Team Investigation. See Section 3.11.	<ul style="list-style-type: none"> ▪ Fatality, terminal or disabling injury ▪ Criticality accident or near miss ▪ Radiation exposure exceeding limits for a worker or member of the public 	<ul style="list-style-type: none"> ▪ A team appointed by the Deputy Laboratory Director investigates. ▪ The Institutional Management Review Board (IMRB) oversees corrective action.
Low- to moderate-significance ORPS-reportable events, exceeding the ORPS thresholds. See Section 3.2.	<ul style="list-style-type: none"> ▪ Injury requiring hospitalization ▪ Failures of safety-required equipment ▪ Moderate-hazard electrical shock events ▪ Violations of safety requirements 	<ul style="list-style-type: none"> ▪ Facility Operations Directors (FODs) with support from full-time, trained investigators in QPA-PA investigate. ▪ Appropriate Management Review Boards (MRBs) oversee corrective action.

Table 1. Graded Approach to Abnormal Events

Event Type	Examples	Who Investigates/Resolves
Sub-ORPS events fall below the ORPS thresholds. See Section 3.10.	<ul style="list-style-type: none"> ▪ Minor workplace incidents or near misses ▪ Minor equipment failures ▪ Operational concerns resulting in pause or stop work 	<ul style="list-style-type: none"> ▪ Improvement Responsible Managers (IRMs) from the facility or program where the event occurred investigate. ▪ Local MRB oversees corrective action.

3.1 Notify Management of an Abnormal Event

Abnormal events at LANL require immediate management notifications. Workers generally witness first hand or discover evidence of abnormal events, and it is their responsibility to recognize the abnormality, stabilize the situation to the extent possible (e.g., pause or stop work), and initiate the notifications to their chain of facility and line management. These immediate notifications must be concise and factual.

Workers who are involved in any abnormal event or who discover any abnormal condition must:

- Notify their immediate supervisor, or the first immediately available manager in the worker's chain of command; and
- Notify the FOD or FOD designee if required by local procedures or if their immediate supervisor is unavailable.

Supervisors and first line managers, group-level managers, and division-level managers who are notified by a worker or in any way become aware of an abnormal event must:

- Ensure notification of the FOD/designee for all abnormal events;
- Notify the first immediately available manager in their upward chain;
- **Note:** For minor events, line managers at each level may use their judgment as to the extent of additional, upward, line-management notification; and
- Follow any additional FOD or RAD expectations for additional notifications.

RADs, upon being notified of an abnormal event in their facility should, according to their judgment:

- Consult with the FOD/designee on response to the event;
- Notify their Principal Associate Director (PAD)
- Notify the Deputy Laboratory Director (see Section 3.1.1), and
- Notify affected sponsors or external program managers of the involved facility or project.

The management notifications described above are generally verbal. The responsibility for official written notification of the event is reserved to the FOD in accordance with Section 3.3.

3.2 Categorize the Event

Within two hours of becoming aware of an abnormal event, the FOD or FOD designee must gather key facts, decide whether an abnormal event has in fact occurred, and categorize the event as either ORPS or Sub-ORPS. Categorization follows the reporting criteria of [DOE Order 232.2](#), *Occurrence Reporting and Processing of Operations Information*. Reporting and categorization criteria compliant with DOE requirements are maintained in procedures by QPA-PA found on the [Occurrence Reporting](#) webpage. Events falling below the ORPS thresholds are processed as Sub-ORPS. See Section 3.10.

The event categorization establishes the next steps, including:

- External notifications to include NNSA-Los Alamos Site Office (LASO) Facility Representative and possibly DOE Headquarters Operations Center (HQ OC).
- Reporting timelines.
- Rigor applied to the investigation, causal analysis, and corrective action.
- Approvals required for the final report.

Categorization places each ORPS-reportable event into a Significance Category (SC) based on DOE requirements as follows:

- **Significance Category OE.** Operational Emergencies, the highest significance, are categorized exclusively by the LANL Emergency Operations (EO) Division (see Section 3.12)
- **Significance Category 1 (SC1):** Occurrences that have a significant impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests
- **Significance Category 2 (SC2):** Occurrences that have a moderate impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests
- **Significance Category 3 (SC3):** Occurrences that have a minor impact on safe facility operations, worker or public safety and health, regulatory compliance, or public/business interests
- **Significance Category 4 (SC4):** Occurrences that have some impact on safe facility operations, worker or public safety and health, public/business interests
- **Significance Category R (SCR):** Occurrences flagged as recurring, based usually on a history of prior similar abnormal events at LANL, and indicating failure of prior corrective actions. Declaration of a Category R event requires concurrence of the Deputy Laboratory Director and chartering of a resource-intensive Team Investigation to evaluate the historic data (see Section 3.11)

If early information is incomplete, the FOD must categorize conservatively (at the higher level being considered) within two hours, then adjust the category at the critique or as more information becomes available.

Events at all levels of severity (ORPS and Sub-ORPS) are subject to additional screening and possibly reporting under the PAAA/WSH program (see Section 3.12).

3.3 Transmit Prompt (E-mail) Event/Incident Notification

As soon as possible after categorization (indicating that an abnormal event has in fact occurred) the FOD or designee sends an e-mail (Event/Incident Notification) to key stakeholders both inside and outside LANL with the best available information about the event. The Event/Incident Notification includes the following:

- Date/Time of Discovery
- Date/Time of Categorization
- Location of the event (TA/Building; RAD)
- Description of the event, including the following information when relevant:
 - Personal injuries
 - Damage to facilities, systems, equipment
 - Impact of event on other activities and operations
 - Protective actions taken or recommended
 - Weather conditions at the scene
 - Level of media or public interest
- Other notifications made
- Whether or not the event is to be included in the Daily/Special Executive Report
 - Title and text for Executive Report
- Whether or not the event is ORPS-reportable
 - ORPS reporting criteria (Group/Subgroup/Criterion)
 - SC

The distribution group for the e-mail includes at a minimum:

- RAD for the event, and any subordinates in the RAD chain according to FOD/RAD agreements
- Associate Director for Nuclear and High-Hazard Operations (ADNHHO)
- QPA-PA investigator assigned to the facility
- QPA-PA staff responsible for the Daily/Special Executive Report
- NNSA Facility Representative for the FOD Unit (required within two hours of the event for all ORPS-reportable events)

Note: Through agreement with the assigned NNSA Facility Representative, FODs establish facility-specific expectations to include telephone notification if necessary to ensure meeting the two-hour requirement.

- DOE HQ OC (required within two hours of the event for certain ORPS-reportable events, and identified with an asterisk [*] in DOE reporting criteria maintained by QPA-PA and found on the [Occurrence Reporting](#) webpage.)

In addition, through agreement with the RAD, FODs establish facility-specific expectations for inclusion of the RAD or certain RAD staff on distribution of Event/Incident Notifications.

3.3.1 Daily or Special Executive Report

The Event/Incident Notification is followed by a Daily Executive Report or Special Executive Report to LANL, LANS, and LASO senior managers. Only ORPS-reportable events and the most significant Sub-ORPS events are included in these Executive Reports. Executive Reports are generated from the FOD's Event/Incident Notification and transmitted by QPA-PA staff on a time scale dependent on event significance as follows:

- For SC2/3/4 ORPS-reportable events (not marked with an asterisk) and any Sub-ORPS event designated by the FOD for inclusion in the Daily Executive Report, QPA-PA develops from the Event/Incident Notification an Operations Event entry into the Daily Executive Report for the next business day.
- For SC1, and SC2*/3*/4* events (requiring notification within two hours of the event to HQ OC by the FOD), QPA-PA develops from the Event/Incident Notification a Special Executive Report to be distributed as soon as possible but no later than two hours after receipt of the FOD's Event/Incident Notification.
- For OE events (requiring notification within 15-30 minutes of the event to HQ OC by EO personnel), QPA-PA develops from the EO information as forwarded by the FOD, a Special Executive Report to be distributed as soon as possible but no later than two hours after receipt of the EO e-mail. See Section 3.12 for cautions about exclusive communications authority assigned to EO personnel.

3.4 Critique the Event

The worker-involved meeting to discuss the abnormal event, called the "critique," is the most immediate part of the event investigation and plays a central role in launching an effective partnership between workers, supervisors, and managers to understand the event and improve future performance. Critiques are required for ORPS-reportable events and are optional, at FOD discretion, for Sub-ORPS events (see Section 3.10).

All critiques at the Laboratory must meet three key expectations:

- Critiques must be held as soon as possible after the event. The critique should be held the same day as the event, and for ORPS-reportable events must be held no later than close of the business day following the event. The FOD may, due to extenuating circumstances (e.g., a key involved worker is unavailable), grant an extension of this deadline.
- Attendance in the worker/responder portion of the critique must be held to the minimum necessary and sufficient to understand the event and immediate response. The guideline for minimum attendance is the FOD, QPA-PA investigator, and the involved worker(s). Supervisors and first line managers are encouraged to attend, but to maintain a manageable size and candid environment, managers above group level are encouraged to defer attendance to the critique closeout or post-critique follow-on meetings. The PAAA Office Coordinator, NNSA Facility Representatives, and (for nuclear facilities only) Defense Nuclear Facilities Safety Board Representatives must be invited to all critiques, but attendance is at their discretion and critiques proceed on schedule if they are absent. The size guidelines for LANL critiques apply equally to all events, from minor to the most severe.
- The critique must be an open discussion forum, never a blame placing session. Event investigation is often perceived as a punitive process. Combating this perception begins at the critique, where the FOD and all managers in attendance must take active steps to set and maintain a tone of learning from the experience rather than finding fault with individuals.

Involved workers, responders, managers and subject matter experts called upon to attend the critique must candidly explain the sequence of events leading up to, during, and immediately following the event, participate openly and effectively in the problem-solving discussion, and cooperate fully with the FOD and critique leader.

3.5 Open Event Record in the Performance Feedback and Improvement Tracking System (PFITS) and ORPS

For all abnormal events (ORPS and Sub-ORPS) a record is opened in the PFITS system. For ORPS-reportable events, parallel records are entered into the DOE ORPS system; for Sub-ORPS events, the PFITS record is the sole record of the event. PFITS maintenance beginning at this step is according to the local event-related Performance Feedback and Improvement (PFI) processes, administered with support of Improvement Management Coordinators (IMCs).

Consistency between the ORPS and PFITS systems is ensured by attachment of the written ORPS Notification Report to the PFITS record. The QPA-PA investigator provides assistance to the FOD in generating the Notification Report, or for SC4 events, the Notification/Final Report, in the ORPS system. Notification Reports must be submitted to the ORPS system within the first two business days after the event as follows:

- OE and SC1: no later than Close of Business (COB) the next business day after the day of categorization, not to exceed 80 hours from the date and time of categorization.
- SC2 and SCR: no later than COB the next business day after the day of categorization.
- SC3: no later than COB on the second business day after the day of categorization.
- SC4: Notification/Final (Short Form) Report: no later than COB on the second business day after the day of categorization.

3.6 Investigate

Investigations are required for ORPS-reportable events, and are led by the QPA-PA investigator as the agent of the FOD. Investigations for Sub-ORPS events are required only for more significant events, in accordance with criteria found in [P322-4](#), *Laboratory Feedback and Improvement Process*. Sub-ORPS investigations, if performed, are generally led by the Improvement Responsible Manager (IRM) and IMC according to local event-related PFI processes (see Section 3.10). The most serious events are investigated by a multidisciplinary team (see Section 3.11). All investigations of abnormal events are graded to the risk or significance of the event, and must be performed by individuals trained according to [P322-1](#), *Causal Analysis and Corrective Action Development*.

Subject matter experts are consulted by the lead investigator as deemed necessary to understand the specific event. Human Performance Improvement (HPI) Practitioners should be involved to address human error as it relates to organizational weakness and latent conditions.

3.7 Determine Causal Factors

Causal analysis is required for ORPS events in SCs OE/1/2/3/R, and is optional for SC4. ORPS causal analysis is led by the QPA-PA investigator as agent of the FOD, or by the Team Chair for Team Investigations (see Section 3.11). Causal analysis for Sub-ORPS events is required only for more significant events, in accordance with criteria found in [P322-4](#), *Laboratory Feedback and Improvement Process*. Sub-ORPS causal analysis, if performed, is generally led by the IRM and IMC according to local event-related PFI processes (see Section 3.10). The target for completion of ORPS causal analysis and submittal of a report to the FOD is Day 24 from the event; a similar timeframe is recommended but not required for Team Investigations and Sub-ORPS events (see Attachment A, *Abnormal Event Process*). For all abnormal events the causal analysis must be performed by individuals who are trained and using methods in accordance with [P322-1](#), *Causal Analysis and Corrective Action Development*.

3.8 Develop Corrective Actions

Corrective action development in response to identified causal factors is the same for all abnormal events (events requiring Team Investigations, ORPS-reportable events, and Sub-ORPS events) and follows event-related PFI processes within facilities and programs. PFI processes are described in [P322-1](#), *Causal Analysis and Corrective Action Development* and [P322-4](#), *Laboratory Performance Feedback and Improvement Process*.

Recording and tracking of corrective actions is shared between the DOE ORPS and the LANL PFITS systems. Basic corrective action statements are entered into the ORPS Final Report. Detailed action plans and all active tracking of actions to closure, including changes to the due date or content of the action, are managed using the PFI process and the PFITS system.

ORPS Final Reports (except SC4, for which Notification/Final Reports must be completed in two business days, but corrective actions are optional) must be completed 45 calendar days from categorization of the event. See Attachment A, *Abnormal Event Process*. Extensions beyond 45 days are coordinated between the FOD and QPA-PA investigator, and require FOD concurrence. Team Investigations follow a schedule established in the charter process. See Section 3.11.

Closure of Sub-ORPS events follows guidelines in [P322-4](#), *Laboratory Performance Feedback and Improvement Process*.

3.9 Submit Final Report in PFITS and ORPS

For ORPS-reportable events, FODs approve by signature and own the Final Report. QPA-PA staff assist with filling all required Final Report fields and obtaining Derivative Classifier (DC) review either by QPA-PA staff or the FOD/RAD organizations. Parallel PFITS records for each event comprise the official record of corrective actions and concurrence of all assigned action owners.

NNSA Facility Representatives have approval and change control authority for ORPS Final Reports in significance categories SCR, SC2, SC1, and OE. Coordination of draft reports in these SCs with the Facility Representative and resolution of Facility Representative rejections are shared duties for the FOD and QPA-PA staff. The record of Facility Representative approvals and all change control is kept in PFITS.

Sub-ORPS reports consist of the PFITS record of the event. See Section 3.10.

Team Investigations are entered into the ORPS system but are also published according to the charter. See Section 3.11.

3.10 Sub-ORPS Events

Management notifications (see Section 3.1), categorization by the FOD (see Section 3.2), and prompt e-mail notification (see Section 3.3) apply to both ORPS and Sub-ORPS events. Process steps described in Sections 3.4 through 3.9 are carried out for Sub-ORPS events with the roles shifted from the FOD and QPA-PA investigators to responsible managers and IMCs in the facilities and programs. These differences from ORPS-reportable events are noted in each section above and summarized here as follows:

3.10.1 Criteria for Sub-ORPS Reporting

By definition, Sub-ORPS events include all events reported by the FOD in an Event/Incident Notification that do not meet any ORPS threshold. The Laboratory does not publish de minimis criteria or a “floor” for incidents warranting Event/Incident Notification, i.e., Sub-ORPS reporting. FODs are expected to use operational experience, professional judgment, and common sense in their decisions. Guidance and oversight of the Sub-ORPS reporting decision process are the responsibility and authority of ADNHHO.

3.10.2 Critique of Sub-ORPS Events

Critiques are optional, at the discretion of the FOD, for Sub-ORPS events. If the FOD opts to hold a critique, it should be held soon after the event, but there are no firm timeline requirements. The role of the QPA-PA investigator is replaced by a local IMC who serves as the records manager for the event and enters information about the event and response into PFITS.

3.10.3 Sub-ORPS Investigation, Causal Analysis, and Corrective Action Development

For Sub-ORPS events the requirement and level of rigor for investigation, causal analysis, and corrective action is graded to the severity of the event in accordance with criteria found in [P322-4](#), *Laboratory Feedback and Improvement Process*. Sub-ORPS investigation, causal analysis, and corrective action, if required, are generally led by the IRM and IMC, in accordance with methods and training found in [P322-1](#), *Causal Analysis and Corrective Action Development*. FOD involvement is at local discretion; QPA-PA investigators are generally not involved.

3.10.4 Reporting and Closure of Sub-ORPS Reports

Records and tracking to closure of Sub-ORPS events are strictly within the PFITS system. There are generally no external reporting requirements (see Section 3.12 regarding possible exceptions for PAAA/WSH events) and no timelines for Sub-ORPS events other than guidelines of the PFI process.

Sub-ORPS records are placed in PFITS at the appropriate level of the PFI significance hierarchy based on criteria in [P322-4](#), *Laboratory Performance Feedback and Improvement Process*, and, if applicable, [P141](#), *Price Anderson Amendments Act (PAAA)*, *Worker Safety and Health (WSH)*, and *Classified Information Security (CIS) Enforcement Procedure*.

3.11 Team Investigations

Team Investigations are performed by a three- to six-member team, and are reserved for the most serious ORPS-reportable events. They are subject to all requirements of Sections 3.1 through 3.9 above, but are sponsored by the affected senior managers and chartered by the Deputy Laboratory Director, who assumes the role of the FOD. The IMRB, chaired by the Deputy Laboratory Director supported by the Institutional Improvement Management Coordinator (IIMC) provides the PFI process regarding acceptance of causal factors and development of corrective actions.

Team Investigations are required for events with final categorizations of OE, SC1 and SCR (see the note below). For SC2/3/4 events, declaration of a Team Investigation is rare but may be recommended to the Deputy Laboratory Director. Proposals and plans for a Team Investigation are developed and submitted to the Deputy Laboratory Director by a sponsor group, comprising at a minimum the following collection of individuals:

- FOD with responsibility for the facility
- RAD with responsibility for the facility
- ADNHHO
- Contractor Assurance Officer

The sponsor group initiates the recommendation to launch a Team Investigation as the significance of the event is understood. Alternatively, the Deputy Laboratory Director may decide to launch a Team Investigation, directing the appropriate sponsor group to assemble and develop the plans. When a Team Investigation is declared, the FOD ensures the event scene is preserved and authority is formally turned over to the Team Chair.

The Team Chair is assigned full-time to the investigation, reports to the Deputy Laboratory Director for the duration of the Team Investigation process, and ensures the Team's report of investigative findings and causal analysis, addressing the scope and within the timeline of the charter memo, is submitted to the Deputy Laboratory Director. QPA-PA supports all aspects of the Team Investigation process and provides a trained investigator to serve full time in support of the process. Team members and consultants assigned in the charter memo are appointed as needed, up to full-time, to the investigation. The Team Chair has authority to enlist additional resources (safety experts, HPI Practitioners, etc.) as deemed necessary. The sponsor group proposes—and the Deputy Laboratory Director approves—resource and cost allocations for the Team's effort.

Guidance on the Team Investigation process, including recommended qualifications of the Chair and team members, charter, infrastructure, investigation, causal analysis, factual accuracy reviews, final report format and content, corrective action development, and approval process are maintained in procedures by QPA-PA found on the [Occurrence Reporting](#) webpage.

Note: The requirement for a Team Investigation is based on final ORPS categorization as OE, SC1, or SCR. Events that are declared an OE based on early data but after additional information becomes available are deemed by EO personnel to have at no time actually met the emergency criteria DO NOT automatically require Team Investigation. Such events retain the OE designation in the EO Division records but, like all events, are recategorized by the FOD in the ORPS system as new information becomes available.

3.12 Limitations

Additional event-related processes that apply to certain types of events are beyond the scope of this document, and in some instances preempt requirements of this document.

Operational Emergencies (OEs). Events requiring emergency response (e.g., explosion, fire, hazardous material release) are subject to categorization, notifications, and response under [PD1200](#), *Emergency Management*, and EO-DO-PLAN-100, *Hazardous Materials Program Emergency Plan*, found on the [EO webpage](#), plus any facility-specific emergency management plans and procedures. For the duration of emergency conditions, EO personnel and procedures take precedence and the requirements of this document are preempted.

The first responsibility of all employees in such events is to request immediate assistance by calling 911 and/or Emergency Operations-Emergency Management (EO-EM, 667-6211) as noted in Attachment A, *Abnormal Event Process*. All verbal and written communications regarding a declared OE, both internal and external to LANL and from declaration through termination of the emergency condition, are managed exclusively by EO personnel. After the OE is terminated by EO personnel, the FOD regains control of the event scene and the balance of the abnormal event process proceeds according to this document. Contact EO Division immediately for assistance with severe events that do or might meet OE criteria.

Security Incidents. Incidents of known or potential security concern must be reported to the Security Incident Team (SIT) in the Security Integration Office, in accordance with requirements in [P201-3](#), *Reporting Known and Potential Incidents of Security Concern*. Events strictly of security concern are not subject to the requirements in this document. For events that present components of security concern but also safety or operational issues, the FOD must work with the SIT to ensure requirements of this document and [P201-3](#) are met. Contact the SIT for assistance with the security inquiry program.

Price-Anderson Amendments Act/Worker Safety and Health (PAAA/WSH). Events at all levels of severity (ORPS and Sub-ORPS) are subject to all requirements in this document, but also to additional screening and possibly reporting to the DOE Noncompliance Tracking System (NTS) in accordance with [P141](#), *Price Anderson Amendments Act (PAAA)*, *Worker Safety and Health (WSH)*, and *Classified Information Security (CIS) Enforcement Procedure*. Contact the local PAAA Point of Contact and/or PAAA Coordinators in the QPA PAAA Program Office for assistance with this program.

4.0 RESPONSIBILITIES

4.1 Deputy Laboratory Director

- Approves and charters Team Investigations.
- Receives and approves final reports from Team Investigations.
- Directs and oversees, through the IMRB, corrective actions from Team Investigations.

4.2 Associate Directors (as Facility-Owning Responsible Associate Directors [RADs])

- Establish agreement with each sponsored FOD regarding roles, responsibilities, and RAD involvement in the abnormal event process, including categorization, critique, corrective action development, and report approval. Written agreements are recommended but not required.
- Coordinate with the FOD on an effective PFI process, including MRB structure and IMC staffing, to support the 45-day closure of ORPS and Sub-ORPS abnormal event reports.

- For events warranting Team Investigation in an owned facility, serve as members of the Sponsor Group.

4.3 Group- and Division-Level Managers

- Ensure the appropriate immediate management notifications of abnormal events, compliant with facility and organizational expectations.
- Cooperate with FOD and QPA-PA investigators in all steps of event critiquing, investigation, causal analysis, and corrective action development.
- Participate in the Sub-ORPS process in accordance with FOD/RAD agreements and local PFI processes.

4.4 Supervisors/First Line Managers

- Ensure timely notification of the FOD (or FOD designee in accordance with local expectations) and first available line manager (group-level or above) for every abnormal event within their work area or span of supervision.
- Cooperate with the FOD and QPA-PA investigator in all steps of event critiquing, investigation, causal analysis, and corrective action development.

4.5 Workers

- Report to supervisors or first line managers any abnormal event or condition, whether within or beyond the bounds of the assigned work area.
- Participate candidly and openly when invited to critiques of abnormal events, or when interviewed as part of the investigation.
- Cooperate with the FOD, FOD staff, and QPA-PA investigator in abnormal event investigations, causal analysis, and corrective action development.

4.6 Associate Director for Nuclear and High Hazard Operations (ADNHHO)

- For all Team Investigations, serves as a member of the Sponsor Group advising the Deputy Laboratory Director and supporting the execution of the investigation.

4.7 Contractor Assurance Officer

- For all Team Investigations, serves as a member of the Sponsor Group advising the Deputy Laboratory Director and supporting the execution of the investigation.

4.8 Facility Operations Directors (FODs) (as defined in Section 2.2)

- Establish agreement with each sponsoring RAD regarding roles, responsibilities, and RAD involvement in the abnormal event process, including categorization, critique, corrective action development, and report approval. Written agreements are recommended but not required.
- Categorize each abnormal event within two hours of discovery.
- As soon as possible after categorization, transmit an Event/Incident Notification describing the event.
- Ensure required notifications to NNSA Facility Representatives and DOE HQ OC are made within required timelines.

- Manage the abnormal event process for the facility, including immediate communications, critique, investigation, causal analysis, and handoff to the local PFI process for corrective action development.
- Review, comment, approve, and assume ownership of every written report destined for the DOE ORPS system.
- Coordinate with the RAD on developing an effective PFI process, including MRB structure and IMC staffing, to support the closure of ORPS and Sub-ORPS abnormal event reports.
- Monitor and drive continuous improvement in meeting the target timeline of developing and providing to QPA-PA corrective actions and other report closure information by Day 45 after categorization of each ORPS-reportable event.
- Resolve conflicts or disputes regarding any aspect of the abnormal event process, and provide field managerial support to the assigned QPA-PA investigator.
- For events warranting Team Investigation, serve as a member of the Sponsor Group.

4.9 Quality and Performance Assurance–Performance Assurance (QPA-PA)

- Deploys trained investigators to support FODs in all aspects of the abnormal event process, from categorization to final report.
- Drafts for FOD review and submits after FOD approval all written reports of abnormal events destined for the DOE ORPS system.
- Maintains official records for each ORPS-reportable event of the complete process from categorization to final report.
- Monitors and drives continuous improvement in meeting the target timeline of delivering draft Update/Final ORPS reports, complete with investigative findings and causal analysis, by Day 24 after categorization of each ORPS-reportable event.
- Provides trained investigators as requested for Deputy Laboratory Director-chartered Team Investigations.
- Serves as a central clearinghouse for the Daily Executive Report and Special Executive Report (for OE and SC1 events).
- Coordinates development and dissemination to Laboratory management and the workforce, lessons learned in response to abnormal events, as needed.

5.0 IMPLEMENTATION

The requirements in this document are effective on the date of issue.

6.0 TRAINING

Personnel assigned responsibilities for the abnormal event process (e.g., Supervisors and First Line Managers in Moderate and High Hazard Operations), must be trained to this document in accordance with [P781-1](#), *Conduct of Training Manual*, utilizing the graded approach found in the Systematic Approach to Training outlined in [P781-1](#).

Specifically, within one year of issuance of this document FODs, Deputy FODs, Operations Managers, Duty Officers, and all other FOD Unit personnel assigned specific ORPS responsibilities must complete the following:

- [Course #6206](#), *Occurrence Investigating and Reporting*

Note: (1) Prior completion of this course satisfies the requirement; refresher completion of [Course #6206](#) is recommended every two years but is not a requirement. (2) If the training is neither grandfathered nor completed within six months of issuance of this document, the individual can continue to fulfill his/her roles and responsibilities with written authorization from the ADNHHO. The written authorization will include a schedule for completing the required training and will expire if training is not completed as scheduled.

Managers and supervisors frequently involved in event investigations or causal analyses should consider additional professional development, including one or more of the following courses:

- [Course #53220](#), *Causal Analyst Training 2011*
- [Course #43428](#), *HPI, Human Performance Improvement, Full Day*
- [Course #46713](#), *HPI Practitioners*
- [Course #45090](#), *HPI Accident Investigation*

7.0 EXCEPTION OR VARIANCE

To obtain an exception or variance to this document, see the following instructions:

- Managers may request an exception or variance from the IA through the RM.
- At the IA's request, the RM will provide a recommendation or supporting information.
- The IA or designee will provide the requester with a written response and copy the RM.

The requesting organization must maintain the official copy of record of the approved correspondence granting the exception or variance.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

QPA-PA is the Laboratory Office of Record for ORPS-reportable events, excluding corrective action records but including categorization records, Team Investigation charters, investigation records, causal analysis records, and all written reports from the initial Event/Incident Notification to the ORPS Final Report.

Responsible FOD and RAD offices are the Laboratory Offices of Record for all records related to Sub-ORPS events, and for records of corrective actions, including change control and closure records, for both Sub-ORPS and ORPS events. PFITS is the record system for all such records. Specific responsibilities are divided between FOD and RAD offices according to local event-related PFI processes.

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See LANL [Definition of Terms](#).

Abnormal Event—Abnormal events include all abnormal conditions, accidents, incidents, or deviations from the planned outcome of a workplace activity that did or could have adversely

affect(ed) health or safety of workers, the public, the environment, or the integrity of LANL programs or facilities.

Facility Operations Director (FOD) Unit—A collection of buildings, structures, and work areas under a single FOD's span of responsibility. Abnormal events are assigned to FOD Units based on the physical location of the event.

Facility Operations Director (FOD)/Responsible Associate Director (RAD)—A general term to describe the joint management team of a FOD Unit and the RAD for a facility.

9.2 Acronyms

See LANL [Acronym Master List](#).

ADNHHO	Associate Director for Nuclear and High-Hazard Operations
CAO	Contractor Assurance Officer
CAS	Contractor Assurance System
COB	Close of Business
DC	Derivative Classifier
DOE	Department of Energy
ENV	Environmental Protection
EO	Emergency Operations
EO-EM	Emergency Operations-Emergency Management
ESH&Q	Environment, Safety, Health, and Quality
FOD	Facility Operations Director
HPI	Human Performance Improvement
HQ	Headquarters
IA	Issuing Authority
IIMC	Institutional Improvement Management Coordinator
IMC	Improvement Management Coordinator
IMRB	Institutional Management Review Board
IRM	Improvement Responsible Manager
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
LASO	Los Alamos Site Office
MRB	Management Review Board
NHHO	Nuclear and High-Hazard Operations
NNSA	National Nuclear Security Administration
NTS	Noncompliance Tracking System
OC	Operations Center
OE	Operational Emergency
ORPS	Occurrence Reporting and Processing System
PAAA	Price-Anderson Amendments Act
PAD	Principal Associate Director
PFI	Performance Feedback and Improvement
PFITS	Performance Feedback and Improvement Tracking System

QPA-PA	Quality and Performance Assurance–Performance Assurance
RAD	Responsible Associate Director
RM	Responsible Manager
RO	Responsible Office
SC	Significance Category
SIT	Security Incident Team
WSH	Worker Safety and Health

10.0 HISTORY

Revision History		
09/20/06	ISD 322-3.0	Initial Issue, ISD 322-3.0, <i>Manual for Communicating, Investigating, and Reporting Abnormal Events</i> .
09/25/06	ISD 322-3.1	Administrative Change. IP300-SD5 replaced and rescinded by IP320.0.
10/15/08	ISD 322-3.2	<p>The following Quick Changes (minor non substantive) were made:</p> <p>Global change to document: QA-OA to ESH-IO.</p> <p>Page 5, Overview, paragraph 3 , add: 1. sentence: Events that do not meet ORPS reporting criteria are reported in the LIMTS system as described in P322-4, <i>Laboratory Performance Feedback and Improvement Process</i>. 2. add ESH Integration Office (ESH-IO) to sentence Events that meet a DOE defined reporting criterion are reported and investigated by trained and qualified...</p> <p>Page 5, Overview, paragraph 4, changed to: The Associate Director for Environment, Safety, Health, and Quality is the Issuing Authority (IA) for this document. The ESH-IO Office Manager is the Responsible Manager (RM) and the Occurrence Reporting Team (OR) is the Responsible Office (RO).</p> <p>Page 8, Abnormal Event/Condition Process Outline, change bullet 14 and add bullet 15:</p> <ul style="list-style-type: none"> ▪ 14) All ORPS corrective actions are entered into LIMTS and tracked as described in P322-4. ▪ 15) ORPS events are trended and analyzed for repetitive events on a quarterly basis. <p>Page 13, bullets 6 and 7: Events that do not meet ORPS reporting criteria are reported in the LIMTS system as described in P322-4.</p> <p>Page 12, Note: Delete note.</p> <p>Page 13, Categorization process, item 2, second bullet, change to: Events that do not meet ORPS reporting criteria are reported in the LIMTS system as described in P322-4.</p> <p>Page 14, Preparing for a Critique, item 2, second bullet, add: must be notified.</p> <p>Page 16, item 2, add: and consider extent of condition.</p> <p>Page 17, bullet 4, change to: Events are reported in LIMTS system as described in P322-4.</p>

Revision History		
12/11/08	P322-3, Rev. 0	Renumbered document, ISD 322-3, <i>Manual for Communicating, Investigating, and Reporting Abnormal Events</i> .
04/15/09	P322-3, Rev. 1	Quick Change Replace previous IA with newly identified AD. Clarification of existing requirements as documented in detailed individual procedures (pages 5, 7, 10, 12, 15, 17, 18). Revision of flowchart to reflect adherence to P322-4 .
07/27/11	P322-3, Rev. 2	Major Revision Change title from “Manual for Communicating, Investigating, and Reporting Abnormal Events,” to “Performance Improvement from Abnormal Events.” Revise process to achieve consistency with Performance Feedback and Improvement Process changes. Revise organizational roles due to move of ORPS Team from Environment, Safety, Health, and Quality (ESH&Q) to CAO-PF. Change IA, RO, and RM to match organizational restructure.
09/20/12	P322-3, Rev. 3	Changed CAO-PF to Quality and Performance Assurance-Performance Assurance (QPA-PA) throughout document due to reorganization. Clarified language in Section 2.2. Updated links, titles, and acronyms.

11.0 REFERENCES

[Prime Contract](#):

- [DOE O 232.2](#), *Occurrence Reporting and Processing of Operations Information*

11.1 Other References

- [SD320](#), *Los Alamos National Laboratory Contractor Assurance System Description Document*
- [P313](#), *Roles, Responsibilities, Authorities, and Accountability*
- [Occurrence Reporting](#) webpage
- [P322-4](#), *Laboratory Performance Feedback and Improvement Process*
- [P322-1](#), *Causal Analysis and Corrective Action Development*
- [P141](#), *Price Anderson Amendments Act (PAAA), Worker Safety and Health (WSH), and Classified Information Security (CIS) Enforcement Procedure*
- [PD1200](#), *Emergency Management*
- EO-DO-PLAN-100, *Hazardous Materials Program Emergency Plan*, found on the [EO webpage](#)
- [P201-3](#), *Reporting Known and Potential Incidents of Security Concern*
- [P781-1](#), *Conduct of Training Manual*

12.0 FORMS

There are no forms associated with this document.

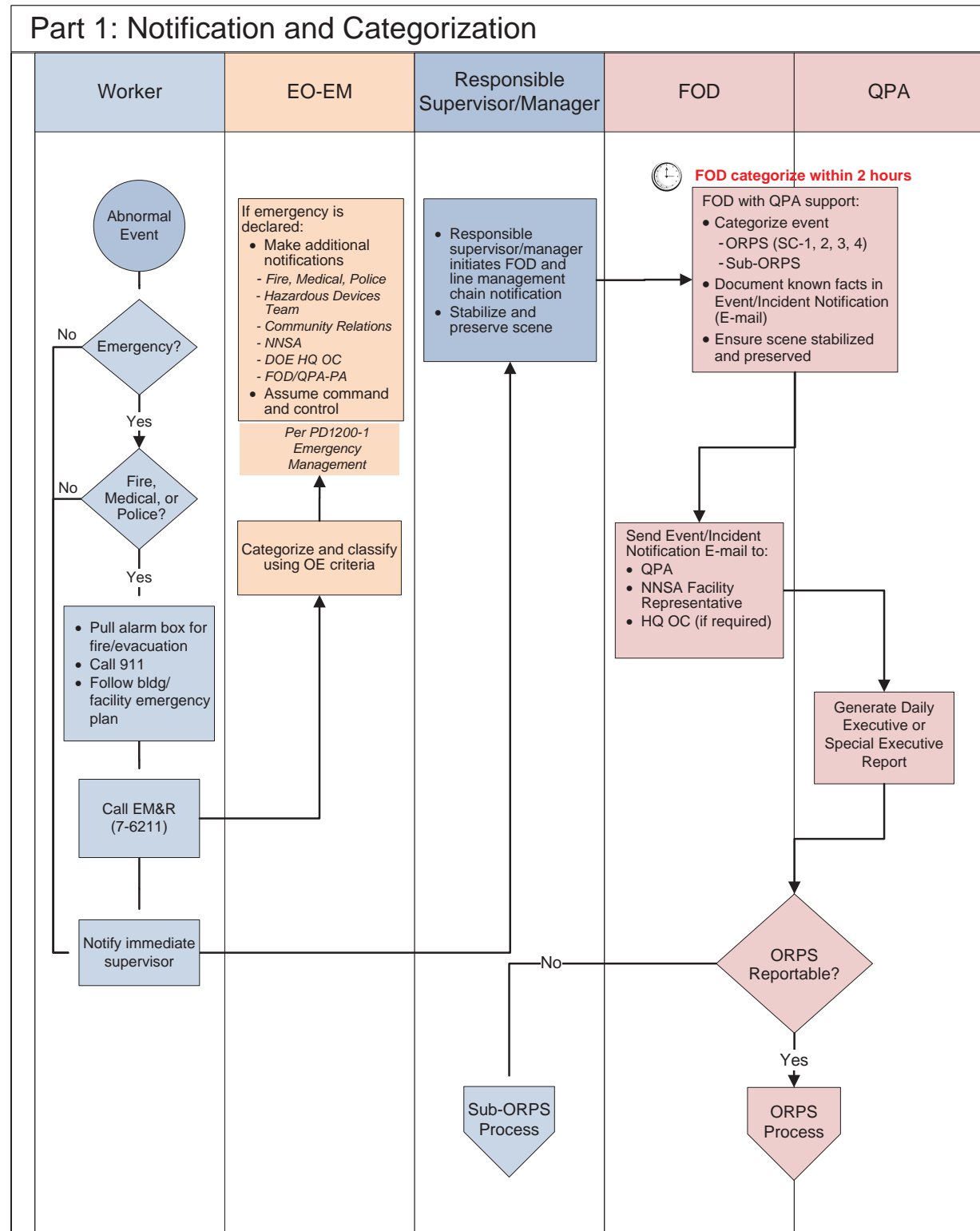
13.0 ATTACHMENTS

Attachment A. *Abnormal Event Process*

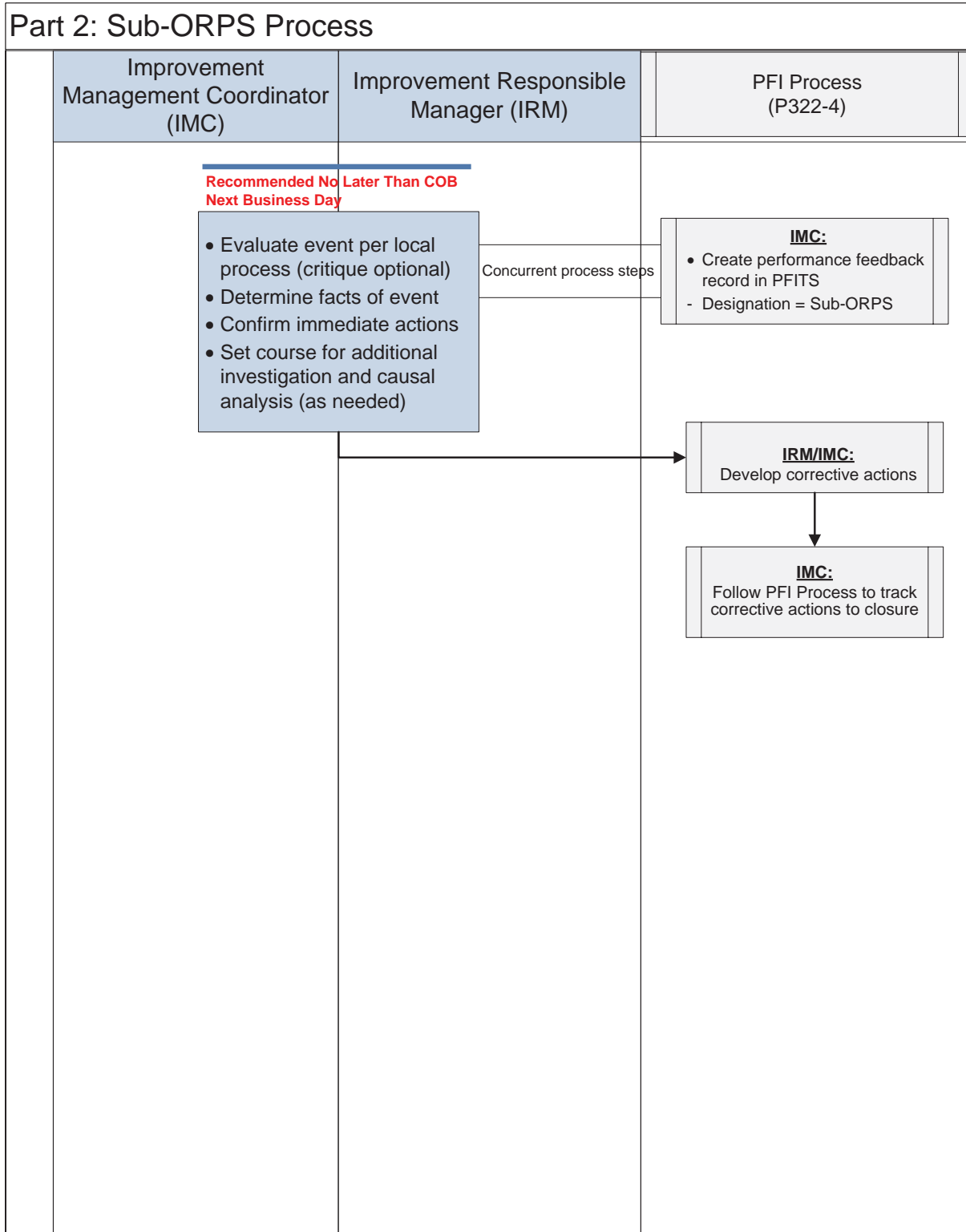
14.0 CONTACT

Quality and Performance Assurance–Performance Assurance (QPA-PA)
Telephone: (505) 606-2145

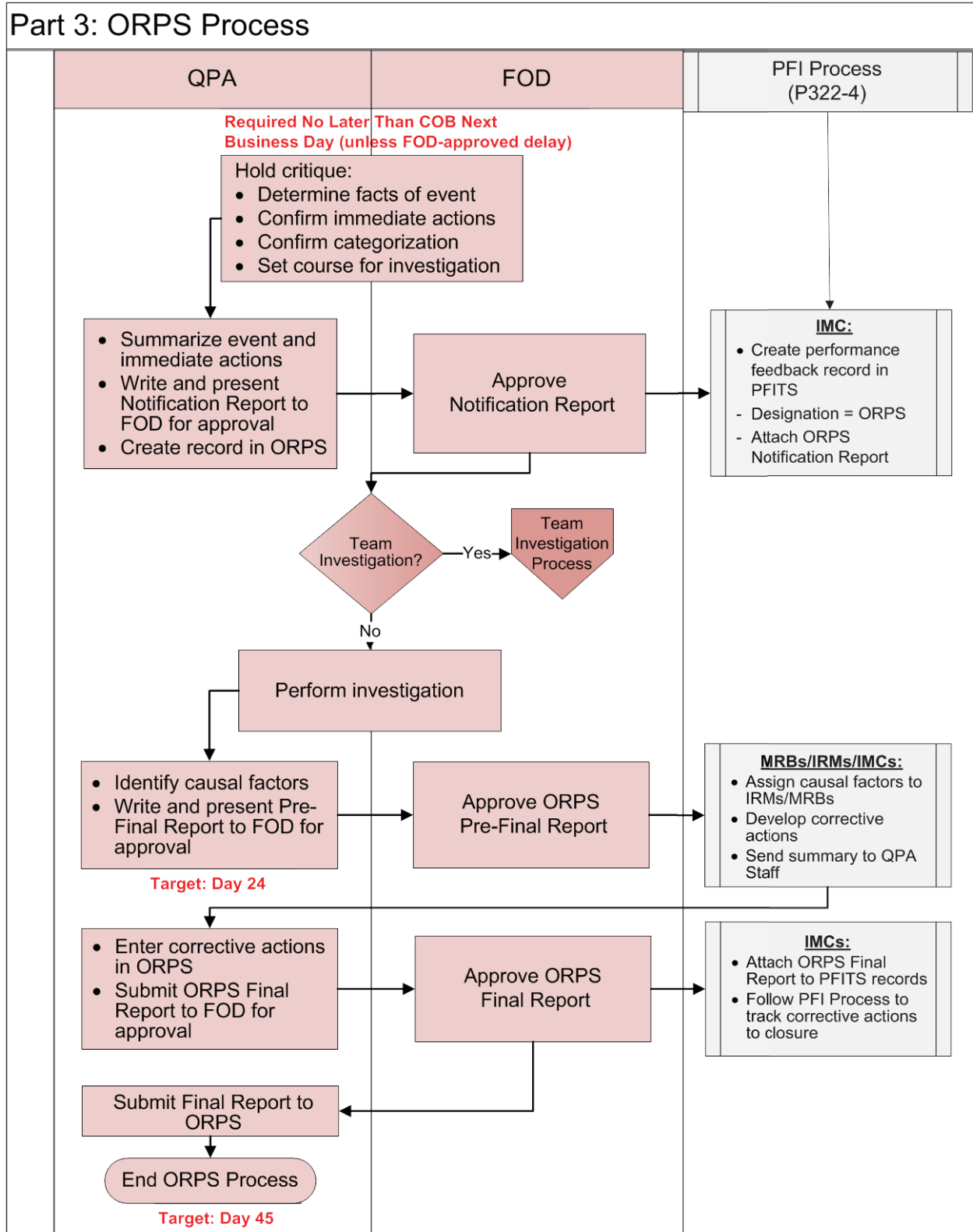
No: P322-3 Performance Improvement from Abnormal Events
Attachment A. Abnormal Event Process (Page 1 of 4)



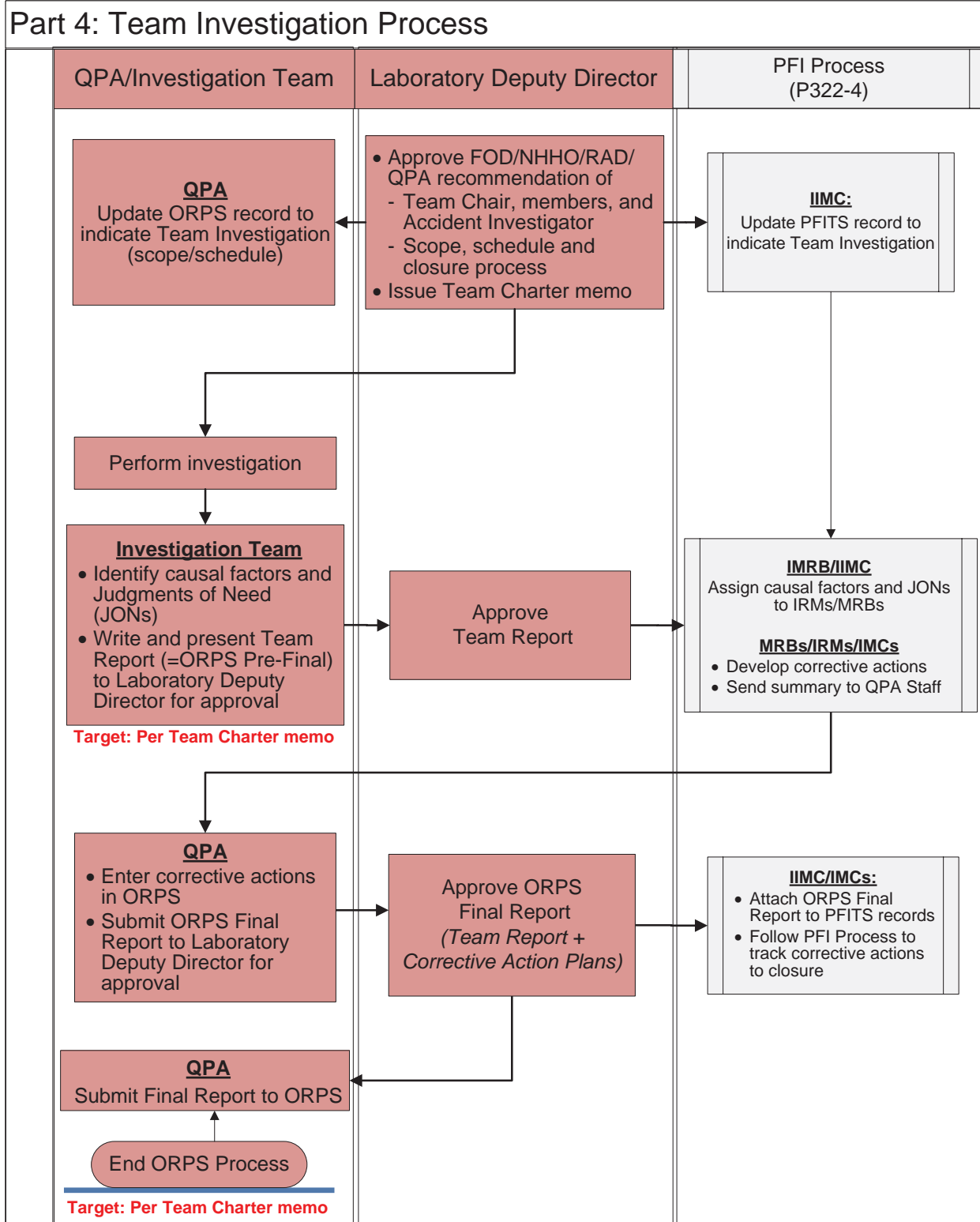
**No: P322-3 Performance Improvement from Abnormal Events
Attachment A. Abnormal Event Process (Cont.) (Page 2 of 4)**



**No: P322-3 Performance Improvement from Abnormal Events
Attachment A. Abnormal Event Process (Cont.) (Page 3 of 4)**



**No: P322-3 Performance Improvement from Abnormal Events
Attachment A. Abnormal Event Process (Cont.) (Page 4 of 4)**



IMPORTANT

If you wish to receive credit for the preceding document you **must** enter the course through [UTrain](#) **not** the Policy Office website.

Multi-Sector General Permit Annual Industrial Storm Water Training For

TA-3-38, Material Recycle Facility, Roads and
Grounds, TA-60 Warehouse, TA-60 Heavy
Equipment Yard, and the Asphalt Batch Plant

February 12, 2013

LA-UR-13-21009

Why Are You Taking This Training?

- **EPA's Multi-Sector General Permit for Industrial Storm Water Discharges Requires Annual Training**
 - Training applies to:
 - Employees who work at TA-3-38, the Material Recycle Facility, Roads and Grounds, TA-60 Warehouse, TA-60 Heavy Equipment Yard, and the Asphalt Batch Plant and who move product, metal, and other pollutants like oil, fuel, vehicles, equipment, pumps, etc. outside; or who work outside with industrial materials exposed to storm water
 - Employees responsible for implementing activities necessary to meet the conditions of the permit
 - Deployed Environmental Professionals (DEPs) or other personnel conducting inspections and visual assessments, identifying corrective actions, writing SWPPP revisions, etc.
 - Personnel installing storm water controls
 - All members of the facility MSGP Pollution Prevention Team (PPT)

TA-3-38 Pollution Prevention Team (PPT) Members

- ES&H Manager (Randy Sandoval [667-8424](tel:667-8424))
- Operations Supervisor (Tim Walker-Foster [667-5177](tel:667-5177))
- Leonard Sandoval (Primary Contact) ENV-ES deployed to UIF
 - [667-3557](tel:667-3557)
- Cliff Heintschel (Secondary Contact) ENV-ES deployed to UIF
 - [667-9462](tel:667-9462)
- Connie Gerth ENV-ES deployed to Logistics
 - [665-1893](tel:665-1893)
- Holly Wheeler-ENV-RCRA MSGP Project Leader
 - [667-1312](tel:667-1312)
- Waste Management Coordinator (Audrey Garcia [665-4914](tel:665-4914))

MRF Pollution Prevention Team (PPT) Members

- ES&H Manager (Randy Sandoval [667-8424](tel:667-8424))
- Shift Operations Manager (Jerry Gallegos [667-4190](tel:667-4190))
- Leonard Sandoval (Primary Contact) ENV-ES deployed to UIF
 - [667-3557](tel:667-3557)
- Cliff Heintschel (Secondary Contact) ENV-ES deployed to UIF
 - [667-9462](tel:667-9462)
- Holly Wheeler-ENV-RCRA MSGP Project Leader
 - [667-1312](tel:667-1312)
- Waste Management Coordinators
 - Charlie Villareal [665-6148](tel:665-6148) and John Gonzales [665-8543](tel:665-8543)

Roads and Grounds Pollution Prevention Team (PPT) Members

- ES&H Manager (Randy Sandoval 667-8424)
- Operations Supervisor (Dana Parrett 699-1317 or Levi Trujillo 699-0746)
- Leonard Sandoval (Primary Contact) ENV-ES deployed to UIF
— 667-3557
- Cliff Heintschel (Secondary Contact) ENV-ES deployed to UIF
— 667-9462
- Holly Wheeler-ENV-RCRA MSGP Project Leader
— 667-1312
- Waste Management Coordinators
— Charlie Villareal 665-6148 and John Gonzales 665-8543

Warehouse Pollution Prevention Team (PPT) Members

- ES&H Manager (Randy Sandoval [667-8424](tel:667-8424))
- Property Managers at the Warehouse
 - Steve Vandebusch [665-4883](tel:665-4883)
 - Earl Valdez [665-0574](tel:665-0574)
- Leonard Sandoval (Primary Contact) ENV-ES deployed to UIF
 - [667-3557](tel:667-3557)
- Cliff Heintschel (Secondary Contact) ENV-ES deployed to UIF
 - [667-9462](tel:667-9462)
- Holly Wheeler-ENV-RCRA MSGP Project Leader
 - [667-1312](tel:667-1312)
- Waste Management Coordinator
 - Audrey Garcia [665-4914](tel:665-4914)

Heavy Equipment Yard Pollution Prevention Team (PPT) Members

- Operations Supervisor (Tim Walker-Foster [667-5177](tel:667-5177))
- Leonard Sandoval (Primary Contact) ENV-ES deployed to UIF
 - [667-3557](tel:667-3557)
- Cliff Heintschel (Secondary Contact) ENV-ES deployed to UIF
 - [667-9462](tel:667-9462)
- Holly Wheeler-ENV-RCRA MSGP Project Leader
 - [667-1312](tel:667-1312)
- Beverly Aguino [667-4340](tel:667-4340)
 - Yard Foreman
- Waste Management Coordinator
 - Audrey Garcia [665-4914](tel:665-4914)

Asphalt Batch Plant Pollution Prevention Team (PPT) Members

- ES&H Manager (Randy Sandoval 667-8424)
- Operations Supervisor
 - Leslie McReynolds 667-6111
- Leonard Sandoval (Primary contact) ENV-ES deployed to UIF
 - 667-3557
- Cliff Heintschel (Secondary Contact) ENV-ES deployed to UIF
 - 667-9462
- Holly Wheeler-ENV-RCRA MSGP Project Leader
 - 667-1312
- Waste Management Coordinators
 - Charlie Villareal 665-6148 and John Gonzales 665-8543

Training Objectives

- **Cover all aspects of required training identified in the MSGP**
 - Monitoring
 - Inspections
 - Planning
 - Reporting
 - Documentation requirements
- **Become familiar with specific storm water pollutants and controls identified in the facility specific SWPPPs**
- **Cover spill prevention and response**
- **Recognize pollutant sources**
- **Recognize good housekeeping practices**
- **Know who to call if issues arise (see slides of PPT members per facility)**

TA-3-38 Sampler Location



Industrial Activity at TA-3-38



Storage of metal stock on covered racks and in roll-offs. Both roll-offs should be covered to prevent contact with precipitation.

UNCLASSIFIED

Industrial Activity at TA-3-38 (continued)



Storage of metal stock on a covered storage rack

UNCLASSIFIED

Slide 12

Storm Water Conveyance at TA-3-38



Storm drain

UNCLASSIFIED

Slide 13

Storm Water Conveyance at TA-3-38 (continued)



Trench drain that transports storm water
UNCLASSIFIED

What is a Control Measure?

- **Maintenance and operating procedures and practices to control site runoff, spillage or leaks, or drainage from raw material storage, to prevent pollutants from coming into contact with waters of the U.S.**
 - Waters of the U.S. are defined as follows:
 - All canyons, tributaries to canyons, dry arroyos, or other land features that convey storm water.

Storm Water Conveyance and Control at the **Material Recycle Facility**



Pond to capture storm water and settle out solids

Industrial Activity at the **Material Recycle Facility**



Storage of metal in uncovered roll-off bins coming in contact with precipitation

Industrial Activity and Control at the **Material Recycle Facility**



Roll off bin stored under cover and therefore protected from contact with precipitation

Industrial Activity and Control at the **Material Recycle Facility** (continued)



Metal stored in a covered roll off bin

Storm Water Controls at the **Material Recycle Facility**



Eco-Block and a rock run-down

Roads and Grounds Samplers

■ Sampler locations

- North and west of the salt shed at Roads and Grounds west
- South along Eniwetok at Roads and Grounds west
- North of Eniwetok and the Asphalt Batch Plant at Roads and Grounds east
- Soon to be two samplers located north of the Sigma Mesa Staging Area

Sampler at Roads and Grounds West



Sampler at Roads and Grounds East



Pollutant Sources at Roads and Grounds



Trucks and heavy equipment can leak fluids

Pollutant Sources at **Roads and Grounds** (continued)



Residual road salt can be released from these trucks

Pollutant Sources at **Roads and Grounds** (continued)



Sediment can be transported with storm water from material piles like this without controls

Specific Control Measures at Roads and Grounds



This lined pond was constructed to contain the release of salt from the salt shed

Specific Control Measures at Roads and Grounds (continued)



Straw wattles and gravel bags to prevent sediment transport

Specific Control Measures at **Roads and Grounds** (continued)



An asphalt berm (north of Roads and Grounds west) to channel storm water and prevent sediment transport

Specific Control Measures at **Roads and Grounds** (continued)



Rock check dam between two Jersey barriers to slow storm water velocity and prevent sediment transport

UNCLASSIFIED

Specific Control Measures at **Roads and Grounds** (continued)



Matting to stabilize a disturbed area and prevent erosion

Industrial Activity at the TA-60 Warehouse

- Trucks going in and out of the yard delivering product/recyclables
- Product storage
- Metal storage
- Salvaged equipment storage

Pollutant Sources at the TA-60 Warehouse

- Battery acid spills
- Oil, diesel, gasoline, or other spills from equipment
- Metal pieces or shavings in uncovered roll-offs or on equipment
- Surface erosion of sediment/dirt/soil

Industrial Activity at the TA-60 Heavy Equipment Yard



Stored equipment can leak fluids

Industrial Activity at the TA-60 Heavy Equipment Yard

- Vehicle and equipment maintenance and storage
- Oil recovery system
- Draining oil filters
- Material and product storage

Typical Pollutant Sources at UIF Facilities That May Come In Contact With Storm Water

- **Hydraulic hose leaks, oil, transmission fluid, diesel or gasoline spills from vehicles and equipment**
 - Product motor oil and hydraulic fluid contains zinc
 - Any leaks or spills must be cleaned up immediately
 - Spills result in three environmental issues
 - May affect surface water quality
Call Jake Meadows [231-0460](tel:231-0460)
 - May affect storm water quality
Call Holly Wheeler [667-1312](tel:667-1312)
 - Will generate waste during clean-up
Call your Waste Management Coordinator

Control Measures for UIF Facilities

- **Routinely check under heavy equipment and vehicles for spills/leaks**
- **Call Leonard Sandoval for assistance with recording the spill and to apply Micro Blaze**
- **Absorb diesel, gasoline and oil to the extent possible**
- **If the leak or spill is to soil, dig up and containerize the spill residue**

Control Measures for UIF Facilities

- Place all metal that can come in contact with precipitation (small and large metal pieces and shavings) in covered, leak proof containers
- Clean up garbage and debris from the yard and get rid of old equipment, wood, metal etc.
 - Salvage old equipment
- Confine loading/unloading to designated areas away from outfalls and BMPs, indoors, or in a covered area
- Avoid loading/unloading in the rain
- Inspect loading/unloading area for problems before they occur

Control Measures for UIF Facilities

- **Submit FSR for routine clean-up of the area**
 - Pick up debris/trash/metal weekly or monthly
- **Train personnel to recognize potential storm water pollutants and issues**
- **Keep track of projects to ensure proper BMPs are installed before workers leave the site (after excavation)**
 - Work done by others like LOG excavating utility lines
 - Soil needs stabilization regardless of excavated area size because the site is regulated under the Multi-Sector General Permit

Specific Control Measures at the TA-60 Heavy Equipment Yard



Storm water drainage culvert and asphalt berms

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Slide 40

Specific Control Measures at the TA-60 Heavy Equipment Yard (continued)



Specific Control Measures at the TA-60 Heavy Equipment Yard (continued)



Rock gabions to channel storm water flow and prevent erosion

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Slide 42

Specific Control Measures at the TA-60 Heavy Equipment Yard (continued)



Rock rundown and berm to channel storm water flow

Specific Control Measures at the TA-60 Heavy Equipment Yard (continued)



Berm channeling storm water flow

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Storm Water Sampler at the Asphalt Batch Plant



Rock and filter fabric lined detention pond to collect storm water

Industrial Activity at the Asphalt Batch Plant



Heavy equipment storage can result in spills of oil, gasoline, diesel or ethylene glycol

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Slide 46

Specific Control Measures at the Asphalt Batch Plant



Detention pond

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Slide 47

Specific Control Measures at the **Asphalt Batch Plant** (continued)



Detention pond

UNCLASSIFIED

Slide 48

Benchmark Monitoring results for TA-3-38

- **At outfall 3-MFS-1, from 9/1/11 through, 8/31/12**
 - The average results of 4 zinc samples exceeded benchmark.
 - Two individual results (from storm events on 10/4/11 and 7/2/12 exceeded background.
 - Monitoring for zinc will continue for this outfall in 2013.

Benchmark Monitoring results for the **Material Recycle Facility**

- **At outfall 60-MRF-1, from 9/1/11 through 8/31/12**
 - The average results of 4 copper, zinc, and chemical oxygen demand (COD) samples exceeded benchmark.
 - The concentration of zinc from one storm event was greater than background. Therefore, monitoring for zinc will continue in 2013.
 - Copper is present below background levels. Therefore, monitoring will be discontinued for copper.
 - The average results of 5 total suspended solids (TSS) samples exceeded benchmark.
 - There are no background levels for TSS and COD. Monitoring will continue in 2013

- **Need to continue to evaluate solutions to address TSS exceedances**

Benchmark Monitoring results for the **Material Recycle Facility** (continued)

- COD exceedances are believed to be from precipitation contact with vegetation at the sampling location
- Sampler intake tube will be moved to the end of the corrugated metal pipe

Annual Impaired Waters Monitoring

- Impaired water quality standard was exceeded at outfall 60-RG-8 at TA-60 Roads and Grounds, but was below background for Gross alpha in surface water.
- No further monitoring for impaired waters constituents will occur at this facility under the 2008 MSGP.

Effluent Limitations Guidelines

- **Applicable to only the Asphalt Batch Plant**
 - Storm water did not discharge from the detention pond during 2012.

Facilities that do not require analytical monitoring for storm water constituents in 2013

- TA-60 Heavy Equipment Yard
- TA-60 Warehouse
- TA-60 Roads and Grounds

Quarterly Visual Assessments

- **Quarterly Visual Assessments (QVAs) are still required**
 - FOD personnel shall conduct QVAs on a rotating basis (one per quarter) for substantially identical outfalls at
 - TA-3-38
 - TA-60 Heavy Equipment Yard
 - TA-60 Warehouse
 - TA-60 Roads and Grounds
 - ENV-RCRA captures and conducts QVAs where the samplers are located

Inspections

- **Routine**
 - Performed by Leonard Sandoval or Cliff Heintschel (backup)
- **Comprehensive site inspection**
 - Performed by ENV-RCRA along with the Deployed Environmental Professional annually each September
- **Inspections may identify conditions that require corrective actions**

What Triggers a Corrective Action?

- **Spills**
- **Benchmark/background, or water quality standard exceedance**
- **Improperly maintained control measures**
- **Process or operational changes**

Corrective Actions

- **Identification of an issue either during routine operations or during an inspection**
 - Notify the Deployed Environmental Professional
 - Record the issue and corrective action
 - Enter the issue into the MSGP Corrective Action Report (CAR) Database
 - Propose a completion date
 - Follow-up and completion of corrective action
 - Perform work and record completion date in the database
 - Send e-mails to the following personnel every 30 days until corrective actions are closed
 - ES&H Manager
 - Operations Manager
 - Deployed Environmental Professionals

Planning and Progress for Roads and Grounds

- **Proposed application of compost**
 - Application of compost may be constrained to a specific maximum loading amount
 - UIF FOD is proposing to use compost on landscape throughout LANL
 - Compost cannot be applied until approval is received from NMED
- **Calendar year 2013 is the last year the facilities will be regulated under the 2008 MSGP**
- **EPA will either have to administratively continue the existing permit or will publish a new MSGP permit**
- **New permit will likely contain new **more stringent** requirements**

Planning for the TA-60 Heavy Equipment Yard

- **Maintain good housekeeping**
 - Try to clean up some of the lower yard
- **Investigating the idea of covered parking for service vehicles**
- **Evaluating the need for covers over outside oil storage areas**

Reporting

- **ENV-RCRA handles all reporting to EPA**
 - Annual Report
 - Discharge Monitoring Reports
 - Planned physical alterations or additions to the facility that qualify it as a new source
 - Spills that exceed reportable quantities
 - Effluent Limit Guideline (ELG) exceedance report
 - Non-compliances requiring reporting
 - Correction of any previously submitted information that was in error

Reporting (continued)

■ Deployed Environmental Professionals

- Enter issues and corrective actions into the MSGP Corrective Action Report Database
- Coordinate certification by the FOD of the information to be submitted to the Environmental Protection Agency as part of the MSGP Annual Report

Documentation Requirements

- **The following documentation shall be kept in the SWPPP**
 - Routine inspections
 - Quarterly Visual Assessments
 - Or documentation of the inability to obtain a visual assessment due to no flow
 - MSGP Annual Report
 - Discharge Monitoring Reports
 - Background Study
 - Benchmark, Effluent Limitations or Water Quality Standard Exceedances
 - Records of employee training received
 - Corrective Action Reports (including documentation of spills/leaks)
 - Notice of Intent to Discharge (NOI)
 - Permit

What Happens If No Action Is Taken?

BNSF Agrees To Pay \$1.5 Million

BNSF Railway Co. agreed to pay \$1.5 million for Puget Sound restoration projects to resolve a lawsuit over storm water pollution at its Seattle facility.

The Puget Soundkeeper Alliance sued BNSF in 2009, alleging it violated federal clean-water laws with storm water discharges from its Balmer Yard facility.

Last August, U.S. District Court Judge John Coughenour found BNSF responsible for numerous federal clean-water violations at the facility. The settlement is one of the largest involving citizen actions taken under the federal Clean Water Act involving storm water pollution, Chris Wilke, executive director of the alliance, said.

The consent decree notes that BNSF has taken major steps to control storm water pollution from the Balmer Yard facility, including developing a prevention plan, coating roofs to minimize zinc pollution, covering trash bins and minimizing soil erosion.

Contact Information

■ MSGP storm water issues

- Holly Wheeler, [667-1312](tel:667-1312) or hbenson@lanl.gov
- Leonard Sandoval, [667-3557](tel:667-3557) or lesandov@lanl.gov

■ Environmental issues associated with UIF-FOD

- Leonard Sandoval, [667-3557](tel:667-3557) or lesandov@lanl.gov

■ Spills

- Jake Meadows, [231-0460](tel:231-0460) or jmeadows@lanl.gov

■ Waste Management assistance

- Audrey Garcia, [665-4914](tel:665-4914) or algarcia@lanl.gov
- Charlie Villareal [665-6148](tel:665-6148) or cv@lanl.gov
- John Gonzales [665-8543](tel:665-8543) or johnj@lanl.gov

[Click here for "Required Read" credit.](#)

OIO-QP-219

Revision: 1



Effective Date: 09-02-2014

Next Review Date: 09-02-2016

Environment, Safety, Health & Quality Directorate

Operations Integration Office

Standard Operation Procedure

Title: Sample Control and Field Documentation

Reviewers:

Name: Sherri Sherwood	Organization: OIO-DO	Signature: Signature on File	Date: 09-02-2014
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Derivative Classifier: **Classified** **Unclassified** **DUSA:** _____

Name: Ellena Martinez	Organization: OIO-DO	Signature: Signature on File	Date: 09-02-2014
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Approval Signatures:

Subject Matter Expert: Keith Greene	Organization: WES-EDA	Signature: Signature on File	Date: 09-02-2014
Responsible Line Manager: Chris Echohawk	Organization: WES-EDA	Signature: Signature on File	Date: 09-02-2014

The Waste and Environmental Services work is categorized as low hazard/risk operation. Any work to be performed in a Moderate or High Hazard Facility shall be coordinated through the appropriate Facility Manager.

Sample Control and Field Documentation	No. OIO-QP-219	Page 2 of 6
	Revision: 1	Effective Date: 09-02-2014

1.0 HISTORY OF REVISIONS

Document Number	Effective Date	Description	Type of Change (Technical [T] or Editorial [E])
EP-ERSS-SOP-5058, R0.0	02/09/07	New document number, reformatted and renumbered. Supersedes SOP-01.04	E
WES-EDA-QP-219, R0	10/20/10	New number assigned due to reorganization.	E
OIO-QP-219, R1		Minor revision to this procedure. The acronym was changed in the document control number from WES-EDA to OIO. The new number supersedes WES-EDA-QP-219, R0. The hyperlinks in the document were updated to reflect web changes. The SME conducted a technical review of the content in this procedure and deemed it accurate.	E

Sample Control and Field Documentation	No. OIO-QP-219	Page 3 of 6
	Revision: 1	Effective Date: 09-02-2014

2.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) states the responsibilities and describes the process for documenting the traceability of samples collected for Los Alamos National Laboratory (LANL or Laboratory) using sample control and field documentation.

All LANL employees and their responsible subcontractors shall implement this procedure when collecting samples.

3.0 BACKGROUND AND PRECAUTIONS

Following the steps in this procedure assures that samples and field documentation are collected in a manner that creates and maintains legal defensibility. Following the procedure also assures that the field data generated during sample collection are correctly entered into the environmental databases for data analysis, compliance reporting, and long-term storage.

Samples are to be identified and controlled to ensure proper documentation.

4.0 EQUIPMENT AND TOOLS

The list below represents the equipment necessary to complete the tasks defined within this procedure:

- Sample Management Database
- computer
- printer
- Sample Containers
- Custody Seals

5.0 STEP-BY-STEP PROCESS DESCRIPTION

5.1 Notify the Sample Management Office

User

1. Notify the Sample Management Office (SMO) of the sampling campaign by completing and submitting the SMO Request spreadsheet found on the Environmental homepage at <http://int.lanl.gov/environmental/index.shtml>. Notify the SMO staff at least two days in advance of work.
2. Instructions for filling out the spreadsheet (also known as the Sampling Plan) are included in the download. Requestor must complete fields in sheets 1 (General Request Info) and 2 (Analytical Request Info). Guidance for allowable codes are provided on sheets 3 (Field Code Values to Print) and 4 (Analytical Methods and Analytes).
3. Email finished spreadsheet to smoorderrequest@lanl.gov
4. Contact Sample Management staff if questions arise while completing the SMO Request spreadsheet.

Sample Control and Field Documentation	No. OIO-QP-219	Page 4 of 6
	Revision: 1	Effective Date: 09-02-2014

5.2 Sample Request and Paperwork Creation

SMO Staff

1. Enter Sampling Plan into the database according to client specifications on SMO Request spreadsheet.

User

2. Review the sampling paperwork or summaries. Approve for final printing, or coordinate with the SMO staff to correct problems.

SMO Staff

3. Print the approved Sample Collection Log/Field Chain of Custody Forms and Sample container Labels.
4. Call requestor for paperwork receipt. (It is not possible to e-mail the paperwork.).

5.3 Sample Collection and Documentation

Field Team Member

1. Obtain the appropriate sample containers and custody seals from the SMO, when applicable.

Collect samples according to applicable sampling procedures.

2. Complete all the blank fields in the Sample Collection Log/Field Chain of Custody Form prior to sample submission to SMO. Complete the sample container labels and seal sample containers with sample custody seals when the sample is collected. [NOTE: Summa canisters and silica gel containers do not require custody seals.]
3. Record “OK” in the “as collected” spaces if the “as planned” information is accurate. [NOTE: To fill in multiple spaces with “OK”, draw an arrow from the first “OK” through the remainder of the spaces.]
[NOTE: Write “N/A” for “Not Applicable” in the field, as appropriate.]
4. Correct the information listed under “as planned” on the Sample Collection Log/Field Chain of Custody Form by filling in the information listed under “as collected”, based on field observations.
5. Special conditions for filling out Sample Collection Log/Field Chain of Custody Form:
 - a. Priority – use this portion of the form for Stormwater sampling or cases of limited sample volume. This informs the analytical laboratory in which order you prefer the tests to be analyzed until sample is consumed. If your sample does not fall into one of these cases, mark N/A.
 - b. Special Instructions – use this portion of the form to provide special instructions to the analytical laboratory; i.e. quicker turnaround time, additional analyses requested from that bottle, etc.
[NOTE: All information entered in writing on the Sample Collection log will be entered into the database. PLEASE WRITE LEGIBLY]
6. Record all sample field data required by the sampling procedure on the sample collection log. This may include silica gel weights, silica gel bound water, and other parameters required by the sampling procedure.
7. If a sample was planned and not collected, mark the sample collection log/field chain of custody form with the words “not collected” across the forms and draw a diagonal line across the form. Record the reason for not collecting the sample, and initial and date the form.

Sample Control and Field Documentation	No. OIO-QP-219	Page 5 of 6
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8. Ensure that Sample collector and coworker (who participated in the sample collection and can verify the accuracy of the data) have reviewed and signed the appropriate lines so that if corrections are needed the sampler can be identified for future contact.
9. Submit the Sample Collection Log/Field Chain of Custody Forms to SMO staff when the samples are submitted.
10. Photocopy the Sample Collection Log/Field Chain of Custody Form for the project records, as appropriate.

5.4 Delivery of Samples to the SMO

Field Team Member

1. When transporting sample to the SMO from the field all the requirements of EP-ERSS-SOP 5057 must be followed. These requirements include proper packing and any required radiation screening PRIOR to sample submission to SMO.
2. Ensure that all Sample Collection Log/Field Chain of Custody Form accompany the sample(s) when samples are delivered to the SMO.
3. Print name and sign the Sample Collection Log/Field Chain of Custody Form in the “Relinquished by” block.

SMO Staff

4. Print name and sign the Sample Collection Log/Field Chain of Custody Form in the “Received by” block.

Field Team Member/SMO Staff

5. Note the date and time of the transfer on the Sample Collection Log/Field Chain of Custody Form. The date and time of field team sample delivery must exactly match the date and time for sample receipt by the SMO.

5.5 Sample Collection Log Updates after Sample Submission

Field Team Leader/Member

1. If situations are found after sample submission, the field team leader or field team member must return to the SMO and update the original Sample Collection Log/Field Chain of Custody Form.
2. Initial and date the Sample Collection Log change.
3. Photocopy the changed Sample Collection Log for the project files.

6.0 RECORDS

SMO Staff

1. Submit the following records generated from this procedure following SOP-5269.
 - Sample Collection Log/Field Chain of Custody forms

7.0 ATTACHMENTS

Attachment 1: Sample Collection Log/Field Chain of Custody Form

ATTACHMENT 1 – SAMPLE COLLECTION LOG/ FIELD CHANGE-OF-CUSTODY

Los Alamos National Laboratory

Page 1 of 1

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENTID: 2553

EVENT NAME: 051 Sampling2010

SAMPLE ID: NPDES051-10-13566

WORK ORDER:

<u>AS PLANNED</u>	<u>AS COLLECTED</u>	<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED(MM/DD/YYYY):	_____	MEDIA:	LA
TIME COLLECTED (HH:MM)	_____	SUB-MEDIA:	Qnm&
PRS ID: 11c12	_____	SAMPLE TECH CODE: 121:	_____
LOCATION ID: NPDES Outfall ILUOII	_____	FIELD QC TYPE: LA	_____
LOCATION TYPE: QUI	_____	FIELD PREP: LE	_____
TOP DEPTH: 11	_____	SAMPLE USAGE: CQMf	_____
BOTTOM DEPTH: 11	_____	SCREEN/PORT DESC:	_____
FIELD MATRIX: YIQI	_____	EXCAVATED: YES / NO / NA	_____
COMPOSITE TYPE = _____	COMPOSITE TIME INTERVAL: _____	1-7	WATER FLOWING: YES / NO / NA
BOREHOLE: YES / NO / NA	BOREHOLE DECLINATION: _____	REFILL DIRECTION:	_____

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
		NPDES-051 MET	250 ML POLY	Nitric Acid		
		NPDES-C104	500 ML POLY	Ice		
		NPDES-Ra-226+Ra-228	1 GAL POLY	Nitric Acid		
2		NPDES-PCBCONG	1 LITER AMBER GLASS	Ice		

SAMPLE DESC:

SAMPLE COMMENTS:

LOCATION DESC:

FIELD SCREENING/MEASUREMENT RESULTS:

COLLECTED BY (PRINT)

REVIEWED BY (PRINT) _____

RELINQUISHED BY (Printed Name) (Signature)	Date/rime	RECEIVED BY (Printed Name) (Signature)	Date/rime
RELINQUISHED BY (Printed Name) (Signature)	Date/rime	RECEIVED BY (Printed Name) (Signature)	Date/rime

OIO-QP-220

Revision: 0



Effective Date: September 12, 2014

Next Review Date: September 10, 2017

Environment, Safety, Health Directorate

Operations Integration Office

Technical Procedure

SAMPLE CONTAINERS, PRESERVATION AND FIELD QUALITY CONTROL

Document Reviewer:

Name: Doris Quintana	Organization: QPA-IQ	Signature: Signature on File	Date: 09-12-2014
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Derivative Classifier: Unclassified or DUSA ENVPRO

Name: Ellena I. Martinez	Organization: OIO-DO	Signature: Signature on File	Date: 09-12-2014
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Approval Signatures:

Subject Matter Expert: Keith Greene	Organization: OIO-DO	Signature: Signature on File	Date: 09-12-2014
Responsible Line Manager: Chris Echohawk	Organization: OIO-DO	Signature: Signature on File	Date: 09-12-2014

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1.0 REVISION HISTORY

Revision No. <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
1.0	07/29/05	New document derived from E-SOP-1.02 and WQH-SOP-020.	E
0.0	10/16/07	New Document number, reformatted, minor technical changes. Supersedes ENV-DO-206.	T, E
0	09-12-14	This document supercedes EP-ERSS-SOP-5059 Field Quality Control Samples and EP-ERSS-SOP-5056 Sample Containers and Preservation. These two documents have been consolidated to a new Document ID and Title.	T, E

2.0 PURPOSE AND SCOPE

The purpose of this procedure is to delineate the responsibilities, specific requirements, and process for sample containers, preservation techniques, Field Quality Control and holding times as specified by field regulations and guidance documents within the Los Alamos National Laboratory (LANL or Laboratory).

3.0 BACKGROUND AND PRECAUTIONS

3.1 Background

The use of specific types of sample containers and preservation techniques is mandatory for hazardous site investigations because the integrity of any sample is diminished over time. Physical factors (light, pressure, temperature, etc.), chemical factors (changes in pH, volatilization, etc.), and biological factors may alter the original quality of the sample. Because the various target parameters are uniquely altered at varying rates, distinct sample container, preservation techniques, and holding time have been established to maintain sample integrity for a reasonable and acceptable period of time.

3.2 Precautions

The volume of sample collected should be sufficient to perform all the required analysis, plus an additional amount to provide for any quality control needs, split samples, or repeat examinations. All Field QC samples must be sampled, preserved, and transported the same as regular samples. If the samples were collected in an area controlled by a Radiological Work Permit, they must be released by RP-1 prior to transfer to the SMO. The samples shall be preserved and secured at the site until the shipping requirements are met and the samples are removed from the site.

Never clean and re-use bottles. Keep bottles in clean, dry place until the sample has been collected and is ready to be transferred to the appropriate container.

4.0 EQUIPMENT AND TOOLS

- Certified 300 series sample containers; available from vendors such as I-CHEM (J-CHEM Certified™ 300 Series), Environmental Sampling Supply (ESS), etc.

[NOTE: A Certificate of analysis with a bar-coded production number is typically in every case supplied by the vendor. Each bottle in the 300 series has a bar-code label for absolute traceability and is for use with the automated sample tracking system. The certificate of analysis should be retained for records.]

5.0 STEP-BY-STEP PROCESS DESCRIPTION

5.1 Obtaining Proper Sample Containers and Preservatives

Field Team Member	1.	Check EPA website for proper containers and preservatives, follow (SMO) Field Chain of Custody specifications.
	2.	Verify all materials are ready and available prior to going into the field, including all QC samples, such as trip blanks, field blanks, etc., that are required by the applicable Sample and Analysis plan (SAP).
	3.	Obtain Field Chain of custody forms (COCs) and individual bottle identification stickers prior to going in the field.

-
4. For sample collection, use only Certified 300 series sample containers that have been processed and meet or exceed "US EPA Specifications and Guidance for Contaminant-Free Sample Container" (Publication 9240.05A, EPA/540/R-93/051, December 1992).
Obtain bottles from SMO.

 5. Verify all water samples for organics contain extra aliquots for the potential of laboratory quality control problems and/or breakage during shipment.

 6. Refer to the OIO procedure OIO-QP-220, *Sample Containers, Preservation and Field Quality Control*, and follow all applicable transportation requirements.

 7. Document all pertinent comments and any deviations on the Field/Chain of custody or Field logbook.

5.2 Collecting Samples

Field Team
Member

1. For all matrices, fill bottles in the following order:
 - Volatile organics;
 - Semi-volatile organics;
 - Metals;
 - Other inorganic parameters; and
 - Radiochemistry.

2. Take special consideration when sampling volatile organic constituents.

3. Follow the following vial filling techniques for volatiles:
 - Add the preservative before the sample is taken.
 - Pour liquid samples into the vials without introducing any air bubbles.
 - If bubbling occurs as a result of vigorous pouring, discard the sample and refill the vial.
 - Completely fill the vial at the time of sampling so that when the septum cap is fitted and sealed, and the vial is inverted, no headspace is visible.
 - Do not open appropriately filled vials again prior to analysis.

[NOTE: Pea-sized bubbles may accumulate in the vials during transportation and storage due to solubility differences affected by temperature change. This should not adversely affect the sample integrity. This will happen during storage but should not be present at the time of sampling.]

4. Collect solid samples in the following manner:
 - Collect the solid sample in EnCore™ samplers, or fill the specific jar as completely as possible;
 - Tap the sides of the jar slightly during filling to try and eliminate as much air space as possible;

- If samples are shipped to the laboratory in EnCore™ samplers, extrude the samples and place them in sample containers within 48 hours of sample collection.
5. Collect sludge samples in the following manner:
- Take into consideration the consistency of the material since the analytical laboratory will extract or analyze the sample with respect to the relative percent of liquid solid components;
 - If the sludge is mostly water with relatively low solid content (<40% solids), use the appropriate water sample containers;
 - If the specific analysis to be performed is only applicable to a certain fraction of the sludge, note this on the analytical request form.

5.3 Preserving Samples

Field Team Member

1. Determine the type of preservation required for the specific analyses requested for all samples in accordance with EPA SW-846 and established industry practices for use by accredited analytical laboratories.
[NOTE: Acid, base, or buffer preservative quantities to be added to samples.]
2. Preserve samples immediately following sample collection (except in the case of samples for organics analyses as described above).
[NOTE: The SMO does not provide or perform preservation capabilities.]
[NOTE: The proper reagent for pH adjustment should be in an easily usable form that can be added at the time of sampling.]
3. Store samples in a cooler with ice, or other appropriate cooling material, until they are delivered to the SMO by using the following process:
 - Place the samples in an insulated container (cooler) and maintain on ice (ice in bags or chemical “blue” ice) at 4° Centigrade within 8 hours of sample collection (where applicable); and
 - Avoid freezing the sample, particularly when using a small, < 40 ml glass container, by wrapping it in bubble pack to isolate it from the “blue” ice.
4. Check the pH with pH paper if using an acid or base preservative; however, never insert the pH paper directly into the sample vial.

5.4 Implementing Holding Times

Field Team Member

1. Consider holding times and shipment schedules when collecting samples in order to minimize potential effects to samples due to holding time concerns.

2. Use the sample collection date and time for the beginning of the holding time:
 [NOTE: Both the sampler and the subcontract analytical laboratory must use this date/time. If the holding times are expressed in days, the sample must be extracted/analyzed before midnight. If the holding times are expressed in hours then the sample must be extracted/analyzed before the time frames expressed are exceeded. Remember to take into account time zone differences when collecting samples.]

3. When parameters are required to be analyzed in the field, use the allowable holding times, which are the maximum times that samples are considered valid.

4. If the site has suspected radiation contamination, obtain radiation screening results for the SMO or BUS-4 to ship the samples. (See procedure OIO-QP-221, *Handling, Packaging, and Transporting Field Samples*, for handling and transporting the samples.
 [NOTE: These results may be from historical knowledge or may be derived from field screening measurements of gross alpha/beta and gross gamma.]

5. If the samples are collected in an area controlled by a Radiological Work Permit, obtain a release by RP-1 prior to transfer to the SMO.

6. Preserve and secure the samples at the site until the shipping requirements are met and the samples are removed from the site.

5.5 Pre-Operation Activities

Field Team Leader

1. *Evaluate the requirements for field QC samples as part of preparation of the site-specific SAP.*

2. Include QC samples in accordance with the following table:

QC Sample Type	Sample Matrix	Frequency	Purpose
Field Duplicate	Soil and Water	One per day per matrix type or 1 per 20 samples, whichever is more frequent.	To evaluate the reproducibility of the sampling technique.
Equipment Rinseate Blank	Deionized water used to rinse equipment.	One per day or 1 per 20 samples collected, whichever is more frequent.	To evaluate decontamination procedures.
Trip Blank	Volatile organic compound (VOC)-free soil or sand; or VOC-free deionized water.	One per day or 1 per 20 samples collected for VOC analysis, whichever is more frequent.	To determine contamination during storage and transport.

3. Determine the need for additional types of QC samples to be collected during the SAP preparation activities.
 [NOTE: These additional types of QC samples may be collected to obtain information concerning the sampling site (e.g., background and control samples).]

4. Obtain deionized water in sealed containers appropriate for transport to the field and

in sufficient quantity to prepare the required equipment rinseate blanks.

[NOTE: Do not use tap water or drinking water purchased from a local store as these sources typically contain trihalomethanes.]

5. Obtain trip blanks from the SMO.

5.6 Sample Collection Process

- | | | |
|-----------------------------|----|--|
| Sample Collection Personnel | 1. | <i>Collect and prepare each type of QC sample required in the manner prescribed in the table in Section 4.3 of this procedure.</i> |
| | 2. | Refer to the table in Section 4.3 of this procedure for the collection frequency of field QC samples that shall be addressed within the SAP. |

5.7 Equipment Rinseate Blank

- | | | |
|-----------------------------|----|--|
| Sample Collection Personnel | 1. | After decontaminating the field sampling equipment, rinse with deionized water and collect the rinseate for analysis. |
| | 2. | Rinse all equipment surfaces that come in contact with the sampling materials (e.g., the inside of the bailer). |
| | 3. | Collect rinseate water throughout the day and fill the sample container all at once at the end of the day's sampling activities. |
- [NOTE: Do not collect the water used for decontaminating the field sampling equipment.]

5.8 Field Duplicate

- | | | |
|-----------------------------|----|---|
| Sample Collection Personnel | 1. | Collect two separate samples from the same source and at the same location and time. |
| | 2. | Place the samples in separate containers, follow the sample preservation procedure, label each as a unique sample, and submit both samples for the same analyses. |

5.9 Trip Blank

- | | | |
|-----------------------------|----|--|
| Sample Collection Personnel | 1. | Obtain trip blanks before the day's sampling events, and submit with the regular samples at the end of each day's sampling activities (when collecting samples for VOC analysis), or at the end of the project if the required frequency is maintained. [NOTE: The number of trip blanks to be prepared depends upon the number and frequency of VOC samples to be collected.] |
| | 2. | Maintain the trip blank containers with the regular sample containers throughout the sampling event and return them to the SMO with the collected samples. |
| | 3. | Do not open the trip blank container(s) at any time during the sampling activities. |

5.10 Records

- | | | |
|------------|----|--|
| Field Team | 1. | Submit the following records generated by this procedure to the applicable Field |
|------------|----|--|

Title: Sample Containers, Preservation and Field Quality Control	No.: OIO-QP-220	Page 8 of 8
	Revision: 0	Effective Date: 09-12-14

Member

Operations Task Leader

- Daily Activity Log forms or field notebooks that include deviations (if applicable), calibration information, record of daily activities, and any other pertinent information, at a minimum;
 - Completed Chain-of-Custody Form; and
 - Sample Collection Log.
-

OIO-QP-221

Revision: 0



Effective Date: September 12, 2014

Next Review Date: September 10, 2017

Environment, Safety, Health Directorate

Operations Integration Office

Technical Procedure

Handling, Packaging, and Transporting Field Samples

Document Reviewer:

Name: Doris Quintana	Organization: QPA-IQ	Signature: Signature on File	Date: 09-12-14
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Derivative Classifier: Unclassified or DUSA ENVPRO

Name: Ellena Martinez	Organization: OIO-DO	Signature: Signature on File	Date: 09-12-14
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Approval Signatures:

Subject Matter Expert: Keith Greene	Organization: OIO-DO	Signature: Signature on File	Date: 09-12-14
Responsible Line Manager: Chris Echohawk	Organization: OIO-DO	Signature: Signature on File	Date: 09-12-14

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1.0 PURPOSE AND SCOPE

The purpose of this procedure is to describe the process for handling, packaging, and transporting field samples collected by the Los Alamos National Laboratory (LANL or Laboratory).

2.0 BACKGROUND AND PRECAUTIONS

2.1 Background

None.

2.2 Precautions

If the samples were collected in an area controlled by a Radiological Work Permit, they must be released by RP-1 prior to transfer to the SMO. The samples shall be preserved and secured at the site until the shipping requirements are met and the samples are removed from the site.

3.0 STEP-BY-STEP PROCESS DESCRIPTION

3.1 Preparation of Environmental Samples for Transport and Shipment

- | | |
|-------------------|---|
| Field Team Member | <ol style="list-style-type: none">1. Properly label, securely seal, and wipe dry all sample containers before placing them in a transportation package (e.g., bubble wrap).2. As necessary to control leakage, place and seal sample containers in a polyethylene, sealable bag (e.g., Ziploc™ bag).3. If the sample requestor deems it necessary for liquid samples, place sufficient absorbent material in the cooler or other transport container to absorb all liquid in the event that sample containers break.4. Seal and secure the drainage hole at the bottom of the cooler in case of sample container leakage.5. Pack multiple sample containers by using bubble wrap, or other means to avoid breakage during transport.6. Protect plastic containers from possible puncture during shipping by the use of cushioning material.7. Separate glass vials in the shipping container with cushioning material to prevent breakage.8. Place samples that require preservation in a sturdy ice chest with sufficient cooling material to maintain the required preservation temperature.9. To avoid increasing the likelihood of container breakage, do not freeze water samples or transport water samples in dry ice. |
|-------------------|---|

[NOTE: The goal is to maintain preserved samples at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$; however, under field conditions, this may not be possible.]

-
10. If using wet ice to preserve samples, place the ice in sealed containers, such as doubled Ziploc™ bags, so that water does not fill the cooler as the ice melts.
 11. If water does leak into the transport container, ensure that labels and markings on sample containers remain intact and legible.
 12. Complete original Field Chain-of-Custody forms and deliver with transport container to the SMO.
[NOTE: Samples must remain under positive control of the individual who has signed for them.]
 13. Place a “Chain-of-Custody” seal over the lid of all containers, so that tampering can be easily detected.
 14. Mark the outside of all containers (e.g., coolers) used to transport environmental samples with the following information:
 - Environmental Samples;
 - Name of contact; and
 - Contact information (e.g., phone number).

3.2 Transport Environmental Samples for Shipment

Field Team
Member

1. Transport environmental samples to the SMO or radiation screening laboratory by using a government vehicle or approved subcontractor vehicle only.
[NOTE: Transportation of samples to the SMO by using a personal or other nongovernmental vehicle is not permitted; except for approved subcontractor vehicles.]
2. Deliver environmental samples to the SMO between the hours of 8:00 a.m. and 5:00 p.m. on workdays and, as necessary, coordinate with the SMO for delivery during other times.
3. Coordinate with the SMO for the delivery of samples that have limited holding times.

SMO
Personnel

4. Verify that samples transported to the SMO are properly prepared for shipment and the Field Chain-of-Custody documentation is complete and accurate.
 5. Do not accept for analysis any environmental samples for which documentation is incomplete or incorrect.
[NOTE: Such samples will not be accepted until the sample documentation is completed and/or corrected.]
 6. Do not accept for analysis any environmental samples without appropriate radiation screening information (e.g., historical data, RP data, etc.).
-

SMO or
Radiation
Screening
Laboratory
Personnel

7. Assume custody of properly packaged and transported environmental samples and perform packaging and shipment of the samples to contract laboratories as directed.

3.3 Sanitary Waste Samples for Transport and Shipment

Field Team
Leader

1. For the safety of all laboratory personnel and before transport to the SMO, affix a Biohazard warning label to the outside of the transport container for samples from active septic systems and sewage lagoons that identifies the samples as sanitary waste.

[NOTE: A typical warning label attached to the outside of the transport container might read as follows:

This package contains samples of sanitary waste. If leakage is noted, take all prudent precautions and notify the sampling team that collected the samples.]

3.4 Handling, Packaging, and Transporting Samples Containing Radioactive Materials

Field Team
Leader

1. Coordinate the handling and packaging of samples with an RP Radiological Control Technician (RCT).

2. Ensure RCT provides radioactivity data that will allow determination of specific activities.

[Note: Data must be provided for each sample. The screening must be conducted on the sample media rather than on the sample container.]

3. Do not accept NDS (No Detected Activity).

4. Ensure data radiation screening data is provided for each sample.

5. Ensure RCT conducts the screening on the sample media, and not on the sample container.

6. Follow established RP safety precautions when handling and packaging field samples that meet DOT or RP action levels for radioactivity.

7. To prevent personnel exposure and equipment contamination, notify the SMO and RCT that the samples contain significant radioactivity.

8. Submit field samples to an SMO-approved radiation screening facility if more accurate determination of radioactivity levels is required.

[NOTE: SMO-approved facilities are American Radiation Services (ARS) and RP.]

9. If RP reports a result for solids greater than 5,000 dpm above background, confirm the results using ARS.

3.5 Records

- SMO Staff 1. Submit the following records generated by this procedure to the Records Processing Facility:
- Field Chain-of-Custody; and
 - Shipping documentation.

4.0 REVISION HISTORY

Revision No. <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
0.0	07/29/05	New document derived from E-SOP-1.03 and WQH-SOP-020	T
0.0	10/16/07	New document number, reformatted, minor technical changes. Supersedes ENV-DO-207.	T
0	09-12-14	Assigned a new OIO document control number. This document supersedes EP-ERSS-SOP-5057. Revised and updated organization name and editorial changes.	E

OIO-SOP-5269

Revision: 0.1



Effective Date: 3/17/15

Next Review Date: 3/17/18

Environment Safety & Health

Operations Integration Office

Standard Operating Procedure

CHAIN-OF-CUSTODY AND FINAL RECORDS PREPARATION FOR ANALYTICAL DATA

Reviewers:

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Derivative Classifier: Unclassified or DUSA ENVPRO

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Title: Chain-of-Custody and Final Records Preparation for Analytical Data	Document No: SOP-5269	Page 2 of 5
	Revision: 0.1	Effective Date: 3/17/15

REVISION HISTORY

Doc No. and Revision <i>[Enter current document number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
SOP-5269, R0	02/09/10	New document SOP-5269 Supersedes EP-ERSS-SOP-5085, R0.	T/E
SOP-5269, R 0.1	3/17/15	Revised organizational name, hyperlinks and editorial changes.	E

Title: Chain-of-Custody and Final Records Preparation for Analytical Data	Document No: SOP-5269	Page 3 of 5
	Revision: 0.1	Effective Date: 3/17/15

1.0 PURPOSE AND SCOPE

This standard operating procedure (SOP) states the responsibilities and describes the process for establishing and maintaining a proper chain-of-custody in the management and processing of final analytical data record packages for Los Alamos National Laboratory (LANL or Laboratory).

This procedure integrates the criteria of the Quality Assurance Plan for the Environmental Programs, hereinafter referred to as the Quality Assurance Plan.

All **SMO team members** shall implement this procedure when processing final analytical data record packages.

1.0 BACKGROUND AND PRECAUTIONS

1.1 Background

This procedure conforms to the requirements of legal defensibility of Analytical Data.

Controls are established to assure that only correct and acceptable items are used, installed, or analyzed. LANL work includes sampling and analysis activities, which require identification to be maintained on the items (i.e., samples) or in documents traceable to the items, or in a manner that assures that identification is established and maintained.

Sample identification is maintained from sample collection through analysis and reporting. The chain-of-custody form provides this traceability.

1.2 Precautions

Due to the high volume of analytical data record packages that are processed by the Sample Management Office (SMO); authorization has been delegated to the SMO to process their own records in accordance with the Laboratory's Record Management Procedure (P1020-1). This is done to gain programmatic efficiency and avoid backlog at the ADEP Records Processing Facility (RPF). The SMO Team completes the LANL Form 1701 Records Transfer Request and submits hardcopies directly to the offsite Federal Records Center in Denver, CO., which has been authorized by the LANL SI-RMS Records Center.

2.0 EQUIPMENT AND TOOLS

None.

3.0 STEP-BY-STEP PROCESS DESCRIPTION

3.1 Receive Analytical Data Record Package from Contract Laboratory

- SMO Team**
1. Ensure that the following items have been received from the contract analytical laboratory:
 - Hardcopy (paper) EPA defined Level IV analytical data package, PDF copy of the data package both Level (IV) Level (II), and
 - Electronic Data Deliverable (EDD).

All must be received to consider the analytical request complete for payment of services.

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3.2 Manage the Analytical Records

- SMO Team**
1. Store the hardcopy (paper, Level (IV) only) data package in numerical succession in controlled area of the SMO facility.

 2. Log the data package into the SMO database as received.

 3. Load the EDD into the EIM database, typically loaded by the analytical laboratory.

 4. Load the PDF copies both Level (IV) and Level (II) into the network folder for access by data stewards.

3.3 Prepare Analytical Data Record Package

- SMO Team**
1. Verify all required information is available and received.

 2. Combine, in preparation for scanning, the following:
 - The original SMO analytical request folder.
 - Data validation report printed from the EIM database when applicable.
 - Scan these documents in the following order: Lab request, Field Chain-of custodies (in numerical order) and validation report.

Note: In the abnormal event that these items are not verifiable, for the analytical request and validation report re-print documents from the EIM database.

3.4 Preparation of Final Analytical Data Records Package - PDF

- SMO Team**
1. Identify SMO scanned request folder.

 2. Identify Level (IV) PDF from analytical laboratory.

 3. Using Adobe Acrobat merge these saved pdfs.

 4. Move the merged file into the Final SMO-Work storage folder on the projects drive for final disposition and transfer to the INTELLUS public website.

 5. Make sure all temporary files made to create the final analytical data records package PDF are deleted.

Note: In the abnormal event that these items are not verifiable, request the missing information from the responsible analytical laboratory.

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3.5 Preparation of Final Analytical Data Records Package – Paper Level (IV)

SMO Team 1. Identify SMO paper request folder.

2. Identify Level (IV) paper data from analytical laboratory.

Note: In the abnormal event that these items are not verifiable, request the missing information from the responsible analytical laboratory.

3. Prepare the paper analytical data records package by selecting a required lilac colored title sheet which contains, the request number and number of pages in the document. This sheet is placed at the front of the records package. This is used as a records package separator for the records center.

4. Place the paper analytical data in the designated records center folder and write the correct request number on the tab of the folder. Place the folder into the designated records center packaging white box.

5. Correspondingly, give the white record box a sequential number starting with 1 and log the number in the records logbook with also the corresponding requests in that box for form 1701 entry and future retrieval.

6. Requirement for record transfer is two pallets of 45 boxes, each at a minimum.

7. Follow the SI-RMS procedure P1020-1 for long term disposition.

3.6 Records Management

SMO Team 1. Complete Form 1701 Records Transfer Request and send to SI-RMS to capture records being transferred to the offsite Federal Records Center (FRC) in Denver, CO.

NOTE: While filling out Form 1701, if the data entry exceeds 130 characters for each box line then write "see attached" and put the required information in an excel spreadsheet and attach to the request.

OIO-TP-222

Revision: 0



Effective Date: 3/17/2015

Next Review Date: 3/17/2018

Environment, Safety, Health Directorate

Operations Integration Office

Technical Procedure

Shipping/Receiving of Environmental Samples by the Sample Management Office (SMO)

Document Owner:

Name: Keith Greene	Organization: OIO	Signature: Signature on File	Date: 3/17/15
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Derivative Classifier: Unclassified or DUSA ENVPRO

Name: Ellena Martinez	Organization: OIO	Signature: Signature on File	Date: 3/17/15
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Approval Signatures:

Subject Matter Expert: Keith Greene	Organization: OIO	Signature: Signature on File	Date: 3/17/15
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To document a required read, Login to [UTrain](#), and go to the Advanced Search.

Shipping of Environmental Samples by the WES Sample Management Office (SMO)	OIO-TP-222	Page 2 of 7
	Revision: 0	Effective Date: 03/17/2015

REVISION HISTORY

Document Number and Revision <i>[Include revision number, beginning with Revision 0]</i>	Effective Date <i>[Document Control Coordinator inserts effective date]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>
OIO-TP-222 RO	03/17/2015	This document supersedes SOP-5255, formatted into Technical Procedure template. Document to Keith Greene for revision to procedure.

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1.0 INTRODUCTION

The work specified in this procedure will be conducted in accordance with the applicable sampling activity Integrated Work Documents, in accordance with LANL IMP 300-00-00, Integrated Work Management for Work Activities, or with the applicable sampling activity Hazard Review.

1.1 Purpose and Scope

The purpose of this procedure is to describe the process for shipping and/or receiving environmental samples from the Los Alamos National Laboratory (LANL or Laboratory) Sample Management Office (SMO) to/from analytical laboratories.

1.2 Applicability

This procedure is applicable to all SMO staff members.

2.0 PRECAUTIONS AND LIMITATIONS

The chain-of-custody process provides confidence and documentation in analytical data integrity by establishing the traceability of the data from the time of collection, to delivery, through processing, to final maintenance as a record.

2.1 Precautions

Chain-of-custody must be maintained for legally defensible environmental sampling.

2.2 Limitations

This SOP is for samples shipped and/or received by SMO staff members. This does not apply to any other LANL shipping or receiving entity.

3.0 PREREQUISITE ACTIONS

None

4.0 STEP-BY-STEP PROCESS DESCRIPTION

4.1 Receipt of Samples for Shipment

- SMO Team**
1. Accept samples only if they are described on completed chain-of-custody forms. Completed chain-of-custody forms include date and time of sample collection, acknowledgement that containers are accounted for or canceled, annotation for any container deviations, and representation for field screening results. Acceptance is also contingent on the custody seals being in place. Once the above has been verified Relinquished and Received signatures and date/time must be completed.
 2. Immediately after the samples are properly received at the SMO, store in secondary containment (for breakable storage containers) and place in refrigerated storage area where applicable until they are prepared for shipment to the analytical laboratory.
-

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4.2 Packaging of Samples for Shipment

SMO Team

1. Seal and secure the drainage hole at the bottom of the cooler in case of sample container leakage.
2. Pack individual sample containers to prevent breakage and transport in a sealed cooler with ice or other suitable coolant, or other EPA or industry-wide accepted method
3. First, individually wrap glass bottles in plastic to contain sample if breakage during shipment. Then wrap in cushioning material to help prevent breakage.
4. Protect plastic containers from possible puncture during shipping using cushioning material.
5. Include temperature blanks with each shipping container.
6. Apply chain-of-custody seals to each cooler prior to shipment of samples from LANL to the designated analytical laboratory.
7. Include the chain-of-custody form and analytical request form within the sealed storage container to be delivered to the analytical laboratory.

Samples may be bundled and shipped to the analytical lab. In this case, chain of custody analytical request forms are also bundled with the shipment and placed in one of the shipping containers. The paper work is also faxed to the analytical lab in case the shipping containers get separated in transit.

However, some programs cannot be bundled. Samples associated with NPDES compliance, UN2910 Rad and New Mexico Special waste (high TPH) must be shipped in their own shipping container with its corresponding paperwork.

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4.3 Submission of Samples to Analytical Laboratory

- SMO Team
1. Ship each cooler, or other shipping container, directly to the analytical laboratory by FED-EX.
 2. Submit all samples to the laboratory in a timely manner to allow the analytical laboratory to conduct analyses within analytical method holding times.

4.4 Receipt of Samples from Analytical Laboratory

- SMO Team
1. In the abnormal situation that samples need to be returned from the analytical laboratory, the same conditions of acceptance must be followed as specified in OIO-QP-221 with the following additional Completed field chain-of-custody forms.
 - Must have prior approval from the SMO manager and STR from the project the samples were collected for.
 - Confirmed charge code and disposal path, either back to site from which the samples were collected from or projects approved waste stream.

NOTE: If the above conditions are not met the samples must not be accepted.

 -

5.0 TRAINING

All other applicable SMO Standard operating procedures.

6.0 DEFINITIONS AND ACRONYMS

See LANL [Definition of Terms](#).

6.1 Definitions

None

6.2 Acronyms

See LANL [Acronym Master List](#).

DOE	Department of Energy
LANL or the Laboratory	Los Alamos National Laboratory
SMO	Sample Management Office

7.0 RECORDS

Follow OIO-SOP-5269, Chain of Custody and Final Records Preparation for Analytical Data.

8.0 REFERENCES

OIO-QP-221, Handling, Packaging, and Transporting Field Samples.

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9.0 ATTACHMENTS OR APPENDICES

None

No: P409

Revision: 5

Issued: 07/30/15

Effective Date: 07/30/15

LANL Waste Management

1.0 PURPOSE

This document describes Los Alamos National Laboratory (LANL or the Laboratory) requirements for waste generated and managed by Waste Generators and Treatment Storage Facilities (TSFs) to ensure compliance with legal mandates and Laboratory requirements as necessary to protect human health, safety, and the environment. This document has been revised as part of a process in which the Laboratory systematically plans, documents, executes, and evaluates its management of regulated waste streams.

This document addresses LANL's waste management requirements for Waste Generators and TSFs as necessary to safely manage, store, and treat wastes. The Waste Generator must know and document what is in the waste, and TSFs must meet waste analysis requirements under the [LANL Hazardous Waste Facility Permit](#). This document also addresses LANL's Waste Certification and Self-Assessment Programs, to ensure there is a systematic, documented approach for compliance with requirements in this document.

All Waste Generators, including subcontractors, who generate a regulated waste, must work with Waste Management (WM) to meet the requirements in this and other required documents to ensure that the following are met:

- the waste is properly characterized, managed, stored, and transported, and
- the waste certification program is implemented at the waste generating site before the waste is shipped off-site from LANL.

The Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED) have established requirements, which are addressed in this document, for Waste Generators and TSFs to ensure regulated waste is characterized, managed, stored, treated, and transported compliantly. To ensure compliance with legal mandates, the requirements in this and other requirements documents (i.e., [P930-1](#), *LANL Waste Acceptance Criteria*, Associate Director for Environment, Safety, and Health [ADESH], and Functional Series Documents [FSDs]) are established to be consistent with Department of Energy (DOE) Orders, federal and state laws and regulations, the [LANL Hazardous Waste Facility Permit](#), and reporting requirements.

2.0 AUTHORITY AND APPLICABILITY

2.1 Authority

This document is issued under the authority of the Laboratory Director to direct the management and operation of the Laboratory, as delegated to ADESH as provided in the [Prime Contract](#). This document derives from the Laboratory [Governing Policies](#), particularly the section on Environment, and implements requirements in the [Prime Contract](#), particularly Department of Energy Acquisition Regulation (DEAR) 970.5223-1, *Integration of Environment, Safety, and Health into Work Planning and Execution* (Dec. 2000); Part III, Section J, Appendix B 4.2 and Part III, Section J, Appendix G; [DOE Order \(O\) 435.1](#), *Radioactive Waste Management*; [DOE Manual \(M\) 435.1-1](#); *Radioactive Waste Management Manual*; the [Resource Conservation and Recovery Act \(RCRA\)](#); the [Toxic Substances Control Act \(TSCA\)](#); [New Mexico Special Waste Act](#); [74-9-1 NMSA 1978](#), *Solid Waste Act*, and the [74-4-1 NMSA 1978](#), *Hazardous Waste Act*.

- Issuing Authority (IA): Associate Director for Environment, Safety, and Health (ADESH)
- Responsible Manager (RM): Waste Management (WM) Division Leader
- Responsible Office (RO): Waste Management-Division Office (WM-DO)

2.2 Applicability

This document applies to all workers, including subcontractors, who generate, manage, treat, or store regulated waste at the Laboratory as a Waste Generator or at a TSF. Regulated waste, as used in this document, refers to all types of waste including office waste, solid waste, universal waste, hazardous waste, mixed radioactive waste, and radioactive-only waste. Waste Generators include workers who generate regulated waste and store the waste in staging areas, accumulation areas, or less-than 90 day storage areas. TSFs include workers who manage, treat, or store regulated waste under the [LANL Hazardous Waste Facility Permit](#). All other persons working at the Laboratory must follow the requirements as set forth in their contractual agreements or subcontracts.

3.0 PROCEDURE DESCRIPTION

3.1 Overview

There are two main aspects to this document. First, it establishes specific responsibilities for Waste Generators and TSFs to manage and store regulated wastes to ensure the protection of human health, safety, and the environment (Sections 3.2 through 3.7). Second, it describes LANL's Waste Certification Program, which requires a documented approach to ensure that waste management (treatment, storage and disposal) of waste streams complies with applicable requirements (Section 3.8) prior to off-site shipment.



Fig. 1. LANL Waste Management Components

Waste Generators and TSF workers will find more detailed information on waste compliance in the ADESH FSDs. These FSDs may consist of non-mandatory information, such as aids and guidance (ADESH-TOOLS) or mandatory requirements, regarding waste type and compliance factors. These FSDs are issued by ADESH in accordance with [PD311](#), *Requirements System and Hierarchy* and [ADESH-AP-007](#), *Document Control*.

If a Facility Operations Director (FOD), the Facility Responsible Line Manager (RLM), a Facility Point of Contact and/or a Waste Generator chooses to specify additional local-level procedures for waste management activities, those local procedures and changes thereto must be reviewed and approved through WM-DO before they are issued and implemented. Such procedures, including ADESH Administrative Procedures (ADESH-APs) and ADESH Technical Procedures (ADESH-TPs), may be subject to review in accordance with Safety Basis Procedure (SBP) [SBP-112-3-R1.2](#), *Unreviewed Safety Question (USQ) Process*, and [P315](#), *Conduct of Operations Manual*. WM-DO confirms that Waste Generators are compliant with potential waste streams through oversight requirements for their waste streams and that waste requirements are met in the planning stage for all waste and potential waste streams.

Before waste generating projects (remediation, Demolition and Decontamination, Footprint Reduction, etc.) begin, WM-DO must review (1) all characterization methodologies that were part of the planning stage and the preparation for waste disposition and (2) all requests for use of a DOE or LANL subcontractor that was not procured through [WM-DO](#) via e-mail.

Before generating regulated waste or commencing waste characterization activities, a Waste Generator must consult with their [Waste Management Coordinator \(WMC\)](#). TSFs must comply with their local-level procedures and the [LANL Hazardous Waste Facility Permit](#).

Waste Generators and TSFs must also meet the requirements of the LANL Pollution Prevention Program, which implements pollution minimization goals through Pollution Prevention Opportunity Assessments and other tools. The LANL Pollution Prevention Program requires Waste Generators and TSFs to identify potential alternatives to the generation of waste including use of less toxic materials, alternative processes, waste minimization techniques, and following the requirements [DOE O/M 435.1](#), *Radioactive Waste Management/Manual* and [DOE O 436.1](#), *Departmental Sustainability*. In addition, TSFs must meet waste minimization requirements of the [LANL Hazardous Waste Facility Permit](#).

The Waste Certification Official (WCO) must be notified by the originating organization when a Nonconformance Report (NCR) or a Performance Feedback and Improvement Tracking System (PFITS) issue is entered into the system regarding regulated waste. WCO concurrence for corrective actions must be obtained by e-mail prior to closure.

3.2 Identifying Waste

Waste Generators must correctly identify their waste through waste characterization as specified below. If a Waste Generator needs assistance with and/or cannot identify the waste type, the worker must contact their WMC. In addition, if a LANL worker or subcontractor discovers a waste stream with no identifiable Waste Generator, the worker must contact their WMC. See [ADESH-TOOL-213](#), *No Owner Waste*.

“Office waste” refers to wastes generated in an office environment and can include solid waste (e.g., office paper, food waste, trash), recyclables (e.g., paper, cardboard, plastics), universal waste (e.g., batteries and fluorescent light bulbs) and hazardous waste (e.g., aerosol cans). [ADESH-TOOL-114](#), *Office Waste Tool*, [ADESH-TOOL-111](#), *Waste Characterization*, and [ADESH-TOOL-314](#), *Radioactive Characterization*, help Waste Generators quickly identify their regulated waste types and describe additional tools with requirements for their regulated waste types.

Project Management (PM) projects, Environmental Remediation (ER) or decontaminated and decommissioned must notify WM-DO via e-mail of upcoming waste generation projects and provide all pertinent planning documentation and characterization documentation for evaluation. Use of the Permits and Requirements Identification (PRID) system is required (see [PD400](#), *Environmental Protection*).

3.2.1 Waste Characterization

Waste Generators and TSFs are required to ensure that waste characterization is accurate, complete and up-to-date. Waste Generators must make a waste determination and characterize regulated waste by appropriate analytical testing or use of acceptable knowledge e.g., Material Safety Data Sheets (MSDSs), product labels, and historical data. TSFs must meet waste analysis plan requirements under the [LANL Hazardous Waste Facility Permit](#) prior to acceptance of the generator’s waste for treatment or storage. If a Waste Generator does not supply complete and adequate waste characterization information, the TSF or off-site Treatment Storage and Disposal Facility (TSDF) may not accept the waste. Waste Generators and TSFs must ensure that waste characterization documentation is maintained, protected, controlled, and available for internal and/or any third party reviews.

Note: TSF workers become “Waste Generators” when activities at the TSF (e.g., repackaging, sorting, and segregation) lead to the generation of regulated waste or trigger re-characterization of the waste stream as described within this section.

Waste Generators must consult with their WMCs to start the waste characterization process, when working with a new process that may create a new regulated waste stream, or when waste processing has been modified. [ADESH-TOOL-111](#), *Waste Characterization* and [ADESH-TOOL-314](#), *Radioactive Characterization*, help Waste Generators document and characterize regulated wastes, and describe additional tools with requirements for their regulated waste types. The Waste Generator must sign a Waste Stream Profile (WSP) Certification Statement in the [Waste Compliance and Tracking System \(WCATS\)](#), assuring that waste characterization is correct and meets applicable waste acceptance criteria. This certification attests to the accountability and legal defensibility of the waste characterization for internal or external third party reviews.

As part of the requirement to characterize regulated waste, the Waste Generator must

- submit a waste stream profile in WCATS for each waste stream;
- upload all waste characterization documentation into WCATS and ensure that all valid documentation is referenced in WCATS with a unique identifier;
- sign the WSP Certification Statement assuring accurate and complete characterization of the waste; and
- annually re-evaluate waste characterization for each WSP to verify accuracy of the waste characterization. For compliance purposes, this annual period is defined as less than one year since the original waste characterization or the last recharacterization.

After waste has been identified and entered into WCATS, the waste characterization will be reviewed by the WM-DO prior to a new waste stream identification number being activated. WM-DO screens documentation for LANL facilities that characterize waste streams by acceptable knowledge, process knowledge (or knowledge of process), historical knowledge, etc.

Note: If waste with no disposal path must be generated, the Waste Generator must contact [WM-DO](#) via e-mail for prior authorization.

TSFs must meet waste characterization requirements of the [LANL Hazardous Waste Facility Permit](#), including specifically the Waste Analysis Plan (WAP).

3.2.1.a Waste Generator Recharacterization

Waste Generators must recharacterize and update waste characterization based on the following conditions if

- after an annual re-evaluation, there is any change to waste characterization information, including changes to the waste-generating process or operations;
- there is a change to the waste-generating processes or operations;
- analytical results indicate a change in the waste stream;
- new characterization information becomes available;
- a waste container is opened and secondary material is added to the container;
- waste is repackaged and secondary material is added during this process;
- there is a change in the ownership of a WSP; or
- the Waste Generator is notified that waste received at an off-site facility does not match a pre-approved waste analysis certification or accompanying shipping documentation.

Note: TSF workers may become Waste Generators when waste processing includes one of the activities described above.

The Waste Generators must contact the WM-DO in the event it is required to update waste characterization information described above. WM-DO will work through appropriate subject matter experts to assess the identified changes in the waste characterization and recommend actions.

3.2.1.b Recharacterization at Treatment and Storage Facilities (TSFs)

Under the [LANL Hazardous Waste Facility Permit](#), TSFs must update their waste characterization when the following occurs:

- a Waste Generator determines one or more of the above conditions in Section 3.2.1.a has occurred;
- TSF workers have reason to believe that the process or operation generating the waste has changed;
- waste is repackaged and secondary material is added during this process;
- waste received at an off-site facility does not match a pre-approved waste analysis certification or accompanying shipping documentation; or
- an inspection reveals that the waste does not match the identity of the waste specified by the Waste Generator or a manifest on a shipping paper.

3.2.2 Waste Containing Potential Radioactive Contamination

Potentially radioactive wastes (e.g., the waste or waste item was generated in a radiologically contaminated area) are summarized in [ADESH-TOOL-306](#), *Potentially Radioactive or Mixed Investigation-Derived Waste*. The Waste Generator is required to meet the actions specified in the tool.

If radioactive contamination is reasonably suspected to be present at a site (e.g., in wastes from potential release sites or poorly documented decontaminated and decommissioned sites), the waste must be characterized. See [ADESH-TOOL-314](#), *Radioactive Characterization*. The Authorized Release Limits Process is defined in [P411](#), *Authorized Release Limits Proposal Process* and is applicable only to materials that

- have residual radioactivity below the dose limits specified in [DOE O 458.1](#), *Radiation Protection of the Public and the Environment*, and
- do not contain [74-4-1 NMSA 1978](#), *Hazardous Waste Act* and [Resource Conservation and Recovery Act \(RCRA\)](#) constituents.

Note: For release of potentially activated metals previously stored in Radiation Control areas, see [RP-SOP-077.004](#), *LANSCE Metals Clearance Process* and [RP-SVS-RIC-TBD-03](#), *Technical Basis Documentation Regarding Health Physics Measurements for the Unrestricted Release of Metals from LANSCE*.

3.2.3 Waste Verification

To ensure compliance with DOE Directives, federal and state laws and regulations, [P930-1](#), *LANL Waste Acceptance Criteria*, and reporting requirements, WM-DO completes a verification checklist in accordance with [WM-PROG-QP-236](#), *Waste Certification Program Waste Verification*, and must verify accurate and thorough waste characterization. This includes the random or selected waste stream and can include the following (if applicable):

- a review of radiological assay;
- a visual examination of the waste;
- a sampling and chemical analysis of the waste;
- a verification that the waste has been properly characterized in accordance with applicable procedures, acceptable knowledge documentation, non-destructive assay records, chemical analysis documentation, and, if applicable, documentation of past visual examinations of the waste;
- a review of past verification results to determine the nature of any pre-existing problems; and
- a review of facility waste processes and procedures to verify operations meet waste certification requirements.

Note: The [LANL Hazardous Waste Facility Permit](#) requires an annual verification of the waste characterization of one percent of the total number of hazardous waste streams characterized solely by acceptable knowledge and managed at TA-54 in the previous calendar year.

3.3 Packaging Waste

Low-Level Waste (LLW) and Mixed Low-Level Waste (MLLW) must meet waste package certification requirements before the waste is disposed. Waste Generators of LLW and MLLW must make a request via e-mail to [WM-DO](#) to arrange for waste package certification. If there are specific waste issues regarding LLW and MLLW, the Waste Generator must contact the [WCO](#). To ensure compliance with federal and state laws, regulations and reporting requirements, the WCO will rely on established waste disposition requirements that are consistent with Waste Acceptance Criteria (WAC) requirements from the Nevada National Security Site (NNSS).

To prepare for waste disposition, the Waste Generator must refer to the [600 Series](#) FSDs, (*Transport of Waste*). All waste information regarding waste disposition must be documented in WCATS and a disposal request must be submitted through the WCATS system by the WMC. This will prompt WM-DO to initiate a waste shipment. WM-DO must be consulted on all specific waste issues as WM-DO is responsible for compliance with safe packaging and transportation requirements to off-site receiving facilities.

3.4 Storing Waste

Waste Generators and TSFs will store their waste in accordance with the requirements listed below.

3.4.1 Waste Areas

Waste Generators are responsible for ensuring that on-site waste accumulation and temporary storage (e.g., less-than 90-day storage areas) are conducted in [Registered Waste Areas](#). For more detailed instruction see the following:

- [ADESH-TOOL-206](#), *Hazardous Waste*;

- [300 Series Tools](#), (*Radioactive Waste*);
- [400 Series Tools](#), (*Universal Waste*);
- [500 Series Tools](#), (*NM Special Waste*);
- [ADESH-TOOL-712](#), *Polychlorinated Biphenyl (PCB) Waste*; and
- [ADESH-TOOL-716](#), *Used Oil for Recycle*.

TSFs can meet the requirements in the [LANL Hazardous Waste Facility Permit](#) by operating to the [800 Series Tools](#), (*Treatment, Storage, and Disposal Facilities*).

The WMC must also certify waste protection and storage by evaluating the waste and using [ADESH-TOOL-300](#), *General Radioactive Waste Management*, and [P930-1](#), *LANL Waste Acceptance Criteria*.

3.4.2 Site Treatment Plan (STP) for Mixed Transuranic (MTRU) and Mixed Low-Level Waste (MLLW) at TSFs

In accordance with the Site Treatment Plan (STP), LANL must report to NMED all MTRU waste and MLLW that will be stored at the Laboratory after 1-year of its accumulation start date. For STP waste containers, the start date refers to the date of receipt for storage at the LANL TSF. The STP summarizes the status of the current inventory, describes the progress being made to dispose of the waste, identifies treatment and disposal options for addressing the STP inventory, and provides overall schedules for management and disposition of mixed waste to demonstrate compliance with Land Disposal Requirement storage prohibitions under the RCRA and demonstrates compliance with the Federal Facility Compliance Order issued by NMED under the New Mexico Hazardous Waste Act.

To meet these compliance requirements, Waste Generators must notify the [STP Manager](#) via e-mail at least three months prior to the waste exceeding its 1-year accumulation start date that their waste must be added to the STP. The Waste Generators must provide the following:

- for MLLW and MTRU waste, an explanation as to why the waste will exceed its 1-year accumulation start date; and
- for MLLW only, compliance milestone dates when waste will be shipped off-site for treatment and disposal.

3.4.3 Radioactive Waste Management Basis

For Radioactive Waste, the FOD or RLM must submit [Form 2107](#), *Radioactive Waste Management Basis Report Form* (RWMB) to WM-DO. The Waste Generator must submit an updated [RWMB](#) to WM when there are changes in facility operations or waste status. For assistance in completing the [RWMB](#), contact WM-DO. The LANL [RWMB](#) consists of

- identification of the generating process owner;
- identification of every area where radioactive waste is generated;
- identification of waste management activities;
- reference to documents that support the [RWMB](#);
- institutional documents applicable to waste management;
- waste authorization basis documents pertinent to the waste generating facility;
- waste management processes within the facility and their locations;

- waste matrix (solid or liquid);
- waste categories generated, i.e., LLW, MLLW, TRU, and MTRU;
- volumes of generated waste by matrix, category, and annual estimates;
- characterization methods for each waste stream;
- how waste certification is protected when waste is transported;
- how waste certification is protected during waste storage;
- how the waste management quality assurance program protects waste certification; and
- proposed disposition for each waste stream (reported under “Life-Cycle Waste Management”).

WM-DO then reviews, edits, and forwards the RWMB to the DOE Field Element Manager for review and approval. WM-DO monitors compliance and is responsible for reporting the status of compliance to the DOE Field Element Manager. If WM-DO detects radioactive waste activities that were not included in the RWMB, WM-DO will notify the FOD or RLM to submit an updated [RWMB](#) with a description of the newly identified activities. DOE will not approve radioactive waste management activities that were not included in the RWMB, and may terminate the activities if not reported.

WM-DO may allow facilities to generate radioactive waste without continuous updates to the RWMB, e.g., remedial projects, superfund projects, etc., so long as

- the facilities (1) are performing work in accordance with [EP-DIR-SOP-10021](#), *Characterization and Management of Environmental Programs Waste* and (2) have provided WM-DO a completed and signed Waste Characterization Strategy Form (WCSF); and
- WM-DO has approved the work being performed at the facility and DOE concurrence has been obtained by WM-DO.

3.4.3.a Storage Extension Requests

If a determination is made that radioactive waste cannot be shipped for final disposition within one year of waste generation, the FOD or RLM (or Facility Point of Contact) must submit a request for storage extension to WM-DO at least three months before exceeding the one year expiration of the date the container was sealed. The storage extension request must be submitted by e-mail an updated RWMB that contains

- a checked box, “Extension Request;”
- a specific description of the waste;
- a specific description of the location of the waste;
- the specific length of time it will take to dispose of the waste; and
- the reason the extension is needed.

After reviewing the request, WM-DO will send a letter to the DOE Field Element Manager at least 60 days prior to the storage expiration requesting DOE approval for continued storage. If DOE approval has not been received and the waste is nearing the storage expiration, the Waste Generator must notify [WM-DO](#) via e-mail at least three days prior to the expiration date that DOE approval has not been received. If approval for extension is not granted, DOE will provide direction back to WM-DO.

Note: If WM-DO discovers that an extension request was never submitted, WM-DO will initiate a PFITS issue in accordance with [P322-4](#), *Laboratory Performance Feedback and Improvement Process*.

3.4.4 Processing Waste at Treatment and Storage Facilities (TSFs)

Waste processing at TSFs is conducted within storage units and includes all activities that require opening of a container after it has been characterized and sealed, including but not limited to sorting, segregating, repacking, and resizing of waste. TSFs cannot engage in any sorting, segregating, repackaging, or resizing activities that involve the addition of any new material (e.g., sorbents, inert materials, secondary waste) or an activity that could potentially change the chemical or physical composition of the waste (i.e., that could constitute “waste treatment”). These activities at TSFs must be described in the [LANL Hazardous Waste Facility Permit](#) or a permit modification is required. If processing will require a change to the physical, chemical or biological character or composition of the waste, or any secondary material will be added to the waste, a permit modification may be required and Environmental Protection-Compliance Programs ([ENV-CP](#)) must be contacted via e-mail. Waste processing activities are conducted in the areas outlined in [ADESH-TOOL-810](#), *Waste Processing at Permitted Units*.

3.4.5 Treating Waste

Waste Generators and TSFs cannot engage in waste “treatment” activities unless one of two conditions exist

- the waste treatment is authorized under the [LANL Hazardous Waste Facility Permit](#); or
- the waste treatment is exempt from permitting requirements.

Waste treatment, as broadly defined, includes “any method ... or process ... designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous; less hazardous; (or) safer to transport, store, or dispose of” ([40 CFR Section 260.10](#), *Hazardous Waste Management System: General, Definitions*). Waste treatment may be conducted under the [LANL Hazardous Waste Facility Permit](#) or interim status documents as outlined in the following:

- [ADESH-TOOL-903](#), *TA-55 Storage in Tanks and Treatment by Stabilization*;
- [ADESH-TOOL-904](#), *Treatment by Open Burning*; and
- [ADESH-TOOL-905](#), *Treatment by Open Detonation*.

All LANL workers and subcontractors must contact ENV-CP prior to engaging in an activity that may constitute waste treatment (e.g., addition of sorbents or evaporation). Requirements for other permit exempted treatment that do not have specific location requirements (i.e., Waste Generator areas or TSFs), are found in [ADESH-TOOL-901](#), *Elementary Neutralization* and [ADESH-TOOL-902](#), *Absorption without a Permit*.

3.5 Shipping Waste

Once the waste is ready for shipment, the Waste Generator must contact the [WCO](#), who serves as the LANL Point of Contact for the off-site receiving facility and the Los Alamos Field Office. The WCO reviews the appropriate documentation pertaining to the off-site receiving facility and/or the Los Alamos Field Office, such as the TSDF waste profiles, DOE profiles, subcontracts, etc.

3.5.1 Shipments of Radioactive Waste to Non-Department of Energy (DOE) Treatment, Storage, and/or Disposal Facilities (TSDFs)

If a Waste Generator would like to send waste to a facility that is not owned or operated by DOE, the Laboratory must obtain an “exemption request for direct off-site shipment of Radioactive Waste to Non-DOE and TSDFs” (DOE O 435.1 Exemption Request). To obtain this exemption, the Waste Generator must send an e-mail to [WM-DO](#) identifying

- the specific waste stream with background description (including radioactivity);
- the exact location and volume of waste to be generated or placed in a container; and
- the length of time needed to complete the project’s waste disposition.

WM-DO reviews the e-mail and coordinates the shipment with appropriate LANL workers, organizations and subcontractors. WM-DO and LANL’s shipping subcontractor prepare the DOE O 435.1 Exemption Request, which includes a cost analysis and description of the Waste Generator’s request. WM-DO then submits the final DOE O 435.1 Exemption Request to the DOE Los Alamos Field Office.

The DOE Los Alamos Field Office will review WM-DO’s submittal and evaluate the request. If approved, the DOE Los Alamos Field Office will forward the request to DOE Headquarters. WM-DO will be notified if the request has been approved by DOE. If notification is not received within 15 working days from WM-DO’s submittal to the DOE Los Alamos Field Office, WM-DO will contact the DOE Los Alamos Field Office for a documented response.

3.6 Disposing Waste

LANL does not have on-site disposal capacity for RCRA, TRU, or MLLW wastes. LANL retains limited capacity for on-site disposal for LLW under special circumstances and with prior approval from [WM-DO](#). WM-DO will determine the optimal disposal path for each waste stream in consultation with its disposal subcontractor(s) and DOE and based on a cost benefit analysis of available options. Primary consideration will be given to off-site DOE TSDFs, commercial TSDFs approved by DOE, and on-site disposal respectively.

All waste shipments (on-site and off-site) must be coordinated through [WM-DO](#). This process supports waste certification to final TSDF destination.

3.7 LANL’s Oversight of Waste Management

Compliance oversight at LANL occurs throughout the life-cycle of waste planning, minimization, generation, characterization, accumulation, packaging, management and disposition. ENV-CP provides guidance on DOE Directives and State Regulatory requirements. Waste management operations, including waste certification, are conducted by WM-DO to meet additional requirements from DOE Directives. Internal assessments and external inspections are performed to ensure institutional waste management compliance is met and waste certification is maintained.

3.7.1 Certification Assessments for All Waste Types

To certify that facility waste operations are in accordance with [WM-PROG-QP-250](#), *Radioactive Waste Facility Certification*, and [ADESH-TOOL-300](#), *General Radioactive Waste Management*, WM-DO performs compliance assessments at a facility level against [DOE O 435.1](#), *Radioactive Waste Management*, [DOE M 435.1](#), *Radioactive Waste Management Manual*, RCRA regulations, and this document. These assessments are documented in an Independent Assessment report in

accordance with [P328-2, Independent Assessment](#), and distributed to the FOD, RLM and participants after the assessment has been completed.

Assessments include, but are not limited to

- an effectiveness evaluation to determine the nature of any pre-existing problems. When pre-existing problems are found, the assessment team reviews corrective actions that have been taken and determines whether the corrective actions are effective for continuous quality improvement;
- an evaluation of registered waste areas for waste certification compliance. RCRA corrective actions and opportunities for improvement must be reported to Environmental ENV-CP;
- an inspection of the registered waste area and review of the inspection records;
- a tracking and review of past corrective actions resulting from independent assessments conducted by other LANL organizations, DOE, or their contractors, if possible and;
- a review of nonconformance and corrective action documentation and, when appropriate, an action plan to periodically monitor facilities to ensure appropriate corrective actions are being taken.

WM-DO must notify the FOD and RLM in advance of upcoming site visits and assessments. Registered waste area information will be recorded and tracked in a database managed by ADESH.

3.7.2 LANL Self-Assessment

DOE and NMED expect LANL to assess compliance of the Waste Generator's waste management activities and TSF permit compliance. Waste Generator assessments include but are not limited to, accumulation and registered waste areas, LANL inspection forms, containers or tanks, labels, time limits, worker health and safety practices, and the Waste Generator's records and training records. Compliance evaluations routinely include sites outside registered areas (see the ADESH-FSD for requirements on various registered waste areas including TSF requirements). Assessments of registered waste areas are performed by WM-DO and ENV-CP in addition to periodic Independent Assessments (see [P328-2, Independent Assessment](#)) and Management Assessments (see [P328-3, Management Assessment](#)).

Waste Generators and TSFs must retain waste documents and records in accordance with [PD1020, Document Control and Records Management](#).

3.8 Waste Certification

The LANL Waste Certification Program was developed, documented and implemented to ensure that the waste acceptance requirements of off-site facilities receiving waste for storage, treatment, and disposal are met. LANL waste management components that are provided complex wide support waste certification.

Waste certification is a process by which a Waste Generator affirms that waste meets the waste acceptance criteria of the off-site facility to which the Waste Generator intends to transfer the waste for treatment, storage, and disposal. As such, LANL's Waste Certification Program includes the waste certifying process from generation to disposition (cradle-to-grave) for all regulated wastes. Identifying, characterizing and recharacterizing waste with consideration for associated hazards and signing the WSP certification statement is conducted by the Waste Generator and WMC. Assuring compliance performance includes waste verification, storage certification, packaging certification, data management, and STP and RWMB reporting. Finally, preparing waste for shipment, disposal acceptance, final disposition and on-going assessments completes LANL's Waste Certification Program.

Waste certification includes WM-DO providing oversight of Waste Generator activities to meet the requirements of this document and the waste acceptance criteria of the receiving TSDF. LANL's Waste Certification Program includes compliance for all waste types. Fig. 2 illustrates key components of LANL's Waste Certification Program.



Fig. 2. Key components of the LANL Waste Certification Program

4.0 RESPONSIBILITIES

4.1 Facility Operations Director (FOD)

- If needed, issues local-level procedures for waste management activities in accordance with Section 3.1.
- Routes local level procedures through review and approval process adopted by WM-DO.
- Ensures completion and management of their facility's *Radioactive Waste Management Basis Report* (RWMB [Form 2107](#), *Radioactive Waste Management Basis Report Form*).

4.2 Responsible Line Manager (RLM)

- Participates and encourages others' participation in WM-DO's assessment for facility certification.
- Assists in the management and implementation of corrective actions, findings and opportunities for improvement regarding their facilities.
- Ensures waste management compliance at their facilities.

4.3 Waste Management Division Leader

- Ensures waste management compliance processes are implemented across the Laboratory.
- Ensures waste management oversight processes are implemented.

- Acknowledges the process by which local waste management procedures are reviewed and approved before they are issued or implemented.
- Initiates the review of waste characterization documentation by subject matter experts when new information or discrepancies in waste characterization are discovered.
- Monitors work in progress and conducts effectiveness evaluations (i.e., through facility assessment and waste verification).
- Documents compliance or noncompliance with characterization/certification requirements.
- Identifies the facility's waste management quality assurance program and how it protects waste certification and the proposed disposition for each waste stream.
- Performs re-evaluation and verification of characterization information for facilities' waste generation operations.
- Evaluates corrective actions regarding waste management as timely or untimely.
- Reports corrective action regarding waste management adequacy to management.
- Provides notification to facility RLMs of the status and performance of activities under assessment.
- Documents facility waste certification reviews resulting from internal (e.g., Authorization Authority) or external (e.g., DOE) audits and assessments, tracking corrective actions and reporting observations to management.
- Determines whether waste management staging/storage facilities and systems are adequate to certify waste and to maintain waste certification until shipment.
- Ensures LLW/MLLW waste containers are certified by a qualified Waste Package Certifier (WPC).
- Completes receiving facility documentation and notifications for LANL.
- Maintains LANL facility operations certification and off-site receiving facility certification.
- Provides WCO disposition approval for final TSDF destination.
- Performs LANL Self Assessments of radioactive waste staging and storage areas in accordance with Section 3.7.2.
- Ensures that the WCO and designees certify waste for disposition to off-site TSDFs.
- Performs annual verification of the waste characterization of one percent of the total number of hazardous waste streams characterized solely by acceptable knowledge and managed at TA-54 in the previous calendar year.
- Provides notification and reporting to regulatory oversight bodies.
- Provides WMC qualification training.

4.4 Waste Management Coordinators (WMCs)

- Certify waste for storage in LANL's registered storage areas.
- Verify waste containers or tanks meet the requirements for transfer into storage at their facility or verify waste can be transferred to a TSF or TSDF.

- Ensure waste characterization and acceptable knowledge documentation is accurate, defensible, and complete.
- Ensure waste meets accepting facility WAC and follows the ADESH-FSD processes.
- Ensure the WSP is completed and submitted in WCATS.
- Support Waste Generators in internal assessments and external inspections.
- Ensure waste containers are closed in accordance with manufacturer's instructions prior to shipment.
- Ensure waste container or tank is adequate to protect the waste against external sources of contamination, and ensure waste management integrity and compatibility.

4.5 Environmental Protection - Compliance Programs (ENV-CP) Group Leader

- Directs the waste management compliance process.
- Coordinates information and compliance requests and activities with regulators.
- Manages the ADESH-FSD collection.
- Receives information on RCRA corrective actions and opportunities for improvement from WM-DO's assessment of facility certification.
- Ensures that LANL Self Assessments in accordance with Section 3.7.2 are performed.
- Assists WM-DO by providing regulatory information and institutional guidance on waste management requirements.
- Maintains the [LANL Hazardous Waste Facility Permit](#) and is responsible for developing permit modification requests.

4.6 Waste Generators

- Comply with the requirements in this document and other requirements documents referenced herein.
- Characterize waste pursuant to the requirements in this document and the ADESH-FSDs.
- Before waste is generated and/or packaged, conduct waste avoidance or minimization analysis in consultation with the WMC.
- Ensure adequacy of the documentation used for waste characterization (acceptable knowledge and physical/chemical analysis).
- Maintain registered waste areas within their span of control.
- Manage on-site storage as required in this document.
- Initiate the WSP.
- Notify the [STP Manager](#) via e-mail, at least three months prior to the waste exceeding its 1-year accumulation start date that their waste must be added to the STP.

5.0 IMPLEMENTATION

The requirements in this document are effective on the issue date. All ADESH FSDs that are referenced in this document will be reviewed and updated by December 31, 2015, in accordance with [ADESH-AP-007](#), *Document Control* and [PD311](#), *Requirements System and Hierarchy*. The FSDs will be reviewed and updated on a three year schedule beginning with the issue date of P409, Rev.5.

6.0 TRAINING

The training courses listed in this section are required for all workers who generate waste (except office trash) and workers who manage waste or work at TSFs. Workers must notify their managers of expired training. Unless specified, there is no grace period for the training requirements below; this training must be completed and kept current.

Note: Site-specific training may be required and directed by RLMs.

6.1 Waste Generators and WMCs must complete:

- [Course #23263](#), *Waste Generation Overview Live*; and
- [Course #21464](#), *Waste Generation Overview Refresher SS*, every three years.

6.2 Persons who work in, or are owners of, less-than-90-day waste accumulation areas must complete:

- [Course #7488](#), *RCRA Personnel Training*, and
- [Course #28582](#), *RCRA Refresher (Self-Study)*, every twelve months.

Note: The RCRA-related training listed above must be completed within six months of employment or new assignment; during this period, workers must work under the supervision of a trained worker.

6.3 Persons who work in TSFs must complete:

- [Course #7488](#), *RCRA Personnel Training*;
- [Course #28582](#), *RCRA Refresher (Self-Study)*, every twelve months; and
- [Course #23263](#), *Waste Generation Overview Live*.

Note: The RCRA-related training listed above must be completed within six months of employment; during this period, workers must work under the supervision of a trained worker.

6.4 Remediation Workers must complete:

- [Course #23263](#), *Waste Generation Overview Live*;
 - [Course #4464](#), *HAZWOPER: General Site Worker*, or [Course #4465](#), *HAZWOPER: Limited Site Worker*;
 - [Course #28652](#), *HAZWOPER: Refresher*, every twelve months;
 - [Course #7488](#), *RCRA Personnel Training*;
 - [Course #28582](#), *RCRA Refresher (Self-Study)*, every twelve months; and
- or other courses as assigned by the supervisor.

7.0 EXCEPTION OR VARIANCE

Changes in the processes conducted at the TSF or changes to the TSF structure must be reviewed by ENV-CP for necessary permit modifications. Hazardous waste treatment activities that are not authorized by the [LANL Hazardous Waste Facility Permit](#) or interim status documents must be reviewed by ENV-CP for regulatory compliance.

8.0 DOCUMENTS AND RECORDS

8.1 Office of Record

The Policy Office is the Laboratory Office of Record for this Institutional Document and maintains the administrative record.

8.2 Waste Management Records

WM-DO and ENV-CP work with Waste Generators, FODs and RLMs to ensure that the following records and documentation are kept in accordance with [PD1020](#), *Document Control and Records Management*:

- WCATS for waste characterization
- [Form 2107](#), *Radioactive Waste Management Basis Report Form*
- *RWMB Storage Extension Request*
- DOE O 435.1, *Exemption Request*
- STP plan and correspondence to and from NMED
- Independent Assessment Reports
- Trend analysis on waste management data
- ADESH database containing [Registered Waste Area](#) information
- Inspection Forms

9.0 DEFINITIONS AND ACRONYMS

9.1 Definitions

See LANL [Definition of Terms](#) and [ADESH-TOOL-101](#), *Waste Management Glossary*.

9.2 Acronyms

See LANL [Acronym Master List](#).

ADESH	Associate Director for Environment, Safety, and Health
AP	Administrative Procedures
DEAR	Department of Energy Acquisition Regulation
DOE	Department of Energy
DOT	Department of Transportation
ENV-CP	Environmental Protection-Compliance Programs
EPA	Environmental Protection Agency
ER	Environmental Restoration
FOD	Facility Operations Director
FSD	Functional Series Documents
IA	Issuing Authority
LANL	Los Alamos National Laboratory
LLW	Low-Level Waste
M	Manual
MLLW	Mixed Low-Level Waste

MSDSs	Material Safety Data Sheets
MTRU	Mixed Transuranic
NCR	Nonconformance Report
NMED	New Mexico Environment Department
NNSS	Nevada National Security Site
O	Order
OP	Operating Tools
PFITS	Performance Feedback and Improvement Tracking System
PRID	Permits and Requirements Identification
PM	Project Management
RCRA	Resource Conservation and Recovery Act
RLM	Responsible Line Manager
RM	Responsible Manager
RO	Responsible Office
RWMB	Radioactive Waste Management Basis
SBP	Safety Basis Procedure
SOP	Standard Operating Procedure
STP	Site Treatment Plan
TP	Technical Procedure
TRU	Transuranic
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and/or Disposal Facility
TSFs	Treatment Storage Facilities
WAC	Waste Acceptance Criteria
WAP	Waste Analysis Plan
WCATS	Waste Compliance and Tracking System
WCO	Waste Certification Official
WCSF	Waste Characterization Strategy Form
WSP	Waste Stream Profile
WM	Waste Management
WMC	Waste Management Coordinator
WM-DO	Waste Management-Division Office

10.0 HISTORY

Revision History		
03/27/08	P409, Rev. 0	Initial Issue. This document and its linked Waste Management Tools replaces and cancels the Laboratory Implementation Requirements (LIRs) and Laboratory Implementation Guidance (LIG) listed below. The LIRs will remain in force and effect for each nuclear facility until that facility completes the Unreviewed Safety Question (USQ) or Unreviewed Safety Issue (USI) review determinations. ▪ LIG 404-00-02, <i>Acceptable Knowledge Guidance</i>

Revision History		
		<ul style="list-style-type: none"> ▪ LIR 404-00-02, <i>General Waste Management Requirements</i> ▪ LIR 404-00-03, <i>Hazardous and Mixed Waste Requirements</i> ▪ LIR 404-00-04, <i>Managing Solid Waste</i> ▪ LIR 404-00-05, <i>Managing Radioactive Waste</i> ▪ LIR 404-00-06, <i>Managing Polychlorinated Biphenyls</i>
05/22/08	P409, Rev. 1	Section 6.0 Training: Changed Waste Profile Form Signers to Waste Generators and removed Waste Documentation Forms from the Waste Generators list.
06/04/10	P409, Rev. 2	Extensive revision: Clarified training requirements and responsibilities, corrected links to tools, clarified tool creation process, and simplified the document.
03/19/12	P409, Rev. 3	<p>This document cancels RN0808, <i>Requirements for Recycling Metal from Areas posted for Radiological Hazards</i>.</p> <p>Section 6.0: Separated the third bullet into two bullets, reflecting the separate training requirements for persons who work in Treatment, Storage, and/or Disposal Facilities (TSDFs) and Remediation Workers, to align with the Laboratory's Hazardous Waste Permit. Added Course #23263, Waste Generation Overview Live, as a training requirement for persons who work in TSDFs and Remediation Workers.</p>
04/10/13	P409, Rev. 4	<p>Removed references to cancelled Form 1346, <i>Waste Profile Form</i>, which has been replaced by the Waste Stream Profile (found in the Waste Compliance and Tracking System (WCATS)).</p> <p>Section 5.0: Updated to reflect effective date of May 28, 2013 for applicable nuclear, high- and moderate-hazard facilities and accelerators.</p> <p>Performed three year review in accordance with PD311, Requirements System and Hierarchy.</p> <p>Updated links, titles, and acronyms.</p>
07/30/15	P409, Rev. 5	<p>Performed three-year review in accordance with PD311, Requirements System and Hierarchy.</p> <p>This document cancels P930-2, <i>Radioactive Waste Certification Program</i> and P930-3, <i>Off-Site Shipment of Chemical, Hazardous, or Radioactive Waste</i>. Although this is not “a new document,” it is a complete re-write of P409, Rev. 4 as the requirements from P930-2 have been merged with this document. P409 title has also changed to “LANL Waste Management.”</p>

11.0 REFERENCES

[Prime Contract:](#)

- DEAR 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution (Dec. 2000)
- Part II, Section H-83 (DEAR 5223-1)
- Part III, Section J, Appendix B 4.2

LANL

P409, Rev. 5

Effective Date: 07/30/15

- Part III, Section J, Appendix G
- Appendix B, Statement of Work: §1.0 General
- [DOE O 435.1](#), *Radioactive Waste Management*
- [DOE M 435.1-1](#), *Radioactive Waste Management Manual*
- [DOE O 436.1](#), *Departmental Sustainability*
- [40 CFR Section 260.10](#), *Hazardous Waste Management System: General, Definitions*
- [DOE O 458.1](#), *Radiation Protection of the Public and the Environment*

11.1 Other References

- [LANL Hazardous Waste Facility Permit](#)
- [P930-1](#), *LANL Waste Acceptance Criteria*
- [Resource Conservation and Recovery Act \(RCRA\)](#)
- [Toxic Substances Control Act \(TSCA\)](#)
- [New Mexico Special Waste Act](#)
- [74-9-1 NMSA 1978](#), *Solid Waste Act*
- [74-4-1 NMSA 1978](#), *Hazardous Waste Act*
- [PD311](#), *Requirements System and Hierarchy*
- [ADESH-AP-007](#), *Document Control*
- [SBP-112-3-R1.2](#), *Unreviewed Safety Question (USQ) Process*
- [P315](#), *Conduct of Operations Manual*
- [ADESH-TOOL-213](#), *No Owner Waste*
- [ADESH-TOOL-114](#), *Office Waste Tool*
- [ADESH-TOOL-111](#), *Waste Characterization*
- [ADESH-TOOL-314](#), *Radioactive Characterization*
- [PD400](#), *Environmental Protection*
- [Waste Compliance and Tracking System \(WCATS\)](#)
- [ADESH-TOOL-306](#), *Potentially Radioactive or Mixed Investigation-Derived Waste*
- [P411](#), *Authorized Release Limits Proposal Process*
- [RP-SOP-077.004](#), *LANSCE Metals Clearance Process*
- [RP-SVS-RIC-TBD-03](#), *Technical Basis Documentation Regarding Health Physics Measurements for the Unrestricted Release of Metals from LANSCE*
- [WM-PROG-QP-236](#), *Waste Certification Program Waste Verification*

- [ADESH-TOOL-600](#), Certification, Documentation, Shipment of ChemHaz
- [ADESH-TOOL-206](#), Hazardous Waste
- [300 Series Tools](#), (Radioactive Waste)
- [400 Series Tools](#), (Universal Waste)
- [500 Series Tools](#), (NM Special Waste)
- [ADESH-TOOL-712](#), Polychlorinated Biphenyl (PCB) Waste
- [ADESH-TOOL-716](#), Used Oil for Recycle
- [800 Series Tools](#), (Treatment, Storage and Disposal Facilities)
- [ADESH-TOOL-300](#), General Radioactive Waste Management
- [EP-DIR-SOP-10021](#), Characterization and Management of Environmental Programs Waste
- [P322-4](#), Laboratory Performance Feedback and Improvement Process
- [ADESH-TOOL-810](#), Waste Processing at Permitted Units
- [ADESH-TOOL-903](#), TA-55 Storage in Tanks and Treatment by Stabilization
- [ADESH-TOOL-904](#), Treatment by Open Burning
- [ADESH-TOOL-905](#), Treatment by Open Detonation
- [ADESH-TOOL-901](#), Elementary Neutralization
- [ADESH-TOOL-902](#), Absorption without a Permit
- [WM-PROG-QP-250](#), Radioactive Waste Facility Certification
- [P328-2](#), Independent Assessment
- [P328-3](#), Management Assessment
- [PD1020](#), Document Control and Records Management
- [PD311](#), Requirements System and Hierarchy
- [ADESH-TOOL-101](#), Waste Management Glossary

12.0 FORMS

[Form 2107](#), Radioactive Waste Management Basis Report Form

13.0 ATTACHMENTS

There are no attachments associated with this document.

14.0 CONTACT

Waste Management Division Office


Telephone: (505) 667-2211

Fax: (505) 667-1945

Website: <http://int.lanl.gov/org/padops/adesh/waste-management/index.shtml>

IMPORTANT

If you wish to receive credit for the preceding document you **must** enter the course through [UTrain](#) **not** the Policy Office website.

Identifier: SOP-5255	Revision: 1	
Effective Date: 01/21/2010	Next Review Date: 01/21/2014	

**Environmental Programs
Waste and Environmental Services**

Standard Operating Procedure

for **SHIPPING OF ENVIRONMENTAL SAMPLES BY THE
WES SAMPLE MANAGEMENT OFFICE (SMO)**

APPROVAL SIGNATURES:

Subject Matter Expert: Keith Greene	Organization: WES-EDA	Signature: Signature on file	Date: 01/21/2010
Responsible Line Manager: Craig Eberhart	Organization: WES-EDA	Signature: Signature on file	Date: 01/21/2010

1.0 PURPOSE AND SCOPE

This purpose of this procedure is to describe the process for shipping environmental samples from the Los Alamos National Laboratory (LANL or Laboratory) Environmental Programs (EP) Directorate Waste and Environmental Services (WES) Sample Management Office (SMO) to analytical laboratories.

The work specified in this procedure will be conducted in accordance with the applicable sampling activity Integrated Work Documents, in accordance with LANL IMP 300-00-00, Integrated Work Management for Work Activities, or with the applicable sampling activity Hazard Review.

2.0 BACKGROUND AND PRECAUTIONS

2.1 Background

The chain-of-custody process provides confidence and documentation in analytical data integrity by establishing the traceability of the data from the time of collection, to delivery, through processing, to final maintenance as a record.

2.2 Precautions

Chain-of-custody must be maintained for legally defensible environmental sampling.

3.0 EQUIPMENT AND TOOLS

None

4.0 STEP-BY-STEP PROCESS DESCRIPTION

4.1 Receipt of Samples for Shipment

- | | |
|--|--|
| Sample Management Office (SMO) Personnel | <ol style="list-style-type: none"> 1. Accept samples only if they are described on completed chain-of-custody forms. Completed chain-of-custody forms include date and time of sample collection, acknowledgement that containers are accounted for or canceled, annotation for any container deviations, and representation for field screening results. Acceptance is also contingent on the custody seals being in place. Once the above has been verified Relinquished and Received signatures and date/time must be completed. <hr/> <ol style="list-style-type: none"> 2. Immediately after the samples are properly received at the SMO, store in secondary containment (for breakable storage containers) and place in refrigerated storage area where applicable until they are prepared for shipment to the analytical laboratory. |
|--|--|

4.2 Packaging of Samples for Shipment

SMO
Personnel

1. Seal and secure the drainage hole at the bottom of the cooler in case of sample container leakage.

2. Pack individual sample containers to prevent breakage and transport in a sealed cooler with ice or other suitable coolant, or other EPA or industry-wide accepted method.

3. First, individually wrap glass bottles in plastic to contain sample if breakage during shipment. Then wrap in cushioning material to help prevent breakage.

4. Protect plastic containers from possible puncture during shipping using cushioning material.

5. Include temperature blanks with each shipping container.

6. Apply chain-of-custody seals to each cooler prior to shipment of samples from LANL to the designated analytical laboratory.

7. Include the chain-of-custody form and analytical request form within the sealed storage container to be delivered to the analytical laboratory.

Samples may be bundled and shipped to the analytical lab. In this case, chain-of-custody analytical request forms are also bundled with the shipment and placed in one of the shipping containers. The paper work is also faxed to the analytical lab in case the shipping containers get separated in transit.

However, some programs can not be bundled. Samples associated with NPDES compliance, UN2910 Rad and New Mexico Special waste (high TPH) must be shipped in their own shipping container with its corresponding paperwork.

4.3 Submission of Samples to Analytical Laboratory

SMO
Personnel

1. Ship each cooler, or other shipping container, directly to the analytical laboratory.

 2. Submit all samples to the laboratory in a timely manner to allow the analytical laboratory to conduct analyses within analytical method holding times.
-

4.4 Records

- Sampling Personnel and/or SMO Personnel
1. Complete Form 1701 Records Transfer Request form and send to IRM-RMMSO to capture records being transferred to the offsite Federal Records Center (FRC) in Denver, CO.
Prepare, package and submit records and/or documents directly to the offsite FRC:
 - Completed field chain-of-custody forms.
 - Completed Analytical Request forms.
 - Analytical data package results generated from the collected samples.
 - Data validation reports corresponding to the analytical data package.

5.0 PROCESS FLOW CHART

None

6.0 ATTACHMENTS

None

7.0 REVISION HISTORY

Revision No. <i>(Enter current revision number, beginning with Rev.0.0)</i>	Effective Date <i>(DCC inserts effective date for revision)</i>	Description of Changes <i>(List specific changes made since the previous revision)</i>	Type of Change <i>(Technical [T] or Editorial [E])</i>
0.0	8/16/07	New document.	T/E
0.0	12/21/09	New document. Supersedes EP-ERSS-SOP-5095.	T/E
1.0	1/21/10	Minor change to Section 4.4, to reflect ADEP Records Management procedures.	T/E


[Click here for "Required Read" credit.](#)

Operations Procedure
**TA-03 CoGen Plant – Spill Prevention Control and
Countermeasures (SPCC) Compliance**


 Review frequency: 1 yr 2 yr 3 yr

Process Owner	Signature	Date
Pablo C de Vaca		2-2-15
CoGen Plant Operations Specialist		

Reviewed by	Signature	Date
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Reviewed by	Signature	Date
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ESH Manager		

Approved by	Signature	Date
Lawrence Chavez		2/2/15
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Reviewed by	Signature	Date
HENRY VIGIL		2/3/15
Derivative Classifier	Unclassified	

UNCLASSIFIED

History of Revisions

Document Number	Issue Date	Action
UI-PROC-66-20-020-R1	2-3-15	Review and reissue with changes.
UI-PROC-66-20-020-R0	10/22/12	Convert to Utilities & Institutional Facilities (UI) procedure. Minor changes to organization and formatting.
66-20-020 Rev. 1	06/20/06	Converted to KSL template. Minor modifications to content.

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**Utilities & Institutional Facilities
Operations Procedure**

**TA-03 CoGen Plant – Spill Prevention Control and
Countermeasures (SPCC) Compliance**

1 Purpose

The purpose of this procedure is to ensure (a) that TA-03 CoGen Plant Spill Prevention Control and Countermeasures (SPCC) Plan requirements are met and (b) that the CoGen Plant remains in compliance with the SPCC Plan through inspections, record keeping, and implementation.

2 Scope/Applicability

1. This procedure lists inspections, record keeping, and implementation needed for TA-03 compliance.
2. Affected personnel: CoGen Plant Operations Specialist and other CoGen Plant personnel

3 Prerequisites

1. Required training and qualifications:
 - a. Understanding of Utilities & Institutional Facilities (UI) procedures and work processes
 - b. Qualification in accordance with UI work control processes and Occupational Safety and Health Administration (OSHA) requirements
 - c. Current on UI training
 - d. Understanding of this procedure and its operations, equipment, tools, parts, supplies, etc.
 - e. On-the-job training (OJT)
 - f. Lockout/Tagout (LO/TO) training per P101-3, Lockout/Tagout for Hazardous Energy Control
2. Pre-job briefing

4 Precautions and Limitations

1. All hazards, both task specific and site specific, must be addressed in accordance with governing work control processes.

2. Required Personal Protection Equipment (PPE):

- Hardhat
- Safety glasses with side shields
- Splash-proof chemical face shield
- Hearing protection
- Long-sleeve shirt
- Rubber gloves and boots
- Rubber suit or rubber jacket and pants

5 Equipment, Supplies, etc.

Supplies, materials, parts:

- Zorball soak pads
- Containment berms

6 Responsibilities

1. Persons performing this procedure are responsible for—
 - Complying with its requirements
 - Notifying Foreman or Superintendent of equipment damage or other conditions that could require corrective action
 - Issuing a PAUSE/STOP WORK order whenever warranted by conditions related to health or safety in accordance with P101-18, Procedure for Pause/Stop Work
2. Managers are responsible for ensuring procedure compliance.
3. CoGen Plant Shifthead or designee is responsible for conducting a walk-around (visual inspection from the ground) each day as part of routine operations and preventive maintenance.
4. CoGen Plant Operations Specialist is responsible for conducting monthly walk-around inspections to observe factors relevant to SPCC.

7 Procedural Steps

7.1 General

1. The SPCC Plan is a requirement of 40 CFR Part 112, Environmental Protection Agency – Oil Pollution Prevention Regulation. It is intended to prevent oil-related spills from polluting navigable waters of the U.S. through implementation of adequate prevention and response measures.

Note: SPCC requirements are performance-based, which permits facility owners and operators to substitute alternative forms of spill containment if the substitute provides substantially equivalent protection against discharges to navigable waters as suggested by the systems listed in 40 CFR 112.7(c).

2. The TA-03 CoGen Plant is classified under SPCC regulations as a bulk storage facility.
3. TA-03 contains a large aboveground storage tank (AST), AST SM-2382, a cylindrical tank with a nominal capacity of 228,000 gallons,.
 - a. AST SM-2382 is used only for storage of #2 fuel oil.
 - b. All underground fuel oil piping is cathodically protected.
 - c. The SM-2382 storage tank bottom is cathodically protected.
 - d. Inspections of cathodic protection piping and tanks are initiated by a Preventive Maintenance task and documented per UI-PROC-76-71-500, Inspection of Cathodic Protection on Aboveground Storage Tanks and Fuel Oil Lines.

7.2 Requirements/Compliance

7.2.1 Inspections

1. On-Shift Day CoGen Plant Shifthead or designee is to conduct a walk-around (visual inspection from the ground) each day as part of routine operations and preventive maintenance.
2. The following issues are to be observed and noted on Form 66-20-020.1, TA-03-SM-22 CoGen Plant Daily Inspection Form (Attachment 1):
 - a. Spills or leaks
 - b. Conditions and level of water contained in berms
 - c. Obvious problems with tanks
 - d. Level of Tank SM-2382 as described in Step 3
 - e. Valves, plugs, fittings, or containment structures

- f. General safety condition of facility
 - Potential problems are to be brought to the attention of UI Facility Operations Director, CoGen Plant Operations Specialist or designee, or TA-03 Plant Foreman for corrective action.
3. CoGen Plant Operations Specialist or designee is to conduct monthly walk-around inspections. The inspection is initiated by a Preventive Maintenance Task and documented per UI-PROC-76-71-002, Aboveground Storage Tank Inspection.
4. Inspections are conducted to observe the following:
 - a. Condition of tank shells
 - b. Secondary containment
 - c. Fuel oil level for Tank SM-2382 (must be conducted by qualified operator)
 - d. Foundations and supports
 - e. Pumps
 - f. Piping
 - g. Valves
 - h. Oil
 - i. Ground wires
 - j. Gauges
 - k. Drums (regardless of condition)
 - l. Access to drum areas
 - m. Drum labeling
 - n. Manways
 - o. Roof integrity
 - p. Sample hatch
 - q. Handrails and landing
 - r. Vacuum breaker
 - s. Water accumulations in secondary containment areas
 - t. General good housekeeping practices

Notes:

- 1) Inspections are recorded and retained in Appendix A of the SPCC Plan.
- 2) Oil leaks, dirt, sand, or other potential problems are to be brought to the attention of the CoGen Plant Spill Coordinator and/or Operations Specialist to respond to and make any necessary corrections.

5. Fuel oil tank quantity readings off the digital meter from Tank SM-2382 are to be recorded each day during the CoGen Plant Shifthead or designee daily walk-around and entered on Attachment 1. Data entered on Attachment 1 are also to be entered in a specified UI server location.
6. First-of-month reading is to be carried over each week until the end of month. If reading changes more than 0.2 K gallons (200 gallons) from reading taken the first day of month, CoGen Plant Operations Specialist and Steam System Engineer are to be notified to investigate and take any necessary corrective action.

Note: If the digital meter is inoperable, report this fact to CoGen Plant Operations Specialist or Foreman.
7. Tank level readings recorded on the last day of each month are to be shown on the Monthly Quantities Report and sent to Metering Program Administrator for validation, i.e. to determine if tank quantities following delivery or usage vary downward by 0.2 K gallons or more from the validated quantity established in Section 7.2.4, Facility Loading/Unloading.

* If they do vary downward by 0.2 K gallons or more, the Metering Program Administrator is to notify the CoGen Plant Operations Specialist and Steam System Engineer, who will investigate to determine the reason for the fuel oil reduction.

7.2.2 Spill Response, Control, and Reporting

1. UI-PROC-66-20-055-R1, TA-03 CoGen Plant – Spill Response, outlines personnel parameters for determining and making appropriate responses to any spill or unplanned release of oil, chemicals, or other substances at TA-03 CoGen Plant.
 - a. Spill events in excess of one quart must be documented in Appendix C of the SPCC Plan.
 - b. All spill events require notification of CoGen Plant Operations Specialist and Facility Operations Director.
 - c. All spill events require notification of the Emergency Management Group (EO-3) in accordance with the SPCC Plan.
2. Spill Prevention Kits are inventoried monthly by Spill Coordinator to ensure that proper materials are available in sufficient quantity and of sufficient quality to minimize spread of oil or chemical products in the event of a spill. Inventory documents are kept on file with kits.

7.2.3 Facility Loading/Unloading

1. Number 2 fuel oil for ASTs is to be delivered by tank trucks and off-loaded at a fuel transfer area into ASTs.
 - a. All loading/unloading operations at TA-03 CoGen Plant must be conducted in accordance with UI-PROC-66-20-170, Fuel Oil Delivery and Reloading onto Trucks/Tankers – Steam Plant TA-03.

- b. Tank supply, return, and drain valves must be locked and closed when not in use.
- 2. Each AST volume is to be measured by digital meter before and after fueling operations and recorded in Operator’s Daily Logbook.
- 3. A digital reading is to be taken after fuel is delivered or removed. Steam System Engineer must reconcile and check the validity of this value. Validated quantities must be sent to Meter Program Administrator for use as described in Section 7.2.1.

7.2.4 Training

- 1. TA-03 Operators are to be instructed and briefed in operation of equipment to prevent discharge of oil.
- 2. Employee training is conducted at least annually and more often when needed.
 - a. Informal briefings and training critical to the SPCC Plan are documented and maintained in Appendix D of the SPCC Plan.

8 Records

Records generated as a result of implementing this procedure are maintained in accordance with the UI records program.

9 Abbreviations, Acronyms, and Terms

Abbreviation, Acronym, or Term	Definition
AST	Aboveground Storage Tank
CFR	Code of Federal Regulations
EO-EM	Emergency Operations – Emergency Management
ESH	Environment, Safety & Health

Abbreviation, Acronym, or Term	Definition
LO/TO	Lockout/Tagout
OJT	On-the-job-training
OSHA	Occupational Safety and Health Administration
PPE	Personal Protection Equipment
SPCC	Spill Prevention Control and Countermeasures
UI	Utilities & Institutional Facilities

10 References

40 CFR Part 112, Environmental Protection Agency – Oil Pollution Prevention Regulation
 P101-3, Lockout/Tagout for Hazardous Energy Control
 P101-18, Procedure for Pause/Stop Work
 Spill Prevention Control and Countermeasures Plan
 UI-PROC-66-20-055, TA-03 CoGen Plant – Spill Response
 UI-PROC-66-20-170, Fuel Oil Delivery and Reloading Onto Trucks/Tankers – Steam Plant TA-03
 UI-PROC-76-71-001, Fuel Oil Tank Soundings
 UI-PROC-76-71-002, Aboveground Storage Tank Inspection
 UI-PROC-76-71-010, Internal Integrity Testing of Aboveground Storage Tanks
 UI-PROC-76-71-012, External Integrity Testing of Aboveground Storage Tanks
 UI-PROC-76-71-500, Inspection of Cathodic Protection on Aboveground Storage Tanks and Fuel Oil Lines
 UI-PROC-76-71-510, Underground Fuel Oil Line Pressure Testing

11 Appendices and Attachments

Attachment 1. TA-03-SM-22 CoGen Plant Daily Inspection Form

Attachment 1. TA-03-SM-22 CoGen Plant Daily Inspection Form

Start a new form at the beginning of each week.

TA-03 SM-22 Power Plant Daily Inspection Form								
*OK = COMPLIANT			AR = ACTION REQUIRED					
Aboveground Diesel Tank (SM 26, SM 2382)	1st Day Reading for Current Month	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Secondary Containment Berm Condition	↓							
Tank Condition and Labels								
Secondary Containment Water Depth								
Pump House Pumps, Valves, and Fittings								
Transfer Lines/Valves Plant Building Wall								
Valve Position Closed								
Spill Control								
SM 2382 Transmitter Tank Level (kGallons)								
SM 2382 Transmitter Tank Level (feet)								
Security / Lighting								

Date / Time								
Operator								
Review / Foreman								
Remarks / Comments								

Operations Procedure
Fuel Oil Delivery and Reloading – TA-03 Power Plant

 Review frequency: 1 yr 2 yr 3 yr

Process Owner	Signature	Date
Pablo C de Vaca		11-22-13
Power Plant Operations Specialist		

Reviewed by	Signature	Date
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Operations Manager		

Reviewed by	Signature	Date
		12-11-13
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66-20-170 Rev. 3	07/06/06	Converted to KSL template. Made minor modifications to content.

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Utilities & Institutional Facilities Operations Procedure Fuel Oil Delivery and Reloading – TA-03 Power Plant

1 Purpose

The purpose of this procedure is to provide a process for the safe handling of Number 2 fuel oil (#2, diesel) during delivery and reloading at the SM-2382 External Storage Tank.

2 Scope/Applicability

1. The SM-2382 External Storage Tank is located northeast of SM-22.
2. Affected Personnel: TA-03 Power Plant Superintendent and shift personnel

3 Prerequisites

1. Required training and qualifications:
 - a. Utilities & Institutional Facilities (UI) procedures and work control processes
 - b. The current procedure
 - c. On-the-job training (OJT)
2. Training decision: process briefing with roster before work being performed.

4 Precautions and Limitations

Required Personal Protective Equipment (PPE):

- Earplugs
- Steel-toe shoes
- Safety glasses (with side shields)
- Long-sleeve shirt
- Hardhat

5 Equipment, Supplies, etc.

Not applicable

6 Responsibilities

1. Persons performing this procedure are responsible for—
 - Notifying Foreman or Superintendent of equipment damage or other conditions that could require corrective action
 - Issuing a PAUSE/STOP Work Order whenever warranted by conditions related to health or safety in accordance with P101-18, Procedure for Pause/Stop Work
2. Managers and Superintendents are responsible for ensuring procedure compliance.

7 Procedural Steps

Warning

Hazard: Number 2 fuel oil (diesel) is flammable. Accidental ignition will result in fire and/or explosion..

Control: Use caution at all times when working with or near Number 2 fuel oil. No cell phones, matches, lighters, or smoking are permitted at the unloading point.

7.1 General

1. The following definitions apply to this procedure:
 - a. Deliveries: transference of fuel oil from a truck or tanker to the SM-2382 External Storage Tank.
 - b. Reloading: transference of fuel oil from SM-2382 to a truck or tanker.
2. Deliveries of fuel oil may be scheduled only during normal working hours (7:30 am to 2:00 pm) unless prior arrangements have been made.
3. Drivers of Commercial Delivery Vehicles who need to access LANL property must stop at Post 10 on East Jemez Road for inspection and surrender Truck Inspection Pass.
4. A 3-inch camlock connection will be necessary to join to the transfer point.
5. Truck tankers require 85–90 ft of hose.

6. Maximum fill volume:
 - a. Secondary containment for SM-2382 has insufficient volume to contain the gross volume capacity of the tank and freeboard to contain precipitation as required under 40 CFR 112.9 (c) (2).
 - b. To ensure that secondary containment capacity is not exceeded, a maximum fill volume for Tank SM-2382 less than the gross the capacity has been established.
 - c. This maximum fill volume is 179,300 gallons.
 - d. Until modifications are made to provide sufficient containment capacity, this maximum fill volume may not to be exceeded.

7.2 Preliminary Steps

1. Have Lineman open disconnect on 13.2-kV/4160-kV transformer.
2. Check the fluid levels in fuel oil storage tank SM-2382 to ensure that it will not be filled beyond capacity.
3. Have the tanker enter South Gate and back into the containment berm at the Fuel Oil Unloading Dock. Inspect tanker for leaks.

Note: To exit, tanker truck will have to back next to Cooling Tower 592 and go through South Gate.

4. Tanker truck is limited to 7500 gallons of No. 2 fuel oil.
5. The fuel oil must meet the followings standards:
 - May not be a blend containing waste oils or solvents.
 - Must contain less than or equal to 0.05% sulfur, by weight.

7.3 Transfer Fuel Oil from Tanker Truck to Storage Tank

Complete Form 66-20-170.1, Fuel Oil Delivery – Checklist (Attachment 1), while performing these steps.

Note: Valves at tank are locked. To unlock, obtain key from Control Room key box.

1. Fully close valves FO-9 through FO-16.
2. Unlock and fully open valves FO-20 and FO-18.
3. Ensure valves FO-33 and FO-30 are fully closed.
4. Fully open valves FO-31, FO-29, FO-34, and FO-32.
5. Ensure valves FO-28 and FO-46 are closed.
6. Connect the tanker hose (using 3-inch camlock connections) to the fuel oil inlet line.

7. Verify that fuel oil catch pans and absorbent pads are in place.
8. Fully open valve FO-52.
9. Have driver open tanker drain valve and start unloading pump (PTO) to begin unloading process.
10. Once the unloading process is complete, close FO-20 and FO-18 and lock.
11. Fully close valves FO-31, FO-29, FO-34, and FO-32.
12. Fully close valve FO-52.
13. Disconnect hoses and drain fuel oil in bucket.
14. Fully close valves, FO-31, FO-29, FO-34, and FO-32.
15. Fully close valve FO-52.
16. Dispose of oily rags and absorbent pads in proper waste barrels.
17. Obtain copy of the Bill of Lading from the tanker driver.
18. Loader: Complete and sign Form 66-20-170.1A, Fuel Oil Delivery to TA-03 Power Plant – Receipt from Loader (Attachment 1A).
19. Turn in completed Bill of Lading, Form 66-20-170.1, and Form 66-20-170.1A to Power Plant Superintendent.
20. Return keys to Control Room key box.

7.4 Transfer Fuel Oil from Storage Tank to Tanker Truck

Complete Form 66-20-170.2, Fuel Oil Reloading onto Trucks/Tanks – Checklist (Attachment 2), while performing these steps.

1. Utilizing Pump #1:
 - a. Unlock and ensure valves FO-21 and FO-23 are open.
 - b. Ensure valves FO-11 and FO-22 are closed.
 - c. Ensure valves FO-38, FO-40, FO-37, and FO-39 are closed.
 - d. Ensure valves FO-25 and FO-27 are open.
 - e. Ensure valve FO-35 is open.
 - f. Ensure valve FO-41 is closed.
 - g. Ensure valve FO-46 is open.
 - h. Ensure valves FO-29, FO-30, and FO-31 are closed.
 - i. Ensure valve FO-33 is closed.

- j. Ensure valves FO-32 and FO-34 are open.
- k. Ensure valve FO-52 is closed.

Note: Open valve FO-52 after tanker hoses are connected to inlet line and tanker is ready to start receiving fuel oil.

2. Utilizing Pump #2:

- a. Unlock and ensure valves FO-21 and FO-23 are open.
- b. Ensure valves FO-11 and FO-22 are closed.
- c. Ensure valves FO-28 and FO-26 are closed.
- d. Ensure valves FO-25 and FO-27 are open.
- e. Ensure valve FO-35 is closed.
- f. Ensure valve FO-36 is open.
- g. Ensure valves FO-38 and FO-40 are closed.
- h. Ensure valve FO-42 is open.
- i. Ensure valve FO-43 is closed.
- j. Ensure valves FO-41 and FO-46 are open.
- k. Ensure valves FO-29, FO-30, and FO-31 are closed.
- l. Ensure valve FO-33 is closed.
- m. Ensure valves FO-32 and FO-34 are open.
- n. Ensure valve FO-52 is closed.

Note: After tanker hoses are connected to inlet line and tanker is ready to start receiving fuel oil, open valve FO-52.

- 3. When the tanker is 3/4 full, shut off the pump and have tanker operator close inlet valve on the tanker.
- 4. Fully open valves FO-29 and FO-31 in the fuel oil house.
- 5. Fully open valves FO-20 and FO-18.
- 6. Fully close valves FO-21, FO-23, FO-25, and FO-27.
- 7. Start the unloading pump and empty the line from the tanker's inlet valve back to the storage tank.
 - This will prevent the fuel oil remaining in the line from spilling as the line is disconnected from the tanker.
- 8. Turn unloading pump off.
- 9. Close valves FO-52 FO-32, FO-34, FO-29, and FO-31.

10. Close and lock valves FO-18, FO-20, FO-21, and FO-23.
11. Disconnect tanker from the inlet line.
12. Complete Form 66-20-170.2B, Fuel Oil Reloading Delivery Receipt (Attachment 2B), showing amount of oil shipped and destination, and give to driver.
13. Loader: Complete and sign Form 66-20-170.2A, Acknowledgment of Receipt of Fuel Oil (Attachment 2A), showing the amount of oil shipped and the destination.
14. Notify receiving party/destination when the transport leaves the plant site.
15. Turn in completed Forms 66-20-170.2 and 66-20-170.2A to Power Plant Superintendent.
16. Return keys to Control Room key box.

8 Records

Records generated as a result of implementing this procedure are maintained in accordance with the UI records program.

9 Abbreviations, Acronyms, and Terms

Abbreviation, Acronym, or Term	Definition
AST	Aboveground Storage Tank
CFR	Code of Federal Regulations
CGTG	Combustion Gas Turbine Generator
ESH	Environment, Safety, and Health
UI	Utilities & Institutional Facilities

10 References

40 CFR 112.9 (c) (2)

P101-18, Procedure for Pause/Stop Work

11 Appendices and Attachments

Attachment 1. Fuel Oil Delivery – Checklist

Attachment 1A. Fuel Oil Delivery to TA-03 Power Plant – Receipt from Loader

Attachment 2. Fuel Oil Reloading onto Trucks/Tanks – Checklist

Attachment 2A. Fuel Oil Reloaded onto Truck/Tank – Driver Sign-off

Attachment 2B. Fuel Oil Reloading Delivery Receipt

Attachment 3. Fuel Oil Pump Building Configuration

Attachment 1. Fuel Oil Delivery – Checklist

Date: _____

Initials	Time	Step
_____	_____	1. Check the fluid levels in SM-2382 External Storage Tank to ensure that the tank will not be filled beyond capacity. If there is not sufficient capacity in the tank, stop the procedure immediately and contact the plant Superintendent.
_____	_____	2. Have the tanker enter South Gate and back into the containment berm at the Fuel Oil Unloading Dock.
Note: Use the East Tank valve alignment to complete the following tasks:		
_____	_____	3. Follow these steps for fuel oil transfer from tanker truck to east storage tank SM-2382:
_____	_____	a. Fully close valves FO-9 through FO-16.
_____	_____	b. Fully open valves FO-20 and FO-18. Ensure that FO-19 is fully closed.
_____	_____	c. Ensure valves FO-33 and FO-30 are fully closed.
_____	_____	d. Fully open valves FO-31, FO-29, FO-34, and FO-32.
_____	_____	e. Ensure valves FO-28 and FO-46 are closed.
_____	_____	f. Ensure valve FO-52 is fully closed.
_____	_____	4. Connect the tank's drain valve to the fuel oil inlet line.
_____	_____	5. Fully open valve FO-52.
_____	_____	6. The tanker is ready to unload fuel oil with PTO.
_____	_____	7. When tanker is done unloading, PTO will be turned off
_____	_____	8. Ensure valve FO-52 is closed.
_____	_____	9. Disconnect the tanker's drain valve from fuel oil inlet line and drain into bucket.
_____	_____	10. Dispose of oily rags and absorbent pads into proper waste barrels.
_____	_____	11. Fully close valves FO-34, FO-32, FO-29, and FO-31 at the fuel house.
_____	_____	12. Ensure that valves FO-30 and FO-33 are fully closed.
_____	_____	13. Obtain copy of Bill of Lading from tanker driver.
_____	_____	14. Complete Form 66-20-170.1A, Fuel Oil Delivery to TA-03 Power Plant – Receipt from Loader (Attachment 1A).
_____	_____	15. Turn in Bill of Lading, this form, and Form 66-20-170.1A to Power Plant Superintendent.

Attachment 1A. Fuel Oil Delivery to TA-03 Power Plant – Receipt from Loader

Date: _____

Amount of fuel oil delivered: _____ *gal*

Destination: _____

Shipped via: _____

Driver: _____

TA-03 Loader: _____

Loader signature: _____

Form 66-20-170.1A

Attachment 2. Fuel Oil Reloading onto Trucks/Tanks – Checklist

Date: _____

Initials	Time	Step
_____	_____	1. Have tanker back into containment berm at unloading dock.
_____	_____	2. Connect fuel oil inlet line to tanker's inlet valve.
_____	_____	3. Fully open inlet valve.
_____	_____	4. Fully open valve FO-52.
_____	_____	5. Open supply valves FO-21 and FO-23. Ensure that FO-22 is closed.
_____	_____	6. Fully close valves FO-43 and FO-45 at Fuel House.
_____	_____	7. Fully close valves FO-29, FO-31, and FO-28 at Fuel House.
_____	_____	8. Open valves FO-25 and FO-27.
_____	_____	9. If using Pump #1, open valves FO-35, FO-46, FO-34, and FO-32. If using Pump #2, open valves FO-41, FO-46, FO-32, FO-34, FO-36, and FO-42.
_____	_____	10. Start selected pump from the control panel in Fuel House.
_____	_____	11. When tanker is 3/4 full, shut off pump and have tanker operator close inlet valve on the tanker.
_____	_____	12. Close valves FO-27, FO-25, FO-21, and FO-23.
_____	_____	13. Open valves FO-28, FO-29, FO-31, FO-18, and FO-20.
_____	_____	14. Start pump and empty the line from the tanker's inlet valve back to the storage tank. This will prevent the fuel oil remaining in the line from spilling as the line is disconnected from the tanker.
_____	_____	15. Turn pump off and close valve FO-52.
_____	_____	16. Disconnect hoses and drain into bucket.
_____	_____	17. Put oil-saturated rags and absorbent pads into proper waste barrels.
_____	_____	18. Record amount of oil being shipped and destination: Fuel Oil: _____ gal. Destination: _____
_____	_____	19. Complete Form 66-20-170.2B, Fuel Oil Reloading Delivery Receipt (Attachment 2B), showing amount of oil shipped and destination, and give to driver.
_____	_____	20. Complete Form 66-20-170.2A, Fuel Oil Reloaded onto Truck/Tank – Driver Sign-off (Attachment 2A), and have driver sign where indicated.
_____	_____	21. When the transport leaves plant site, notify receiving party/destination.
_____	_____	22. Turn in this form and Form 66-20-170.2A to Power Plant Superintendent.

Attachment 2A. Fuel Oil Reloaded onto Truck/Tank – Driver Sign-off

Date: _____

Amount of fuel oil received: _____ *gal*

Shipped out via: _____

Driver: _____

Driver signature: _____

Form 66-20-170.2A

Attachment 2B. Fuel Oil Reloading Delivery Receipt

Date: _____

Amount of fuel oil reloaded: _____ *gal*

Destination: _____

Shipped via: _____

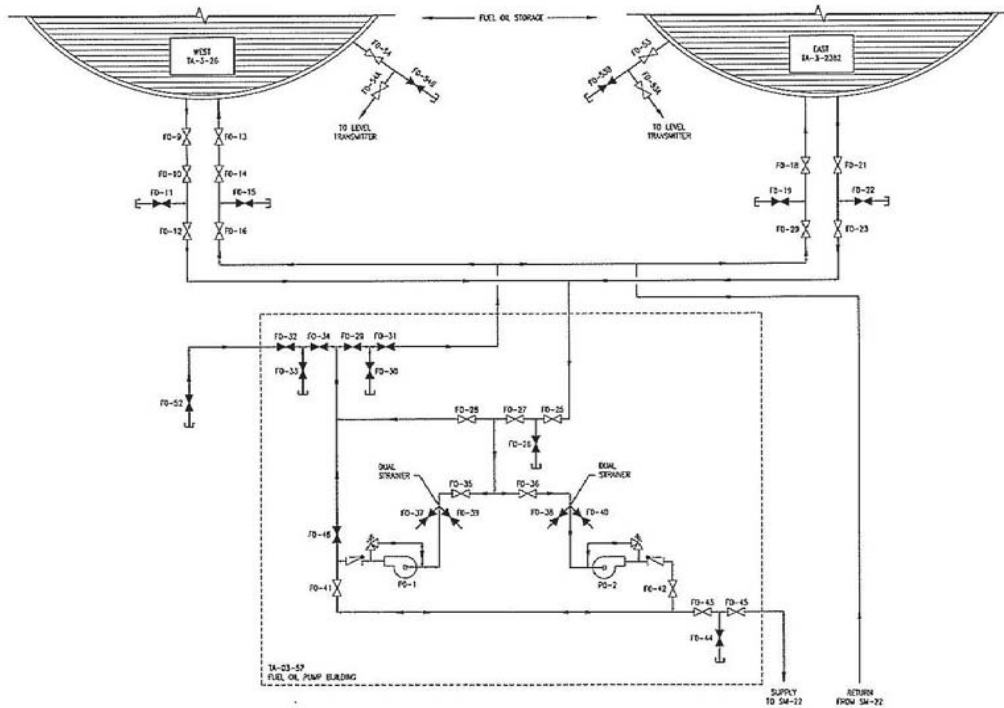
Driver: _____

TA-03 Loader: _____

Loader signature: _____

Form 66-20-170.2B

Attachment 3. Fuel Oil Pump Building Configuration



- LEGEND**
- PRESSURE GAUGE WITH VALVE
 - GATE VALVE
 - NORMALLY CLOSED GATE VALVE
 - PRESSURE RELIEF VALVE
 - CHECK VALVE
 - DIRECTION OF FLOW
 - PUMP
 - ELECTRIC LINE

FUEL OIL PUMP BUILDING CONFIGURATION
 SCALE: NONE

NO.	DATE	DESIGNED BY	DESCRIPTION	CHECKED BY	DATE	APP.
KBR • SHAW • LATA						
UTILITY RECORD DRAWINGS						
FUEL OIL PUMP BUILDING CONFIGURATION						
SM-22	TA-03	DATE	04-20-2007	DESIGNED BY	H. SANDS	APP.
SUBMITTED BY			APPROVED FOR RELEASE BY			
HAROLD SALAZAR			HOWARD MOENCHMUS			
Los Alamos NATIONAL LABORATORY			PG 004-1063			
CLASSIFICATION BY			REVIEWER			
PROJECT ID			DRAWING NO.			
			AB1272			
			REV 0			



502 ORTIZ

Blue Sheet U&I FOD

Review Date: 6/10/08

This Blue Sheet applies to:

- Utilities-KSL policy/procedure
- U&I policy/procedure

Change Type: Minor Delete policy/procedure
 Complete revision (if checked, specify projected completion date) Date:

Policy/Procedure Title: Chemical Hygiene – TA-3 Steam Plant	Rev. No.	Date:
--	----------	-------

Policy/Procedure Number: **66-20-050**

Reason for Revision (if complete revision is checked above):

Date Revision Required:

Brief description of revision/change:

Manual Change
Page 4 of 8 under 2. Tools Parts & Supplies.
Note Change:

Review w/ Walter Atencio

Wherever KSL appears, replace with U&I

Prepared by: *Jim Weisman* Date: *9/23/08*
 U&I Support Manager

Reviewed by: *[Signature]* Date: *6/10/08*
 U&I Function Lead *5/18/08*

Approved by: *[Signature]* Date: *6/10/08*
 U&I FOD



UTILITIES OPERATING INSTRUCTION

CHEMICAL HYGIENE - TA-3 STEAM PLANT

66-20-050

IMPLEMENTATION

Affected Personnel: ALL TA-3 STEAM PLANT PERSONNEL, PLANT FOREMAN, PLANT SUPERVISOR & UESB WATER TREATMENT SPECIALIST

Training Decision: Process Briefing with Roster prior to work being performed

Work Instruction Owner:: Utilities Division

Release Date: 6/20/2006	Next Revision Date: 6/20/2009
Work Instruction Type: UOI	Revision Number: 2
Work Instruction Level: Department	Effective Date: 7/13/06
Frequency: As Needed	

DOCUMENT MODIFICATION HISTORY

Rev No.	Description of Modification
2	Format changes and transfer to KSL, Minor modification to grammar and content.

DOCUMENT REVIEW AND APPROVAL

Function	Name	Position Title	Date	Signature
Prepared by	John Salazar	Technical Writer	7/13/06	Signature on file
	Joe Ortiz	Subject Matter Expert	6/21/06	Signature on file
Reviewed and Approved by	Benny Marquez	UPPS Superintendent	6/26/06	Signature on file
	Pablo C De Vaca	UPPS General Foreman	7/12/06	Signature on file
	Richard Rieckenberg	Manager, Utilities Electric and Steam Department	7/13/06	Signature on file
	Richard Flores	Safety Engineer	7/13/06	Signature on file
	James Williams	Training Foreman	7/11/06	Signature on file
Final Approval by	Gary Blauert	Utilities Division Director	7/13/06	Signature on file

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1.0 PURPOSE/SCOPE

To protect the safety of personnel, equipment, and the environment by establishing a standardized procedure for handling chemicals at the TA-3 Steam Plant.

This procedure includes instructions for checking chemical containers for proper condition and labeling prior to acceptance, performing a safety assessment on a new chemical, reporting assessment results, communicating to plant personnel both the results of the assessment and special instructions for handling the chemical, obtaining any special personal protective equipment (PPE) prior to handling and use of the chemical, and proper disposal of empty chemical containers.

2.0 DEFINITIONS/ACRONYMS

HSFT – Health & Safety Department

MSDS – Material Safety Data Sheet

NFPA – National Fire Protection Association

PPE - Personal Protective Equipment

UESB – Utilities Electric & Steam Section

UOI – Utility Operating Procedure

3.0 RESPONSIBILITIES

Water Treatment Specialist – Keeps signed copies of receiving slips for chemicals along with any additional material provided by the shippers, completes the first section of the Hazard Communication – “Site Specific Training Documentation Form” for new chemicals, gives instructions on storing containers, and schedules training sessions.

General Forman - Orders the necessary PPE and issues it to the appropriate personnel.

Plant Supervisor – Alternative to the Water Treatment Specialist if the Water Treatment Specialist is not available.

HSFT Industrial Hygienist – Performs safety assessments of new chemicals before plant personnel use them and completes the next two sections of the “Site Specific Training Documentation Form” after the assessment is complete.

Plant Engineer - Alternative to the Water Treatment Specialist if the Water Treatment Specialist is not available.

UESB Manager - Alternative to the Water Treatment Specialist if the Water Treatment Specialist is not available.

4.0 SAFETY

Refer to listed references for safety requirements. Also, use appropriate PPE for safety requirements for the TA-3 SM-22 Power Plant; see Section 7.0 for PPE list.

5.0 QUALIFICATIONS

Refer to UTP 001 – “Operator and Maintenance Worker Initial Qualification,” UOI 60-10-040, “Worker Qualification and Training – Utilities Department” and KSL AP 17-30-101 – “Worker Qualification and Training & Department Training Coordinators.”

6.0 TRAINING

Refer to UOI 60-10-040, "Worker Qualification and Training – Utilities Department" and KSL AP 17-30-101 – "Worker Qualification and Training & Department Training Coordinators."

7.0 TOOLS, PARTS & SUPPLIES

- Hearing protection
- Earplugs
- Steel toe shoes
- Safety glasses (with side shields)
- Long sleeve shirt
- Hard hat
- Rubber suits
- Zorball soak pads
- Containment berms
- Goggles and face shield
- Rubber gloves

8.0 METHODOLOGY

8.1 SAFETY PRECAUTIONS:

1. In the event of any accidental leakage, spill, or unintentional release of chemicals during this procedure, follow the instructions in UOI 66-20-055, Spill Response, immediately.

8.2 GENERAL:

1. This procedure is designed to comply with federal and state guidelines regarding hazard communication and the proper handling and storage of chemicals used in the TA-3 Steam Plant. For more information, refer to the Power Plant Water Analysis Laboratory Chemical Hygiene Plan.
2. Before a new chemical is used by plant personnel, a safety assessment must be performed by KSL Health & Safety Department (HSFT) industrial hygienists. Information from the assessment must then be presented to plant personnel in a training session prior to the first use of the new chemical.
3. No new chemical will be accepted if there is no Material Safety Data Sheet (MSDS) accompanying the shipment.
4. This procedure is divided into three sections:
 - a. Receiving, which deals with examining, accepting (or refusing) a shipment of chemical containers, and storing the containers, and begins with Step 1 in Section 5.3.1,
 - b. Assessment and training, which explains the steps that must be taken before a new chemical may be used at the plant, and begins with Step 15, and

- c. Disposal, which deals with the handling and disposal of empty chemical containers, and begins with Step 1 in Section 5.3.3.

8.3 INSTRUCTIONS/PROCEDURES:

8.3.1 Receiving

1. Direct vehicles to deliver chemical containers at Loading Docks #2 & #3, which are located on the Southeast corner of SM-22. Chemical containers are also delivered to the loading dock at SM-24.
2. Before allowing the chemicals to be off-loaded from the delivery vehicle, visually inspect each container for:
 - a. Good condition (no visible signs of leakage or damage).
 - b. Label showing name, address, and telephone number of manufacturer.
 - c. Label showing contents.
 - d. National Fire Protection Association (NFPA) hazard warning label.

NOTE:

This is a diamond-shaped label colored red, yellow, white, and blue.

- e. MSDS (for new chemicals only).
3. If the containers are in good condition and all required labels are present, delivery may be accepted. If not, delivery must NOT be accepted.
4. If the containers weigh more than 80lbs each, use the monorail crane on the East side of the building to unload the containers; otherwise, use a hand truck.

NOTE:

Only personnel trained in their proper operation must operate hoists and cranes. For more information, refer to KSL HSE Manual Procedure S-6, "Standard Signals for Crane Operations" and KSL HSE Manual Procedure S-26, "Mobile Crane Operations"

5. Before signing the receiving slip, check it for accuracy (quantity and type of chemicals are correct).
6. Take the signed copy of the receiving slip along with any additional material provided by the shipper (MSDSs, etc.) to the Water Treatment Specialist or, if the Water Treatment Specialist is unavailable, to the Plant Supervisor.
7. Store the containers on pallets with spill containment on the main floor of the building along the East wall according to the Water Treatment Specialist's instructions.
8. Turn the containers so that their identification and hazard labels are clearly visible.
9. If the shipment included no new chemicals, the Water Treatment Specialist will file the receiving slip and other materials. Go to Step 8 in Section 5.3.2.

8.3.2 Assessment & Training

1. If the shipment included new chemicals, the Water Treatment Specialist will complete the first section of the Hazard Communication – Site Specific Training Documentation Form for each chemical involved and send both the form(s) and copy(s) of the MSDS to HSFT.
2. A HSFT Industrial Hygienist will perform a safety assessment on each chemical involved, including:
 - a. Health and safety hazards posed by the chemical.
 - b. Reactivity of the chemical with water and other chemicals in use at the plant.
 - c. PPE required for handling the chemical.
 - d. Proper handling of the chemical.
 - e. Storage requirements.
 - f. Steps to take if exposed to the chemical.
3. The HSFT Industrial Hygienist will then complete the next two sections of the form and return it to the Water Treatment Specialist.
4. The Water Treatment Specialist will schedule a training session and relay the safety information to the personnel involved.

NOTE:

The assistance of a HSFT Industrial Hygienist may be required.

5. All personnel attending the training will sign the training documentation form. The Water Treatment Specialist will keep a copy of the form and send the original to HSFT.
6. If the required PPE is not already in stock at the plant, the General Forman will order the necessary PPE and issue it to all personnel involved.
7. The Water Treatment Specialist will add a copy of the MSDS for each new chemical to the plant MSDS file.
8. Plant personnel may begin using the chemical(s) as directed by the Water Treatment Specialist.

NOTE:

Instructions for wearing the proper safety equipment while using a particular chemical are contained in the operating procedures (UOIs) that call for that chemical.

8.3.3 Disposal

1. When a chemical container is empty, notify the Water Treatment Specialist or, if the Water Treatment Specialist is unavailable, notify the Plant Supervisor.
2. The Water Treatment Specialist will provide instructions for sealing, labeling, and storing the empty container in the proper storage area.

NOTE:

The empty container **MUST** remain on a pallet while in storage.

3. If the chemical is a Nalco product, the Water Treatment Specialist shall:
 - a. Triple rinse the container,
 - b. Store in the designated storage area, and
 - c. Call for the container to be picked up.
4. If the product is not a Nalco product, or it is unclear whether it is a Nalco product, contact the Water Treatment Specialist. If the Water Treatment Specialist is unavailable, contact a Plant Supervisor, the Plant Engineer or the UESB Manager.
5. All empty containers will remain in storage until authorized picked up.

9.0 RECORDS

1. Receiving slip and other materials filed with the Water Treatment Specialist.
2. All personnel attending the training scheduled by the Water Treatment Specialist will sign the training documentation form. The Water Treatment Specialist will keep a copy of the form and send the original to HSFT.
3. The Water Treatment Specialist will add a copy of the MSDS for each new chemical to the plant MSDS file.

10.0 REFERENCES

Power Plant Water Analysis Laboratory Chemical Hygiene Plan
LANL LIR 402-10-01, Hazard Analysis & Control for Facility Work
KSL HSE Manual Procedure E-11, Hazardous Waste Generation, Management and Disposal
UOI 66-20-055, Spill Response

11.0 ATTACHMENTS

66-20-050.1, Hazard Communication – Site Specific Training Documentation



Hazard Communication – Site Specific Training Documentation

Date:	Instructor:		
Chemical Name:	CAS #:		
Manufacturer:			
How/Where Chemical Will Be Used:			
The following safety equipment will be used when handling/storing this product.			
	Yes	No	Notes
SAFETY EQUIPMENT			
Full Face Mask			
Half Face Mask			
Coveralls			
Gloves			
Boots			
Faceshield			
Other			
ENGINEERING CONTROLS			
Eye Wash			
Safety Shower			
Ventilation			
HYGIENE CONTROLS			
Soap & Water			
Special Cleaner			
STORAGE			
Regular Storage			
Flammable Storage Cabinet			
Corrosives Storage Cabinet			
Other			
Comments:			

