FINAL PLAN

City of Albuquerque
Solid Waste Management Department

Fleet Storage Yard—Hanover Facility (FSYH)

Storm Water Pollution Prevention Plan
(SWPPP)

City of Albuquerque
Solid Waste Management Department

Fleet Storage Yard—Hanover Facility (FSYH)
6401 Hanover Dr NW
Albuquerque, NM 87121

May 2021

Created by:

WESTON SOLUTIONS

This Page Intentionally Left Blank

Contents

Overview of SWPPP Development and Availability

The City of Albuquerque (City) Solid Waste Management Department (SWMD) owns and operates the Fleet Storage Yard – Hanover (FSYH). The operations of this facility are considered industrial activities that have the potential to impact storm water quality. Therefore, this facility is required to have a National Pollutant Discharge Elimination System (NPDES) permit. SWMD has applied for coverage under the Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (*MSGP 2021*) (effective May 1, 2021). This Storm Water Pollution Prevention Plan (SWPPP) is required by the *MSGP 2021* and its purpose is to describe SWMD's program for complying with all of the requirements in the *MSGP 2021*. This SWPPP is available at FSYH at 6401 Hanover Rd NW, Albuquerque NM 87121 and online at https://www.cabq.gov/municipaldevelopment/our-department/engineering/storm-water-management/storm-water-pollution-prevention-plans.

This Page Intentionally Left Blank

Section 1: Facility Description and Contact Information

1.1 Facility Information

Fleet Storage Yard – Hanover Facility Information

Name of Facility: Fleet Storage Yard – Hanover
Street: 6401 Hanover Dr NW
City: Albuquerque State: NM ZIP Code: 87121
County or Similar Subdivision: Bernalillo County
Permit Tracking Number: NMR05J049 (if covered under a previous permit)

Latitude/Longitude (Use **one** of three possible formats, and specify method)

Latitude:	Longitude:
1. 35 º 06 ' 03'' N (degrees, minutes, seconds)	1. 106 º 42 ' 42'' W (degrees, minutes, seconds)
2. _ _ º _ _ . _ _ ' N (degrees, minutes, decimal)	2. _ _ º _ _ . _ _ ' W (degrees, minutes, decimal)
3. _ _ . _ _ _ _ º N (decimal)	3. _ _ . _ _ _ _ º W (decimal)

Method for determining latitude/longitude (check one):
☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☐ GPS
☒ Other (please specify): Google Earth Pro

Is the facility located in Indian Country? ☐ Yes ☒ No
If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." *Not applicable*

Is this facility considered a Federal Facility? ☐ Yes ☒ No

Estimated area of industrial activity at site exposed to storm water: 5.8 (acres)

Fleet Storage Yard – Hanover Facility Discharge Information

Does this facility discharge storm water into an MS4? ☒ Yes ☐ No

If yes, name of MS4 operator: City of Albuquerque

Name(s) of water(s) that receive storm water from your facility: City MS4, West I-40 Channel, Rio Grande

Are any of your discharges directly into any segment of an "impaired" water? ☒ Yes ☐ No

If Yes, identify name of the impaired water (and segment, if applicable): Rio Grande-Albuquerque [Tijeras Arroyo to Alameda Bridge]

Identify the pollutant(s) causing the impairment: E.Coli, PCBs, Dissolved Oxygen, Mercury, and Temperature

For pollutants identified, which do you have reason to believe will be present in your discharge? Organics such as E. Coli contributing to reduced dissolved oxygen

For pollutants identified, which have a completed TMDL? E. Coli

References: 1) 2020-2022 State of New Mexico Clean Water Act §303(d)/ §305(b) Integrated Report. 2) NMED Surface Water Quality Bureau list of TMDLs http://www.nmenv.state.nm.us/swqb/TMDL/List.

Location of Discharge Point(s):

FYH01:

Latitude:
35 º 06 ' 07.59" N (degrees, minutes, seconds)

Longitude:
106 º 42 ' 40.77" W (degrees, minutes, seconds)

FYH02:

Latitude:
35 º 06 ' 03.78" N (degrees, minutes, seconds)

Longitude:
106 º 42 ' 40.94" W (degrees, minutes, seconds)

Do you discharge into a receiving water designated as a Tier 2 (or Tier 2.5) water? ☐ Yes ☒ No

Are any of your storm water discharges subject to effluent guidelines? ☐ Yes ☒ No

If Yes, which guidelines apply? _____

Primary SIC Code or 2-letter Activity Code: 4212

Identify your applicable sector and subsector: Sector P – Land Transportation And Warehousing, Subsector P1-Motor Freight Transportation and Warehouse

1.2 Contact Information/Responsible Parties

Facility Owner/Operator:
City of Albuquerque Solid Waste Management Department
4600 Edith Boulevard NE
Albuquerque, NM 87107
Matthew Whelan
(505) 761-8100
mwhelan@cabq.gov

SWPPP Primary Contact:
Eddie Kenton
Office: (505) 761-8381
Cell: (505) 379-0608
ekenton@cabq.gov

SWPPP Secondary Contact:
Angel Martinez
Office: (505) 761-8107
angelmartinez@cabq.gov

Spill Response Plan:
Refer to Appendix E

24-HOUR EMERGENCY CONTACT (S)

MICHAEL BUCHANAN
(505) 768-3910
(505) 250-6880

JAKE DAUGHERTY
(505) 761-8324
(505) 264 -0618

Signage is to be posted where publicly visible with the contact information for the facility and the associated representative from EPA Region 6. The signage will also indicate where this SWPPP can be found publicly

1.3 Storm Water Pollution Prevention Team (PPT)

The storm water pollution prevention team (PPT) is comprised of representatives from the City's SWMD. The responsibility of the PPT is to oversee development of the SWPPP and for implementing and maintaining control measures and taking corrective actions when required. A list of PPT members and contact information is provided in **Appendix A**. A summary of PPT members' responsibilities follows.

- SWMD Superintendent (PPT Leader) - Responsibilities include SWPPP development and management, facility inspections, storm water monitoring, annual training, EPA annual reporting, NOI submission, spill response and reporting, evaluation of spill data to identify preventative measures, etc.
- PPT Members - Responsibilities include NOI submission, implementation of the SWPPP, quarterly inspections, annual training, implementation of best management practices (BMPs), spill response and reporting, etc.

Each PPT member is provided an electronic copy of the SWPPP and *MSGP 2021*. It is the responsibility of the PPT members to maintain their copy of the SWPPP and ensure its completeness and availability and to fully implement the procedures and best management practices (BMPs). **Appendix A** shall be updated periodically to reflect changes in personnel.

The *MSGP 2021* is included as **Appendix B** of this SWPPP.

1.4 Activities at the Facility

FSYH serves as a storage facility for the City SWMD. It is host to vehicle and equipment storage. The activities conducted at this facility are limited to vehicle and equipment storage. No buildings are present at the facility. There are connex trailers and portable toilets at the facility. The surface of the facility is stabilized with asphalt millings. The facility remains locked during business hours and is under security surveillance during overnight hours.

1.5 General Location Map

The general location of the FSYH is presented in **Figure 1** of **Appendix C**. The layout of the facility is shown on **Figure 2** of **Appendix C** along with the direction of storm water flow, outfall locations (also referred to herein as "storm water monitoring points" or "storm water drainage points"), and illustration of areas covered by this SWPPP.

1.6 Site Maps

As required in Section 6.2.2.3 of the *MSGP 2021*, the figures located in **Appendix C** include the items listed below.

- Site Plan Figures
  - Boundary of the property and size in acres
  - Location and extent of significant structures and impervious surfaces (evident on aerial photograph)
- Drainage Plan Figures

  - Directions of storm water flow
  - Locations of all existing structural storm water control measures
  - Locations of all storm water conveyances including ditches, pipes, and swales
  - Locations of all storm water monitoring points
  - Locations of storm water drainage points, with a unique identification code for each drainage point
  - Municipal separate storm sewer systems, where your storm water discharges to them.
  - Transfer areas for substances in bulk

- Activity Plans Include:
  - Locations and sources of run-on to the site from adjacent property that contains significant quantities of pollutants
  - Locations of potential pollutant sources identified under MSGP 2021, Part 6.2.3.2
  - Locations of the following activities where such activities are exposed to precipitation:
    - Loading/unloading areas
    - Processing and storage areas

- Non-Storm Water Discharges and Recent Spills Figure

  If identified, the following items shall be located as appropriate:

  - Locations and descriptions of all non-storm water discharges identified under MSGP 2021, Part 1.2.2.1
  - Locations where significant spills or leaks identified under MSGP 2021, Part 6.2.3.3 have occurred

- Not Applicable – The following are not applicable as they are not in existence at the FSYH
  - Fueling stations
  - Vehicle and equipment maintenance and/or cleaning areas
  - Locations used for the treatment, storage, and disposal of wastes.
  - 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.
  - Locations of all receiving waters in the immediate vicinity of the FSYH

Section 2: Potential Pollutant Sources

2.1 Industrial Activity and Associated Pollutants

Table 1 describes industrial activities performed at the FSYH and the potential pollutants associated with them.

Table 1
Industrial Activities Performed at the FSYH and Associated Potential Pollutants

Industrial Activity	Associated Potential Pollutants
Vehicle and Equipment Storage	Motor oil, antifreeze, coolant, grease/lubricant, hydraulic fluid, diesel, and gasoline. Note: no vehicle maintenance is conducted, only vehicle storage. Organic pollutants (E.coli) from portable toilets.
Equipment Fueling (On-Site Fuel Transfer to Generators)	Diesel and/or Gasoline, fuel additive.

2.2 Spills and Leaks

Table 2 summarizes locations within the FSYH where spills have the potential to occur.

Table 2
Potential Location for Spills

Location
Vehicle and Equipment Storage Area
Equipment Fueling (On-site Fuel Transfer to Generators)

No major spills or leaks have occurred in the past three years at the FSYH that would impact the drainage point. If such a major spills or leaks should occur in the future, they will be identified in this section of the SWPPP and shown on **Figure 2** of **Appendix C.**

Reporting Process: All operators will report spills greater than 5 gallons to the Superintendent. The following information must be reported:

- Date and time
- Responsible party
- Fluid type and quantity
- Spill location and surface (concrete, asphalt, soil)
- Brief description of activity causing spill

The Environmental Compliance Officer will follow up and notify operator if any additional local, state, or federal reporting is required.

2.3 Non-Storm Water Discharges Documentation

Date of evaluation: *April 28, 2021*

Description of the evaluation criteria used:

FSYH was visually assessed, photographed, and documented. The summary reports of the evaluation are included in **Appendix D**. Permissible non-storm water discharges permissible under this SWPPP include:

- Discharges from firefighting activity,
- Waterline flushing,
- External building wash down (specifically allowed under MSGP 2021 without the use of detergents assuming no detrimental effect of storm water quality), and
- Incidental air conditioning condensate.

All site areas, including presumed drainage ways were observed during the evaluation. No non-storm water discharges were observed at the FSYH. No actions were necessary as a result of the evaluation because no unauthorized discharges were identified.

2.4 Sampling Data Summary

Because the yard was newly owned property in January 2021, storm water has not yet been sampled at the FSYH. Sampling requirements outlined in Section 5 of this SWPPP will address future and ongoing storm water sampling for the FSYH. A summary of the data will be provided in subsequent versions of this SWPPP.

Section 3: Storm Water Control Measures

Storm water controls at the FSYH are instituted in the form of BMPs designed to address activities that are potential sources of storm water pollution. Each BMP outlines measures designed to reduce the potential for storm water pollution. There are currently four BMPs implemented at the FSYH. The BMPs are listed in **Table 3** and presented in their entirety in **Appendix E**.

Table 3
Summary of Best Management Practices

Material Processing & Maintenance		
BMP-1	General BMPs	Prevent or reduce the discharge of pollutants to storm water from all industrial operations with potential to impact storm water.
Storm Water Control Structures		
BMP-4	Vehicle and Equipment Storage	Prevent or reduce the discharge of pollutants to storm water from outdoor vehicle and equipment storage areas.
BMP-8	Structural Storm Water Controls	Select, implement, and maintain structural storm water controls to manage the volume and/or quality of storm water leaving the property. Storm water volume controls should be installed to manage storm water volume by delaying diverting or reducing the amount of storm water runoff from the site. Storm water quality controls should be installed to prevent pollutants from contacting storm water or removing pollutants from storm water.
Fuel Storage and Delivery		
BMP-6	Fuel Storage and Delivery	Prevent Fuel spills and leaks and reduce their impacts to storm water. Prevent or reduce the discharge of pollutants to storm water during fueling operations and fuel storage.

3.1 Minimize Exposure

In order to minimize the exposure of material storage areas to rain, snow, snowmelt, and runoff; and minimize pollutant discharge from industrial activities performed at the FSYH, performing and locating these activities indoors or protecting them with storm resistant cover will be implemented. The following should be performed as needed:

- 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, and;
- Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents;

- Portable toilets are to be secured with stakes to prevent pollutants from contaminating storm water discharge;

3.2 Good Housekeeping

Good housekeeping is regularly conducted at FSYH. Facility employees inspect the facility monthly for presence of potential storm water pollutants (solid waste, hazardous fluids, sediment, etc.), which are properly disposed of if present.

3.3 Maintenance

Good engineering practices are performed to prevent spills and leaks from occurring from stored vehicles. During routine facility inspections, the FSYH employees inspect all vehicles and equipment to ensure it is in good repair with no drips or leaks evident. This includes:

- Performing inspections and preventive maintenance of storm water drainage, source controls, treatment systems, and equipment that could fail and result in contamination of storm water.

- Diligently maintaining non-structural control measures (e.g., keep spill response supplies available, personnel appropriately trained).

3.4 Spill Prevention and Response

As stated in BMPs listed above, a facility-specific Spill Response Plan is posted in all areas where spills and/or leaks are likely to occur. At the FSYH, spill response plans are posted in conspicuous places and as possible near a telephone. Spill response plans shall be posted at the vehicle storage lot and the roll-off bin storage lot in addition to signage with the contact information for the facility's contacts and EPA.

Spill response procedures and contact information can be found on the spill response plans. A copy of the spill response plan is located in **Appendix E**. Spill prevention and response procedures should be assessed on a quarterly basis for any facility and personnel changes that might affect the efficiency in responding to a spill or release, to include:

- 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;

- Notify appropriate facility personnel when a leak, spill, or other release occurs.

Spill cleanup materials are adequately stocked, readily accessible, and labeled at all times. Spent cleanup materials are disposed of immediately and properly. All tanks, drums, buckets, and other storage containers are properly labeled and if stored outdoors, or indoors directly adjacent to a doorway, they encompass secondary containment.

Secondary containment for all fluids is required. Specific areas where secondary containment is required include:

- Chemical storage,

- Fuel storage, and
- Used oil storage.

3.5 Erosion and Sediment Controls

Erosion is evaluated quarterly during storm water monitoring events and annually during the dry weather evaluation of the storm water drainage points. Storm water management structures for controlling erosion and sediment are berms and wattles.

3.6 Management of Runoff

Storm water flows from west to east and appears to drain into two storm drain inlets located centrally between the vehicle storage area, roll-off bin storage area and employee parking. Strategic grading and compaction of the lots and placement of asphalt millings has resulted in the sheet flow of storm water to the storm drain inlets. Both drains are maintained by the facility and are surrounded by wattles to assist in improving the quality of storm water that enters the drain. Wattles have been placed along the western and norther boundary, as the potential run-on sources include the I-40/Coronado Freeway and the adjacent private property to the west. Due to the flow of storm water from both lots to the storm drains, FYH01 and FYH02 have been strategically placed next to each storm drain inlet to assess the quality of the storm water leaving the site.

The storm inlets drain into the City MS4 system and drains to the north into the West I-40 Channel, flows through an AMAFCA storm water quality facility and then discharges via a City outfall to the Rio Grande.

3.7 Salt Storage Piles or Piles Containing Salt

No salt is stored at the FSYH.

3.8 MSGP Sector-Specific Non-Numeric Effluent Limits

The FSYH is not subject to Effluent Limitations.

3.9 Employee Training

The SWPPP PPT Leader is responsible for providing training to FSYH employees regarding the components and goals of this SWPPP. The SWMD and other employees who work in areas where industrial materials and activities are exposed to storm water, or who are responsible for implementing activities to meet the conditions of the *MSGP 2021* are expected to participate in annual SWPPP training.

Training will be provided to FSYH employees by qualified trainers at least annually, with additional training made available as required by new hires. Elements to be included in the training sessions include the following:

- Purpose, need, and requirement for storm water pollution prevention;

- Examples of unallowable non-storm water discharges;
- Availability, layout, and contents of the SWPPP;
- Description and applicability of the BMPs;
- Good housekeeping and preventative maintenance requirements;
- Material management practices;
- Spill response procedures;
- Spill reporting requirements;
- Corrective action reporting;
- Used oil and spent solvent management;
- Fueling procedures;
- Proper painting procedures;
- Used battery management;
- Documentation requirements; and
- Notice of Intent (NOI) submission (when applicable).

All training events are documented including the date of training, identification of the trainer and attendees, and subjects covered. Training records for SWMD's train-the-trainer session shall be included in **Appendix F** of this SWPPP.

> **Reporting Process:** Following each training session, SWMD will distribute training certificates by email to all staff and PPT members that attend training and submit a training assessment.

3.10 Non-Storm Water Discharges

An evaluation of non-storm water discharges was performed as described in Section 2.3 Non-Storm Water Discharges Documentation. No non-storm water discharges were identified during the evaluation. If any future non-storm water discharges are observed at the facility, details of the discharge must be logged on the form in **Appendix D** and included on the Site Plan (**Figure 2** of **Appendix C**).

3.11 Waste, Garbage and Floatable Debris

Litter at the FSYH is routinely managed through fencing around the property and by manual collection.

3.12 Dust Generation

The facility is compacted asphalt millings to minimize dust generation. The access road to the FSYH facility is compacted asphalt millings and the interior lot of the blue fleet vehicle storage is asphalt millings and the roll-off bin storage is compacted dirt. The surrounding roads to the access road into the facility is paved to minimize dust generation.

Section 4: Schedules and Procedures

4.1 Schedules and Procedures Pertaining to Control Measures

Schedules and procedures pertaining to control measures are discussed in Section 3 Storm Water Control Measures. Detailed procedures are provided in the form of BMPs included in **Appendix E**.

4.2 Schedules and Procedures Pertaining to Inspections

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

- Areas where industrial materials or activities are exposed to storm water;
- Areas identified in the SWPPP and those that are potential pollutant sources (see Part 6.2.3 MSGP 2021);
- 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.

During the inspection, the inspector will examine or look out for the following:

- 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;
- Erosion of soils at your facility, channel and streambank erosion and scour in the immediate vicinity of discharge points (see Part 2.1.2.5 MSGP 2021);
- Non authorized non-storm water discharges (see Part 2.1.2.9 MSGP 2021);
- Control measures needing replacement, maintenance, or repair.

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

Further procedures for routine facility inspections are provided in **Section 5.1** herein.

Schedule

Routine facility inspections will be conducted at least **once per annual quarter** during the entire permit term, or in some instances more frequently (e.g., monthly). At least once each calendar year, the inspection will be conducted during a period when storm water discharge is occurring.

Persons Responsible for Inspections

Routine facility inspections will be conducted by qualified personnel. The inspections should be conducted by a PPT member or an appropriately trained staff member. A full list of FSYH's PPT members is included in **Appendix A**. Inspectors must consider the results of visual and analytical monitoring (if any) for the past year when planning and conducting inspections.

4.3 Schedules and Procedures Pertaining to Monitoring

4.3.1 Quarterly Visual Storm Water Assessment

Once per annual quarter during the entire permit term, the designee will conduct **quarterly visual storm water assessments** at the designated storm water drainage points; FYH01 and FYH02. During quarters without a rainfall event resulting in discharge, the monitoring event will be rescheduled to occur during the predominately rainy season (July – September). During adverse weather conditions which may prevent collection of a sample (i.e. local flooding, high winds, electrical storms, or other dangerous situations), the monitoring event will be substituted with the next storm event. Refer to **Section 5.2** herein for a description of procedures for quarterly visual storm water assessments.

4.3.2 State- or Tribal-Specific Monitoring

None required.

4.3.3 Indicator Monitoring.

Indicator monitoring for storm water discharges are required in the MSGP 2021 for three parameters: pH, Total Suspended Solids (TSS), and Chemical Oxygen Demand (COD). This monitoring is required for subsector P1. Indicator monitoring will provide the facility and EPA with a baseline and comparable understanding of industrial storm water discharge quality and potential water quality problems. These values are "report-only" and do not have thresholds for baseline values for comparison, therefore no follow up action is triggered or required. Indicator monitoring is a condition of the MSGP 2021, and thus failure to conduct the monitoring is a permit violation. Refer to **Section 5.3** here in for a description of procedures for indicator monitoring.

4.3.4 Benchmark Monitoring

Sector P has no benchmark monitoring requirements in the MSGP.

4.3.5 Impaired Waters Monitoring

Impaired waters monitoring is required **annually in the first year of permit coverage** and again in **the fourth year of permit coverage** as described in *Section 4.2.5.1.a of the MSGP 2021 Facilities Required to Monitor Stormwater Discharges to Impaired Waters – Discharges to impaired waters without an EPA-approved or established TMDL* of the *MSGP 2021*. If a pollutant causing impairment is detected, annual monitoring must continue. Refer to **Section 5.4** herein for a description of procedures for Impaired Waters Monitoring.

4.3.6 Substantially Identical Discharge Point Exception

There are no substantially identical discharge points at the FSYH.

4.4 Schedules and Procedures Pertaining to Corrective Action

When any of the following conditions occur or are detected during and inspection, monitoring or other means, or if EPA or the Operator of the MS4 through which you discharge informs you that any of the following conditions have occurred, the SWPPP must be reviewed and revised, as appropriate, to minimize pollutant discharge:

- An unauthorized release or discharge (e.g., spill, leak or discharge of non-storm water not authorized by this or another NPDES permit to a water of the United States) occurs at the facility;
- The established storm water control measures are not stringent enough for the storm water discharge to be controlled as necessary such that the receiving water of the United States will meet applicable water quality standards;
- A required control measure was not installed or installed correctly, or is not being properly operated or maintained, and/or;
- A visual assessment shows evidence of storm water pollution (e.g., color odor, floating solids, settled solids, suspended solids, foam).

If construction or a change in design, operation, or maintenance at the FSYH occurs that significantly changes the nature of pollutants discharged via storm water from the facility, or significantly increases the quantity of pollutants discharged, this SWPPP must be reviewed to determine if modifications are necessary to meet the requirements of the MSGP 2021.

When an inspection, monitoring event, or other site observation reveals a condition that may result in storm water pollution, the corrective action schedule must be implemented:

1. **Immediate Actions – Within 24 Hours**

   a. Minimize or prevent the discharge of pollutants until a permanent solution is implemented.

   b. Cleanup any contaminated surfaces so that material will not discharge in subsequent storm events.

   c. Document the conditions observed. Documentation should include:

      1) Condition triggering the corrective action

         a) For spills include material, volume, reason causing the release

      2) Date/time

      3) Location

      4) Description of immediate actions taken

a) For spills include response actions, date/time cleanup completed, notifications made, and staff involved.

5) Signature of an individual with signatory authority.

2. Subsequent Actions – Within 14 Days

a. Install or modify a control measure to prevent continued or reoccurring discharge.

b. Notify the Environmental Compliance Coordinator in writing of what actions were taken (ddaugherty@cabq.gov, mbuhanan@cabq.gov, and MS4Compliance@cabq.gov).

c. Place written documentation in the corrective action section of the operating SWPPP (**Appendix K**). Documentation should include:

1) Description of corrective actions taken with beginning and end dates.

2) If applicable, document why it is not feasible to have corrective action installation within 14 days and the schedule for completing the controls and making them operational.

4.5 Schedules and Procedures Pertaining to Annual Reporting

The *MSGP 2021* requires an annual report be submitted through the NPDES eReporting Tool (NeT) by January 30th of each year of permit coverage containing information generated from the past calendar year.

Appendix M includes an example annual report form. This report form is included in this SWPPP for reference only; the actual annual report must be submitted through EPA's NeT system which is accessed through the EPA's central Data Exchange website at https://cdx.epa.gov/.

Annual reports shall include a summary of the previous year's routine facility inspections, visual monthly storm water monitoring and any other required storm water monitoring, corrective actions, and documentation.

Section 5: Inspections

Inspections, conducted at the FSYH facility, are documented on standardized inspection forms. Forms will be updated to reflect the current conditions at each facility as required. All completed inspection forms and associated reports will be attached to this SWPPP in the Reports Section (**Appendix M**). Two types of inspections that are conducted at the facility include Routine Facility Inspections and Quarterly Visual Assessment Inspections of Storm Water Discharges.

5.1 Routine Facility Inspections

Routine Facility Inspections must document the findings of the facility inspections and maintain this report (**Appendix M**). The inspection findings must be summarized in the annual report per Part 7.4 of the 2021 MSGP. Document all findings, including but not limited to, the following documentation:

- 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 drainage points, 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 signed, dated and certified statement.

Specific areas of the facility to be inspected include:

- Outdoor materials handling and storage areas;
- Areas susceptible to erosion;
- Areas where spills and leaks have occurred in the past three years;
- Storage areas for vehicle/equipment awaiting maintenance; and
- Loading/unloading areas.

Include quarterly discharge visual assessments performed during the facility inspection results of the assessment with the report required in *MSGP 2021* Part 3.2, as long as all components of both types of inspections are included in the report.

5.2 Quarterly Visual Assessment of Storm Water Discharges

Once per annual quarter for the entire permit term, a storm water sample must be collected from each drainage point (except as noted below) 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 storm water discharge. Guidance on monitoring is available at: https://www.epa.gov/sites/production/files/2015-11/documents/msgp_monitoring_guide.pdf.

EXCEPTIONS: *For climates with irregular storm water runoff, facilities located in an area where limited rainfall occurs during many parts of the year (e.g., arid or semi-arid climate), samples for the monthly visual assessments may be distributed during seasons when precipitation runoff occurs.*

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 unexpected case of snowmelt, samples must be taken during a period with a measurable discharge from the 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
- Other obvious indicators of storm water pollution

Whenever the visual assessment shows evidence of storm water pollution, initiate the corrective action procedures found in Section 4.4 of this SWPPP.

Documentation

Document the results of the visual assessments and maintain this documentation (**Appendix M**). The visual assessment findings must be included in the annual report per *MSGP 2021* Part 7.4. The 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 storm water discharge;
- Probable sources of any observed storm water contamination; and
- If applicable, why it was not possible to take samples within the first 30 minutes. Whenever the visual assessment shows evidence of storm water pollution, initiate the corrective
action procedures found in Section 4.

5.3 Indicator Monitoring

Indicator monitoring of storm water discharges are required under Sector P – subsector P1 for three total parameters: pH, Total Suspended Solids (TSS), and Chemical Oxygen Demand (COD). This data will provide a baseline and comparable understanding of industrial storm water discharge quality and potential water quality problems.

The indicator monitoring parameters are "report-only" and do not have thresholds or baseline values for comparison, therefore no follow-up action is triggered or required. Indicator monitoring is a permit condition and thus, failure to conduct this monitoring is a permit violation. As noted in Part 2.2.1, the storm water discharge will be controlled as necessary such that the receiving water of the United States will meet applicable water quality standards. The samples collected as described below with the following exception, as described in Part 4.1.6 of 2021 MSGP:

EXCEPTIONS: *For climates with irregular storm water runoff, facilities located in an area where limited rainfall occurs during many parts of the year (e.g., arid or semi-arid climate), the schedule of indicator monitoring may be modified provided the facility report the revised schedule directly to EPA by the due date of the first indicator monitoring sample. FSYH must keep this revised schedule within the SWPPP as specified in Part 6.5 of 2021 MSGP. FSYH must indicate in Net-DMR any 3-month interval that an indicator monitoring sample was not taken (see Part 4.1.7 of 2021 MSGP).*

5.3.1 pH, Total Suspended Solids (TSS), and Chemical Oxygen Demand (COD)

Applicability and Schedule

Subsector P1 must monitor for pH, TSS and COD. Samples must be analyzed consistent with 40 CFR Part 136 analytical methods.

Indicator monitoring of storm water discharges for pH, TSS and COD will be conducted **quarterly beginning in the first full quarter of permit coverage** as identified in Part 4.1.7 of 2021 MSGP.

5.4 Impaired Waters Monitoring

Impaired waters monitoring is required annual in the first year of ***permit*** coverage and again in the fourth year of permit coverage, unless a pollutant causing an impairment is detected, in which case annual monitoring must continue. For the FSYH facility, Impaired waters monitoring is conducted for E. Coli as per **Part 4.2.5.1.b** of the **MSGP 2021.** The facility is additionally required for monitor for Polychlorinated Biphenyl (PCB's), Temperature, Mercury, and Dissolved Oxygen (DO) as follows.

Schedule – First Year of Permit Coverage
Annual samples will be taken by the facility in the first year of permit coverage, which begins in the first full quarter following May 30, 2021. The FSYH facility will monitor for the above listed pollutants using a standard analytical method, see 40 CFR Part 136, once at each discharge point that discharges storm water to impaired waters without an EPA-approved or established TMDL. Consult EPA Region 6 office for additional guidance regarding required monitoring parameters.

If the results indicate the monitored pollutant is not detected in the discharge sample, or is within the acceptable range for a given parameter for the Rio Grande, the FSYH facility may discontinue monitoring for that pollutant for the next two years. Impaired waters monitoring must resume for that pollutant in year four of permit coverage, if applicable, as per **Part 4.2.5.1.a.ii** of the **MSGP 2021**.

If the results indicate that the monitored pollutant is detected in the storm water discharge, or is outside the acceptable range for a given parameter for the Rio Grande, the FSYH facility must continue to monitor for the pollutant(s) annually until no longer detected, after which the facility may discontinue monitoring for that pollutant until monitoring resumes in the fourth year of permit coverage, if applicable, as per **Part 4.2.5.1.a.ii** of the **MSGP 2021**.

Schedule – Fourth Year of Permit Coverage
Annual monitoring of Impaired Waters will resume in the fourth year of permit coverage for another year for a subset of parameters monitored for in the first monitoring year. During the fourth year of permit coverage, the FSYH facility will monitor for all pollutants causing impairment(s) associated with the facility's industrial activity. Monitoring will be conducted once at each discharge point, for all pollutants presently impairing the water body, and all associated with the industrial activity of the FSYH facility.

If the results indicate the monitored pollutant(s) is not detected in the discharge or is within the acceptable range for a given parameter for the Rio Grande, the FSYH facility may discontinue monitoring for that pollutant for the remainder of the permit coverage.

If the results indicated that the monitored pollutant(s) is detected in the discharge, or is outside the acceptable range for a given parameter for the Rio Grande, the FSYH facility must continue to monitor for the pollutant(s) annually until no longer detected, after which the facility may discontinue monitoring for the pollutant for the remainder of the permit coverage.

Section 6: Documentation to Support Eligibility Considerations under Other Federal Laws

6.1 Documentation Regarding Endangered Species.

In accordance with the requirements of *MSGP 2021*, an eligibility screening was performed with regards to endangered species. The eligibility screening followed the procedures outlined in Appendix E of the *MSGP 2021*. The FSYH was found to be eligible for coverage under the MSGP with respect to endangered species under **Criterion C3**.

The evaluation of eligibility can be found in **Appendix G** of this SWPPP and contains a memorandum describing the eligibility screening process and findings.

6.2 Documentation Regarding Historic Properties

In accordance with the requirements of *MSGP 2021*, an eligibility screening was performed with regards to historic properties. The eligibility screening followed the procedures outlined in Appendix F of the *MSGP 2021*. **Appendix H** of this SWPPP contains a memorandum describing the eligibility screening process and findings. The FSYH was found to be eligible for coverage under the MSGP with respect to historic properties under **Criterion A**.

6.3 Documentation Regarding NEPA Review (if applicable)

The FSYH is not subject to any New Source Performance Standards (NSPS) as described in Section 1, Table 1-1 of the *MSGP 2021*; therefore, NEPA process review is not required.

This Page Intentionally Left Blank

Section 7: SWPPP Certification

7.1 Person (s) Responsible for SWPPP Preparation

The SWPPP shall be prepared in accordance with good engineering practices and to industry standards. The SWPPP was developed by a "qualified person" as defined by the MSGP 2021. A "qualified person" is a person knowledgeable in the principles and practices of industrial storm water controls and pollution prevention and possesses the education and ability to assess conditions at the industrial facility that could impact storm water quality, and the education and ability to assess the effectiveness of storm water controls selected and installed to meet the requirements of the permit.

Name David "Sonny" Cooper, P.E. Title Project Manger

Signature David Cooper Digitally signed by David Cooper Date: 2021.05.19 11:28:15 -06'00' Date 5/19/2021

This Page Intentionally Left Blank

7.2 SWPPP 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.

Name Matthew Whelan Title SWMD Director

Signature _____ Date 5/25/21

This Page Intentionally Left Blank

Section 8: SWPPP Modifications

Date	Section of SWPPP Revised	Authorization of the Modification
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:
		Name: Signature:

This Page Intentionally Left Blank

SWPPP Appendices

Attach the following documentation to the SWPPP:

Appendix A **Pollution Prevention Team Members**

Appendix B **Multi-Sector General Permit 2021**

Appendix C **Figures**

Figure 1 FSYH General Location Map

Figure 2 FSYH Site, Drainage and Activities Plan

Appendix D **Evaluation of Non-Storm Water Discharges**

Appendix E **Best Management Practices and Spill Response Plan**

Appendix F **Training Records**

Appendix G **Endangered and Threatened Species Screening Memorandum**

Appendix H **Historic Properties Preservation Screening Memorandum**

Appendix I **Copy of the Notice of Intent, Acknowledgement Letter, and Delegation of Authority Letter**

Appendix J **Documentation of Maintenance to Control Measures**

Appendix K **Documentation of Corrective Action Taken**

Appendix L **Sampling and Analysis Plans**

Appendix M **Reports**

M1 – Quarterly Routine Facility Inspections

M2 – Quarterly Visual Storm water Assessment

M3 – EPA Industrial Storm Water Sampling Guidance

M4 – Annual Report Example

M5 – Sampling Data Reports

This Page Intentionally Left Blank

APPENDIX A
POLLUTION PREVENTION TEAM MEMBERS

This Page Intentionally Left Blank

Appendix A

City of Albuquerque – Solid Waste Management Department

Fleet Storage Yards – Hanover Facility

Pollution Prevention Team Members

Department	Facility Name	Contact	Responsibility	Address	City	State	Zip	Phone	Email
Municipal Development	Engineering/Storm Water Design	Shellie Eaton, P.E.	PPT Leader (Primary Contact)	1 Civic Plaza, Room 310	Albuquerque	NM	87103	O: 768-2774	seaton@cabq.gov
Municipal Development	Engineering/Storm Water Design	Kathy Verhage, P.E.	PPT Leader (Secondary Contact)	1 Civic Plaza, Room 310	Albuquerque	NM	87103	O: 768-3654	kverhage@cabq.gov
SWMD	FSYH	Eddie Kenton	Primary Contact	4600 Edith Blvd NE	Albuquerque	NM	87121	O: 761-8381 C: 379-0608	ekenton@cabq.gov
SWMD	FSYH	Angel Martinez	Secondary Contact	4600 Edith Blvd NE	Albuquerque	NM	87121	O: 761-8107	angelmartinez@cabq.gov
SWMD	FSYH	Jake Daugherty	Environmental Compliance Coordinator	117 114th St SW	Albuquerque	NM	87121	O: 761-8324 C: 264-0618	ddaugherty@cabq.gov
SWMD	FSYH	Mike Buchanan	Environmental Compliance Coordinator	117 114th St SW	Albuquerque	NM	87121	O: 768-3910 C: 250-6880	mbuchanan@cabq.gov

APPENDIX B
MULTI-SECTOR GENERAL PERMIT 2021

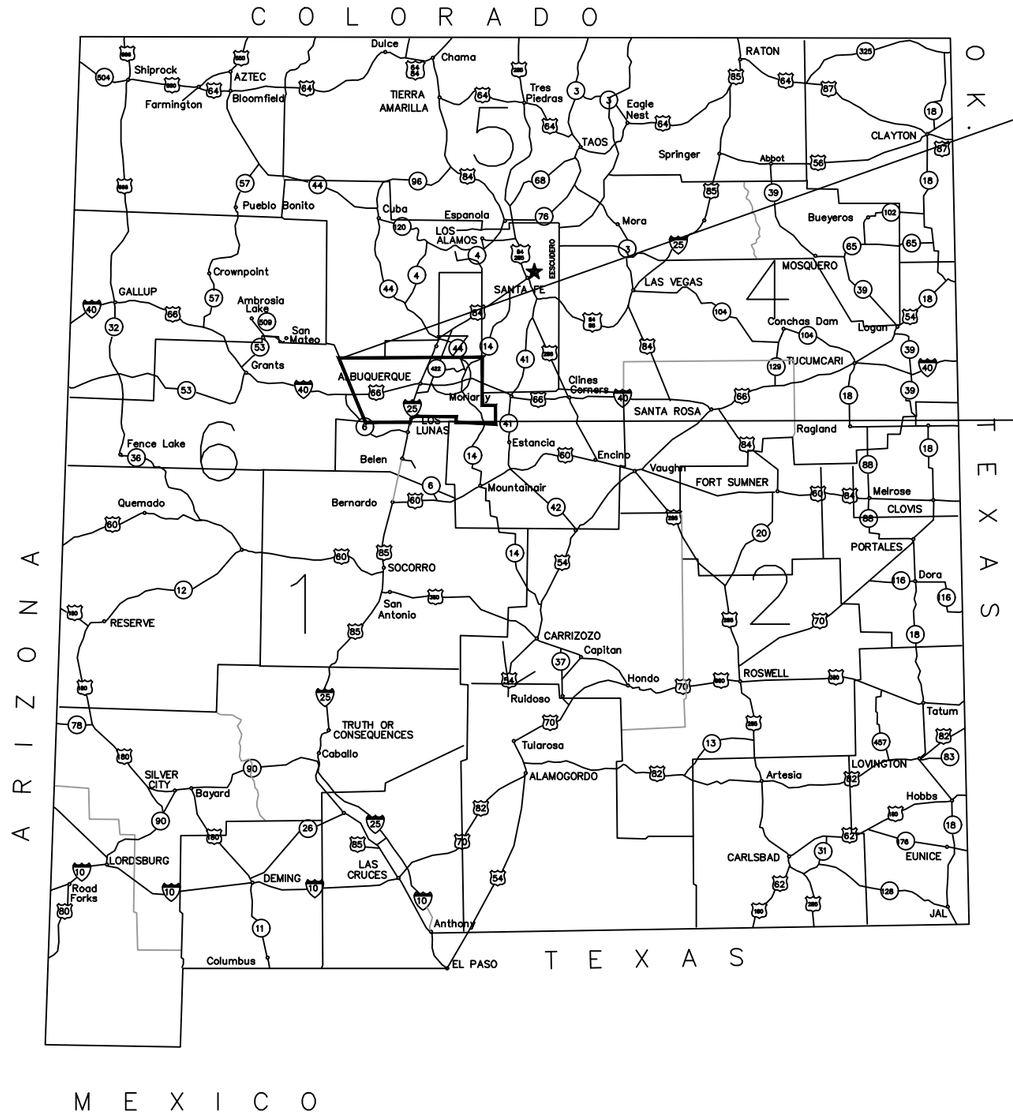
https://www.epa.gov/npdes/stormwater-discharges-industrial-activities-epas-2021-msgp

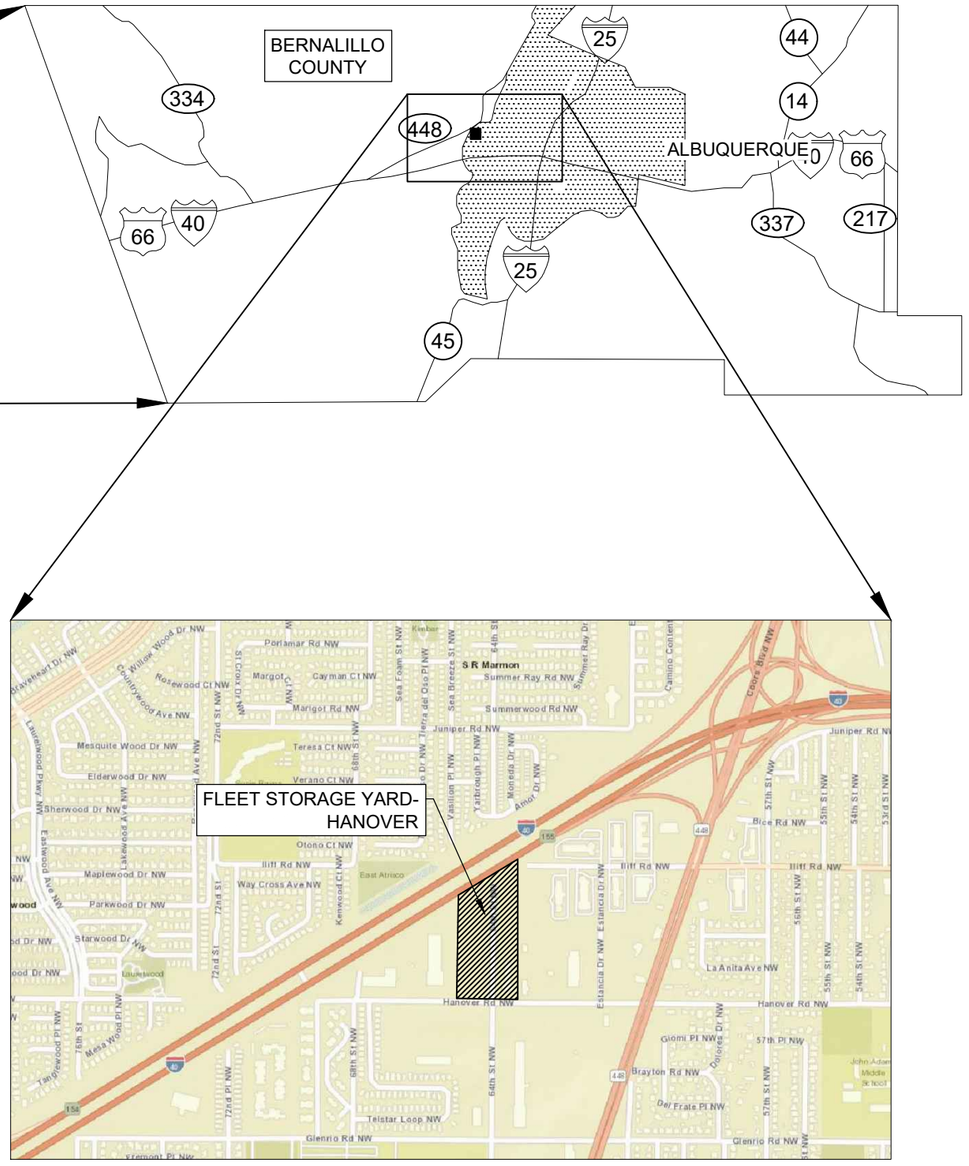
This Page Intentionally Left Blank

APPENDIX C
FIGURES

Figure 1 – Fleet Storage Yards - Hanover Facility General Location Map
Figure 2 – Fleet Storage Yards – Hanover Facility Site, Drainage and Activities Plan

This Page Intentionally Left Blank





D:\SWPPP Updates\DWG\Fleet Yards\Hanover_SWPPP_Fig1_033121.dwg May 13, 2021 - 2:41pm

CREATED BY:

City of Albuquerque Solid Waste Management Department
Storm Water Pollution Prevention Plan (SWPPP)
Fleet Storage Yard- Hanover (FSYH)

Figure No. 1
General Location Map

APRIL 2021

LEGEND

- POTENTIAL RUNON SOURCE
- STORM DRAIN INLET TO CABQ MS4
- 48” CABQ MS4 STORM DRAIN
- SURFACE WATER FLOW DIRECTION
- DRAINAGE BOUNDARY
- FACILITY BOUNDARY
- FYH01 OUTFALL/MONITORING POINT & ID #
- S SPILL RESPONSE MATERIALS
- GENERATOR
- EMPLOYEE PARKING
- 5.8 ACRES SIZE OF PROPERTY IN ACRES

NOTES:

1. WATER TREATMENT SYSTEM IS MONITORED AND MAINTAINED BY THE ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY (ABCWUA).
2. STORM WATER APPEARS TO DISCHARGE FROM THE WESTERN SIDE OF THE VEHICLE/BLUE FLEET PARKING LOT AND FROM THE SOUTHWESTERN CORNER OF THE ROLL-OFF BIN STORAGE AREA. BOTH DISCHARGES DRAIN TOWARD THE TWO STORM DRAINS LOCATED ALONG 64TH ST. WATTLES HAVE BEEN PLACED AROUND EACH STORM DRAIN INLET TO IMPROVE STORM WATER QUALITY. LATITUDES (LAT.) AND LONGITUDES (LONG.) ARE APPROXIMATE
3. STORMWATER DISCHARGES VIA A CULVERT NORTH OF THE I-40/CORONADO FREEWAY AND CONTINUES THROUGH AN AMAFCA WATER QUALITY FEATURE BEFORE DISCHARGING TO THE RIO GRANDE RIVER AT WEST BLUFF OUTFALL #16.
4. BERMING ADDED TO WEST BOUNDARY OF EAST LOT AND TO SOUTH BOUNDARY OF WEST LOT TO PREVENT RUNOFF INTO NEIGHBORING PROPERTY. WATTLES PLACED ALONG PERIMETER TO IMPROVE STORM WATER QUALITY.

MATERIAL HANDLING

1. VEHICLE/BLUE FLEET PARKING
2. ROLL-OFF BIN STORAGE
3. PORTABLE TOILETS

D:\SWPPP Updates\DWG\Fleet Yards\Hanover_SWPPP_Fig2_030821.dwg May 19, 2021 - 10:45am

CREATED BY:

City of Albuquerque Solid Waste Management Department
Storm Water Pollution Prevention Plan (SWPPP)
Fleet Storage Yard- Hanover (FSYH)

Figure No. 2
Site Plan
MARCH 2021

APPENDIX D
EVALUATION OF NON-STORM WATER DISCHARGES

This Page Intentionally Left Blank

Memorandum

To: *Kathy Verhage, P.E., Senior Engineer*
City of Albuquerque, Storm Drainage Design

From: *Shannon Archuleta*

Date: *April 28, 2021*

Subject: *2021 Evaluation of Non-Storm Water Discharges at Fleet Storage Yard - Hanover Facility*

Weston Solutions Inc. (Weston), on behalf of the City of Albuquerque (City) Storm Water Management Section, performed a visual assessment at the Fleet Storage Yard - Hanover Facility (FSYH) for the presence of non-storm water discharges as described in the Multi-Sector General Permit (MSGP). Weston performed the visual assessment at FSYH on April 28, 2021 for the presence of non-storm water discharges and facility updates. Photographs documenting the assessment are provided in **Attachment 1**. No non-storm water discharges were observed during the assessment.

Attachments

Attachment 1 – Photograph Log

City of Albuquerque

Soil Waste Management Department

Fleet Storage Yards - Hanover

Photograph Log

Site Visit Performed in April 2021

Created by:

	
Portable Toilets, Generator and Spill Kit in Blue Fleet Lot	Stormwater Control Measures – Wattles on East Perimeter of Blue Fleet Lot.

	
Stormwater Control Measures – Wattles on East Perimeter of Blue Fleet Lot.	Entrance Guard Shack.

	
Facility Entrance.	Blue Fleet Lot

	
Blue Fleet Lot	Blue Fleet Lot

	
Roll-off Storage Lot	Roll-off Storage Lot

	
Roll-off Storage Lot	Roll-off Storage Lot

	
FYH01	FYH01

	
FYH02	FYH02

APPENDIX E
BEST MANAGEMENT PRACTICES AND SPILL RESPONSE PLAN

This Page Intentionally Left Blank

City of Albuquerque - Solid Waste Management Department

Stormwater Pollution Prevention Plan

Best Management Practices

for the

Fleet Storage Yards – Hanover

Contents:

Prepared by:

CDM Smith

Updated by:

WESTON SOLUTIONS

This Page Intentionally Left Blank

BMP 1.0
Facility-Wide Best Management Practices

► PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from all industrial operations with potential to impact storm water.

► APPROACH TO EXISTING FACILITY ACTIVITIES:

GOOD HOUSEKEEPING

1.01 General

- Maintain exposed areas in a clean and orderly manner.
- Take necessary steps to prevent pollutants from contacting storm water.

1.02 Clean Exterior Equipment Surfaces

- Keep exterior surfaces of vehicles, equipment, and containers clean by eliminating excessive amounts of external oil and grease buildup.
- Use water-based cleaning agents or non-chlorinated solvents to clean equipment, and collect and properly dispose of cleaning fluids.
- Use drum-top absorbent pads to contain small leaks.

1.03 Recycle, Reduce, and Reuse

- Identify opportunities to recycle, reclaim, and/or reuse materials to reduce the volume of materials brought in to the facility and reduce the volume of waste.
- Materials that may be recycled or reused include used oil, grease, antifreeze, brake fluid, solvents, hydraulic fluid, batteries, transmission fluid, washwater, and waste fuel.

1.04 Product Substitution

- Use biodegradable products and substitute materials with less hazardous properties where feasible.

1.05 Limit Material Inventory

- Limit inventory of materials stored on-site to reduce the magnitude of potential spills and waste generation.

MINIMIZE EXPOSURE OF POLLUTANTS TO STORM WATER

1.06 Storm-Resistant Shelters

- Where practicable, industrial materials and activities should be protected by a storm-resistant shelter to prevent exposure.

PREVENTATIVE MAINTENANCE

1.07 Maintain As-built Drawings

- Maintain as-built prints for all projects.

► TARGETED ACTIVITIES:

- Activities not covered by other BMPs.

► TARGETED POLLUTANTS:

- Fuels, Oils, Grease
- Potable water system flushing fluids
- Solvents
- Soaps, Detergents
- Battery Acid
- Paint

► KEY APPROACHES:

- Keep outside areas maintained
- Store materials and equipment inside to the extent practical
- Conduct preventative maintenance
- Conduct regular inspections
- Train employees in storm water pollution prevention techniques
- Document storm water pollution prevention activities
- Maintain and post Spill Response Plans

1.08 Design for Pollution Prevention

- Work with design and construction project managers to incorporate storm water management features into project design.
- Evaluate existing facilities for opportunities to improve functionality and efficiency, and decrease the potential for storm water pollution.
- Features may include:
  - Appropriate surface grading
  - Containment and/or cover
  - Storm water quality structures (e.g., oil/water separators, dead-end sumps, first flush diversion basins)
  - Use of concrete paving rather than asphalt
  - Fluid recycling systems
  - Waste repositories
  - Other control measures to eliminate potential material exposure to storm water

SPILL PREVENTION AND RESPONSE

1.09 Spill Response Plans

- Post the plan in a visible location within each work area where spills are likely to occur.
- Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan, if required under guidelines set forth in 40 CFR, Section 112.3.

1.10 Maintain Spill Response Equipment and Supplies

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills maybe likely to occur, including on appropriate vehicles (maintenance vehicles) that may be likely to respond to or be involved in an incident.

1.11 Spill Containment and Response

- Immediately clean up all spills and leaks.
- Report all spills in accordance with facility specific spill response plan.
- Use drip pans to contain leaks and absorbent booms, mats, or other devices to contain liquid materials (washwater, fuel, etc.) and prevent them from entering the storm drain system.

1.12 Procedures for Cleaning Up Spills and Leaks

- Use absorbent materials and spill control equipment for temporary and immediate control of spills and leaks of liquid materials.
- Absorbent materials can be used in conjunction with curbing to provide cleanup of small spills within a containment area.
- Collect and remove absorbent materials from area soon after use and dispose of in an appropriate manner.
- Do not hose down the area unless the storm drain is blocked and drainage is collected and disposed of through a permitted connection to the sanitary sewer.

- Hazardous waste spill response must be consistent with 40 CFR 264 and 265(RCRA).

1.13 Disposal of Collected Fluids

- Properly dispose of any collected fluids (e.g., spill fluids, or fluids collected in fuel tanks, fueling hydrant sumps, oil/water separators, etc.) according to applicable regulations.
- Vacuum equipment/trucks are recommended for collection. Always dispose of materials in an approved manner; use an approved treatment facility through a permitted connection.
- Never discharge materials to a catch basin or storm drain.

1.14 Minimizing Exposure

- Where practicable, industrial materials and activities will be protected by a storm resistant shelter to prevent exposure to rain or runoff.

ROUTINE FACILITY INSPECTIONS

1.15 Activity Inspections

- Perform frequent activity inspections to identify and eliminate non-storm water discharges.
- Stagger inspection times to cover all work periods.

1.16 Storm Drain Inlet Inspections

- Perform quarterly visual inspections of discharge points into the storm drain system.
- Identify any non-storm water discharges, sediment, debris, or other potential contaminants that may be entering the storm drain system.

1.17 Inspections for Facility Upgrades

- Perform inspections during design review and project construction phases to ensure drainage, wastewater, and water supply connections are correct (no cross connections or illicit hookups).

1.18 Illicit Connections Inspections

- Perform construction phase, post-construction, and existing facility inspections to identify improper physical connections to the storm drain system from sanitary sewers, floor drains, industrial process discharge lines, and wash racks.

EMPLOYEE/CONTRACTOR TRAINING

1.19 General Employee Training

Provide the appropriate level of employee training in the following areas:

- Land transportation and warehousing environmental policies and procedures,
- Spill response and prevention,
- Storm water pollution prevention education,
- Right-to-know awareness training, and
- Hazardous materials management.

1.20 Storm Water Training

- Provide annual storm water management training as required in the MSGP-2015, Part 2.1.2.8.
- Incorporate required elements in training program and maintain a log of employee attendance.

1.21 Contractor Education

- Provide construction and operational contractors and haulers with copies of pertinent BMPs.
- Require contractor/hauler adherence to BMP specifications.
- Provide contractors and subcontractors with copies of relevant BMPs during specification and bidding phases.

1.22 SPCC Training

- Provide adequate implementation training for facilities with a Spill Prevention Control and Countermeasure (SPCC) Plan, if required, developed under guidelines set forth in 40 CFR 112.3.

MANAGEMENT OF STORM WATER RUNOFF

1.23 Outdoor Water Supplies

- Limit availability of outdoor water supplies.
- Post signs at outdoor water sources identifying appropriate uses and discouraging uses that would introduce pollutants to the storm drain system/receiving waters.

RECORDKEEPING AND REPORTING

1.24 Comply with Record Keeping and Reporting Requirements of the MSGP

- The record keeping and reporting requirements contained in the MSGP should be followed.

BMP 4.0
Vehicle and Equipment Storage

►PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from outdoor storage areas (i.e., fuels, chemicals, bagged material on pallets, soils or asphalt material bulk storage, etc.).

►APPROACH TO EXISTING FACILITY ACTIVITIES:

GOOD HOUSEKEEPING

4.01 Vehicles and Equipment Storage

- Use drip pans or specially-designed absorbent pads to contain releases.
- Repair leaks in an expeditious manner.
- Store vehicles and equipment in an area established to contain any incidental leaks and under cover, if possible.
- For long term storage (>30 days), remove fluids and salvage batteries (which often drip oil and other fluids).
- Clean oil, grease or chemical residue off exterior surfaces prior to long term storage.
- Store vehicles and equipment away from curbs, gutters and storm drains.

4.02 Temporary Parking of Tanker Trucks and Materials Transport Vehicles

- Designate areas for parking tanker trucks and material transport vehicles where spills and leaks can be contained and cleaned.
- Use covered loading and unloading areas for transfer of potential pollutants (especially liquid materials), such as building overhangs, to reduce exposure of materials, vehicles, and equipment to storm water.

►TARGETED ACTIVITIES:

- Fuel, Chemical, Equipment Storage

►TARGETED POLLUTANTS:

- Fuel, Oils, Grease
- Solvents
- Hydraulic Fluid
- Soaps, Detergents

►KEY APPROACHES:

- Store materials indoors or under cover
- Store drums, containers on pallets
- Provide berming or secondary containment
- Drain fluids before storage
- Perform and document periodic inspections
- Designate storage areas away from storm drains

BMP 4.0
Vehicle and Equipment Storage

►APPROACH TO FUTURE FACILITIES AND UPGRADES:

DESIGN OF NEW FACILITIES AND EXISTING FACILITY UPGRADES

- Require the use of appropriate water quality control structures for fuel and chemical storage areas such as detention/retention basins and sumps.
- Develop appropriate minimum performance standards for these water quality control structures and implement a reporting program to monitor the performance and maintenance of these structures.
- Chemical, fuel, and oil dispensing areas should be covered, if possible.
- Develop standard guidelines for the management of storm water which collects in secondary containment areas.

NOTE: See BMP 1.0 for generally applicable measures related to Preventative Maintenance, Training, Runoff Management, and Record Keeping and Reporting.

BMP 6.0
Fuel Storage and Delivery

►PURPOSE:

Prevent fuel spills and leaks, and reduce their impacts to storm water. Prevent or reduce the discharge of pollutants to storm water during fueling operations and fuel storage.

►APPROACH TO EXISTING FACILITY ACTIVITIES:

GOOD HOUSEKEEPING

6.01 Vehicle Fueling Station Signage

- Fuel pumps intended for vehicular use must be posted with prominent signs stating "No Topping Off" to prevent overflow.

PREVENTATIVE MAINTENANCE

6.02 Install Fuel Tank Monitoring and Release Prevention Systems

- Provide appropriate monitoring for tanks containing fuel (i.e., level indicators and gauges, overfill protection with alarms, interstitial leak detection for double-walled tanks, and routine inspection/lockout for drainage valves for containment areas).
- Fuel dispensing equipment should be equipped with "breakaway" hose connections that will provide emergency shut-down of flow should the fueling connection be broken through movement.
- Automatic shut-off mechanisms should be in place on fuel tankers. These valves should remain in the closed position unless manually opened during fueling.

SPILL PREVENTION AND RESPONSE

6.03 Preventing Pollutant Exposure When Fueling

- Cover nearby storm drains and outlets to surface drains with spill control mats or block off with absorbent booms to prevent accidental release of pollutants in the event of a spill.
- Avoid mobile fueling of equipment.
- Fuel equipment in designated areas, covered if possible.
- Maintain spill kits on fueling tankers.

►TARGETED ACTIVITIES:

- Vehicle and Equipment Fueling
- Fuel Storage

►TARGETED POLLUTANTS:

- Fuel

►KEY APPROACHES:

- Provide cover and berming or secondary containment for fueling areas
- Use absorbent materials and/or vacuum equipment for spills
- Perform and document periodic inspections
- Install proper equipment for fuel dispensing and tank monitoring to prevent spills, leaks, and overflows
- Post “No Topping Off” signs

BMP 6.0
Fuel Storage and Delivery

ROUTINE FACILITY INSPECTIONS

6.04 Fuel Storage and Handling Inspections

- Regularly inspect fueling areas and storage tanks. (Underground fuel storage tanks should be tested as required by federal and state laws.)

6.05 Fuel Spill Response Training

- Train employees performing fueling activities on the appropriate response procedures for fuel spills.

NOTE: See BMP 1.0 for generally applicable measures related to Preventative Maintenance, Training, Runoff Management, and Record Keeping and Reporting.

►APPROACH TO FUTURE FACILITIES AND UPGRADES:

DESIGN OF NEW FACILITIES AND EXISTING FACILITY UPGRADES

- Design fueling areas to prevent the run-on of storm water and the runoff of spills by employing the following approaches:
  - Cover the fueling area, if possible.
  - Use a perimeter drain or slope the fueling area to a dead-end sump or oil/water separator.
  - Pave the fueling area with concrete rather than asphalt.
- If storm water runoff from fueling areas is not collected, install an appropriately-sized oil/water separator. Regulatory agency approvals are required.
- Install and maintain vapor recovery systems where required and/or appropriate.
- New facilities shall be designed with leak detection, spill containment, and overfill protection in accordance with all federal regulations.
- Design facilities to include secondary containment where required and/or appropriate.

BMP 8.0
Structural Storm Water Controls

►PURPOSE:

Select, implement, and maintain structural storm water controls to manage the volume and/or quality of storm water leaving the property. Storm water volume controls should be installed to manage storm water volume by delaying, diverting, or reducing the amount of storm water runoff from the site. Storm water quality controls should be installed to prevent pollutants from contacting storm water or remove pollutants from storm water.

►EXISTING STORM WATER CONTROLS:

PREVENTATIVE MAINTENANCE

8.01 Routine Maintenance

- Perform regular cleaning of storm water control structures to ensure they are free and clear of debris and garbage.
- Remove accumulated sediment from control structures to prevent clogging of inlets and outlets. Accumulated sediment should be disposed of properly as pollutants are often attached to sediment particles.
- Clean storm drain covers and grates to remove accumulated debris. Check drain covers/grates for structural integrity.
- Replace adsorbent material within storm drain inserts, straw rolls, adsorbent booms, or other disposable media on a regular frequency to prevent accumulated storm water pollutants from being released.
- Maintain vegetation within drainage swales, ponds, and other structures.

ROUTINE FACILITY INSPECTIONS

8.02 Inspections

- Perform inspections of storm water control structures on a quarterly basis at minimum and after precipitation events.
- Inspections should cover:
    - Overall condition of the structure
    - Accumulation of sediment, vegetation, debris, and garbage at structure inlets, outlets, and within drainage ways
    - Integrity of the structure including damaged concrete or riprap
    - Evaluate erosion at and surrounding the control structure

SPILL PREVENTION AND RESPONSE

8.03 Protect Structural Controls from Spills

- Develop spill response plans to protect storm drains, storm water conveyance structures, and other structural controls from coming into contact with storm water pollutants.

►TARGETED ACTIVITIES:

- All activities

►TARGETED POLLUTANTS:

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics
- Oxygen Demanding

►KEY APPROACHES:

- Perform routine maintenance and inspections of structural storm water controls
- Install new storm water controls to protect storm water quality from existing or new activities

- Provide secondary containment, curbing, berms, or other physical means of separating chemicals and other potential storm water pollutants from storm water drainage and collection devices.

►SELECTION OF NEW STORM WATER CONTROLS:

STORM WATER VOLUME CONTROLS

8.04 Storm Water Volume Controls

- Determine volume of site storm water runoff or runon using the appropriate hydraulic analysis. Review potential storm water controls to ascertain whether the hydraulic conveyance threshold has been exceeded based on the quantitative results of the hydraulic analysis.
- Perform site assessment for the potential to incorporate low impact development strategies that will be effective in retaining storm water on site. Preference should be given to controls which retain storm water runoff and reduce the volume of storm water discharge to the downstream system.
- Select and evaluate the appropriate infiltration, harvest and use, or bioretention storm water controls:
  - Infiltration storm water controls: Infiltration trench, infiltration basin, bioretention basin with no underdrain, drywell, permeable pavement, and underground infiltration.
  - Harvest and use storm water controls: Cisterns and underground detention
  - Biotreatment storm water controls: Bioretention with underdrain, vegetated swale, vegetated filter strip, dry extended detention basin, wet detention basin, constructed wetland, and proprietary biotreatment.
- If possible use a treatment train of storm water controls to reduce uncertainty of effectiveness. Treatment train refers to the application of a series of storm water controls to improve effectiveness of the system.
- Install and locate storm water controls on site where most effective treatment is achieved.

STORM WATER QUALITY CONTROLS

- Select and evaluate the appropriate storm water control or combination of controls (treatment train) to improve storm water quality.
- Conduct a qualitative evaluation of site activities and potential pollutants generated on-site. In addition identify any pollutants causing impairment to receiving bodies of water that site storm water discharges to. Select storm water controls to minimize and reduce identified pollutants.
- Review removal efficiency of selected storm water control at one of the following URLs.
  - http://www.bmpdatabase.org/
  - http://water.epa.gov/polwaste/npdes/swbmp/
- Install and locate storm water controls on site where most effective treatment is achieved.

City of Albuquerque Solid Waste Management Department

Spill Response Plan

for the Fleet Storage Yard – Hanover Facility

Primary Facility Emergency Contact	**Eddie Kenton**	**505-379-0608**
Secondary Emergency Contact	**Angel Martinez**	**505-761-8107**
Fire/Ambulance/Police	**Emergency** **Non-Emergency**	**911** **505-242-2677**
Spill Cleanup Contractor	**ACT**	**505-349-5220**
Hospital	**Presbyterian**	**505-841-1234**

Immediately call 911 in the event of fire, potential fire, or other dangerous situation (1)

Isolate the Area Ensure Everyone is Safe (2)

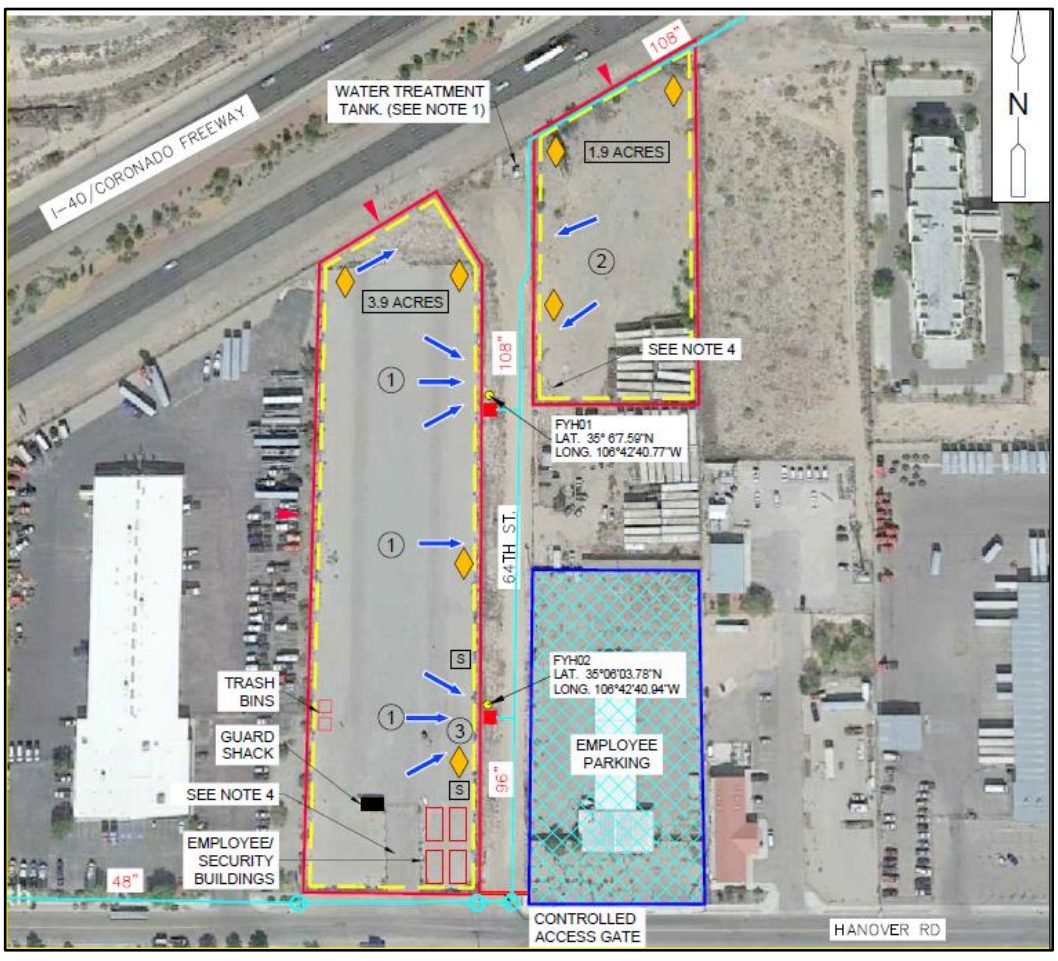
- Determine the Source of the Spill
- If safe, STOP the source of the spill
- Shut down all ignition sources and equipment
- Contain the source with berms, adsorbents, etc.
- Block Storm Drains

Contact Spill Response Contractor if spill is too large for Transit to handle (3)

- Document spill cleanup activities
- Dispose of used adsorbent material appropriately
- Decontaminate area and equipment
- Report Spill Appropriately
- Refer to SWPPP Plan for Reporting Requirements

Report All Spills Greater than 5 Gallons (4)

- Send email report to: Jake Daugherty ddaugherty@cabq.gov, Michael Buchanan mbuchanan@cabq.gov, And MS4Compliance@cabq.gov
- Report shall include: location, fluid spilled, volume spilled, and any important information such as soil or storm drain impacted.



LEGEND

- POTENTIAL RUNON SOURCE
- STORM DRAIN INLET TO CABQ MS4
- 48" CABQ MS4 STORM DRAIN
- SURFACE WATER FLOW DIRECTION
- DRAINAGE BOUNDARY
- FACILITY BOUNDARY
- Y1 OUTFALL/MONITORING POINT & ID #
- S SPILL RESPONSE MATERIALS
- GENERATOR
- EMPLOYEE PARKING
- 5.8 ACRES SIZE OF PROPERTY IN ACRES

NOTES:

1. WATER TREATMENT SYSTEM IS MONITORED AND MAINTAINED BY THE ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY (ABCWUA).
2. STORM WATER APPEARS TO DISCHARGE FROM THE WESTERN SIDE OF THE VEHICLE/BLUE FLEET PARKING LOT AND FROM THE SOUTHWESTERN CORNER OF THE ROLL-OFF BIN STORAGE AREA. BOTH DISCHARGES DRAIN TOWARD THE TWO STORM DRAINS LOCATED ALONG 64TH ST. WATTLES HAVE BEEN PLACED AROUND EACH STORM DRAIN INLET TO IMPROVE STORM WATER QUALITY. LATITUDES (LAT.) AND LONGITUDES (LONG.) ARE APPROXIMATE
3. STORMWATER DISCHARGES VIA A CULVERT NORTH OF THE I-40/CORONADO FREEWAY AND CONTINUES THROUGH AN AMAFCA WATER QUALITY FEATURE BEFORE DISCHARGING TO THE RIO GRANDE RIVER AT WEST BLUFF OUTFALL #16.
4. BERMING ADDED TO WEST BOUNDARY OF EAST LOT AND TO SOUTH BOUNDARY OF WEST LOT TO PREVENT RUNOFF INTO NEIGHBORING PROPERTY. WATTLES PLACED ALONG PERIMETER TO IMPROVE STORM WATER QUALITY.

MATERIAL HANDLING

1. VEHICLE/BLUE FLEET PARKING
2. ROLL-OFF BIN STORAGE
3. PORTABLE TOILETS

UPDATED BY:

WESTON SOLUTIONS

MAY 2021

APPENDIX F
TRAINING RECORDS

This Page Intentionally Left Blank

APPENDIX G
ENDANGERED AND THREANED SPECIES SCREENING MEMORANDUM

This Page Intentionally Left Blank

Weston Solutions, Inc.
3840 Commons Ave. NE
Albuquerque, NM 87109

(505) 837-6520
WestonSolutions.com

May 6, 2021

To: Jake Daugherty and Michael Buchanan, Environmental Compliance Coordinators
City of Albuquerque (COA) Solid Waste Management Department (SWMD)

Re: SWMD here in the COA Fleet Storage Yard – Hanover Facility Documentation of Eligibility with respect to Endangered Species for Coverage under the Multi-Sector General Permit (MSGP 2021) for Stormwater Discharges Associated with Industrial Activities

Dear Jake and Michael,

This eligibility determination is in support of the COA SWMD Notices of Intent (NOI) for coverage of the Fleet Storage Yard – Hanover Facility (FSYH) under the MSGP 2021 for Stormwater Discharges Associated with Industrial activity. As part of the Stormwater Pollution Prevention Plan (SWPPP) development for the FSYH, a review of the threatened and endangered species was performed with consideration to coverage previously held under the MSGP 2015. The purpose of this review is to verify if there are any species that have been placed on the U.S. Fish and Wildlife Service's (FWS) threatened or endangered species list for the Action Area.

Using the methodology outlined in Appendix E of MSGP 2021, the FSYH has been determined eligible for coverage under **Criterion C3** related to endangered species protection. This facility will require permit coverage under the MSGP 2021 and has not previously required eligibility with respect to Endangered Species Coverage under the MSGP 2015. Supporting documentation in relation to the endangered species data collected and the assessment of the potential effects of the FSYH discharges are attached to this letter.

It is essential that the Environmental Compliance Coordinators be up to date on the threatened and endangered species in the event that a discharge from the facility occurs that may affect these species. This information should be conveyed to all FSYH staff. Determination steps taken are described below:

Step 1: Determine if Eligibility Requirements of Criterion B, D or E can be met.

The listed Eligibility Requirements for B, D or E do not apply to the FSYH. Their activities are not covered under the eligibility certification of another operator for the action area (Criterion B). The FSYH is not eligible under Criterion D as the facility has not previously completed an Endangered Species Act (ESA) section 7 consultation. Additionally, the facility does not have a previously issued ESA section 10 permit (Criterion E).

Step 2: Determine the Extent of the Action Area

As per Appendix E of the MSGP 2021, the Action Area is defined as *"all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action."* The Action Area includes:

- Areas where stormwater discharges originate and flow from the industrial facility to the point of discharge into receiving waters;
- Areas where stormwater from industrial activities discharges into receiving waters and the areas in the immediate vicinity of the point of discharge;
- Areas where stormwater controls will be constructed and operated including any areas where stormwater flows to and from the stormwater controls; and

- Areas upstream or downstream from the stormwater discharge into a stream segment that may be affected by the discharges.

With consideration to all areas listed above, the Action Area for the FSYH has been delineated through the use of the FWS online mapping tool, *Information, Planning and Consultation System (IPaC)* (https://ecos.fws.gov/ipac/) and publicly available Maintenance Maps provided by the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) (https://amafca.org/maps-2/). The Action Area includes the facility property, City and State Agency storm drains and channels that receive and convey the stormwater discharges from the facility property to the receiving water for all discharges related to FSYH. The City and State Agency storm drains and channels that convey the stormwater discharges and receiving waters include:

- West Bluff Pond and, ultimately, the Rio Grande.

Step 3: Determine if Listed Threatened and/or Endangered Species and Critical Habitats are Present in the Action Area

Through the consultation of *IPaC*, a site-specific list of threatened or endangered species and critical habitats was created for the Action Area. Based on the results there are a total of 5 threatened, endangered, or candidate species on this species list. Additionally, a critical habitat was found to partially lie within the Action Area. Refer to **Table 1** for a list of Threatened or Endangered Species found in the Action Area.

Table 1: Threatened or Endangered Species in FSYH's Action Area

Common Name	Scientific Name	Species Group	Listing Status	Critical Habitat
New Mexican Meadow Jumping Mouse	*Zapus hudsonius leteus*	Mammal	Endangered	Not within Action Area
Mexican Spotted Owl	*Strix occidentalis lucida*	Bird	Threatened	Not within Action Area
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	Bird	Endangered	Not within Action Area
Yellow-billed Cuckoo	*Coccyzus americanus*	Bird	Threatened	Not within Action Area
Rio Grande Silvery Minnow	*Hybognathus amarus*	Fish	Endangered	Action Area Overlaps with Critical Habitat.

Step 4: Determine if EYMF's Discharge or Discharge-Related Activities are likely to Adversely Affect the Listed Threatened and/or Endangered Species or Designated Critical Habitat and Any Measures That Must be Implemented to Avoid Adverse Effects

Information provided for each threatened or endangered mammal and bird support that the Action Area associated with FSYH is not within each species critical habitat. It has been concluded that the industrial activities conducted by the facility are unlikely to have direct impacts with these species or their habitats, as each have not been located within the geographic area of the facility.

The Rio Grande Silvery Minnow has a critical habitat that overlaps with the Action Area. Resources found on the FWS website indicate that the fish are known or likely to be present, but the Rio Grande Silvery Minnow is unlikely to have direct impacts from the facility's industrial activities because the drainage travels approximately 1.5 miles through numerous City Drains after discharging from the site. Additionally, the FSYH facility has

conducted numerous stormwater quality preventative measures, such as installing berms to contain sheet flow and runoff from the facility and installation of straw wattles to improve the quality of water leaving the site, to ensure that the discharge that leaves from the site will not negatively affect the critical habitat of the Rio Grande Silvery Minnow.

The discharge point from the site, FYH01 and FYH02, will additionally be monitored during precipitation events to ensure that the stormwater discharge leaving the site is not impaired.

Very truly yours,

Shannon Archuleta
Environmental Scientist
Weston Solutions, Inc.

Attachments

cc: Criterion C Eligibility Form

IPaC Threatened or Endangered Species Consultation, FSYH, May 6, 2021

Criterion C3 Eligibility Form

Instructions:

In order to be eligible for coverage under criterion C3, **you must complete the Endangered Species Protection section of the Notice of Intent in the NPDES eReporting Tool (NeT-MSGP)**. Per Part 7.1, you must submit your NOI electronically via NeT-MSGP, unless the EPA Regional Office grants you a waiver from electronic reporting, in which case you may use this paper Criterion C3 form. If using the paper form, 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 C3.

If after completing this worksheet you cannot make a determination that your discharges and discharge-related activities are not likely to adversely affect ESA 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 ESA-protected 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:** Michael Buchanan

   b) **Point of Contact**

   First Name: Eddie **Last Name:** Kenton

   Phone Number: 505-761-8381

   E-mail: ekenton@cabq.gov

2) **Facility Information**

   a) **Facility Name:** Fleet Storage Yards - Hanover

   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(s) the facility has been in operation: _____ year(s)

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 2021 MSGP:

SIC Code _____ or Primary Activity Code _____

Sector _____ and Subsector _____

e) Identify the sectors of any co-located activities to be covered under the 2021 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:	
Discharge Point ID	**Design Capacity (if known)**	**Latitude (decimal degrees)**	**Longitude (decimal degrees)**	**Name of the receiving water that receives stormwater from the discharge point and/or from the MS4 that the discharge point discharges to**	**Type of Waterbody (e.g., lake, pond, river/stream/creek, estuarine/marine water)**
FYH01		35º 06' 07.59" N	106 º 42 ' 40.77" W	Rio Grande	River
FYH02		35 º 06 ' 03.78" N	106 º 42 ' 40.94" W	Rio Grande	River

SECTION II. ACTION AREA

As required in Step 2 of Section E.4 of Appendix E, You must include a map and a written description of the action area of your facility in Attachment 1 of this appendix.

SECTION III. LISTED SPECIES AND CRITICAL HABITAT LIST

As required in Step 3 of Section E.4 of Appendix E., 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.

Review your species list in Attachment 2, choose one of the following three statements, and follow the corresponding instructions:

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.

☐ 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.**

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 2021 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.

B. In order to ensure any discharge-related activities will have no likely adverse effects on ESA-listed threatened and endangered 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 and these activities will not occur within critical habitat.

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 affects you should consider:

- *Hydrological Effects.* Stormwater discharges may adversely affect receiving waters by causing changes in water quality parameters such as turbidity, temperature, salinity, or pH. Stormwater discharges may adversely affect the immediate vicinity of the discharge point through streambank erosion and scour. 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 due to exposures to multiple stressors at the same time. In addition, stormwater pollutants identified in Part 6.2.3.2 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 to make a determination of whether your discharges will likely have 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 (see Part 8). You must also document the controls you will implement to avoid adverse effects on listed aquatic and aquatic-dependent species and critical habitat. You must include specific details about the expected effectiveness of the controls in avoiding adverse effects to the listed aquatic-and aquatic-dependent species and critical habitat. Attach additional pages if needed.

Potential Pollutant Source	**Potential Pollutants**	**Controls to Avoid Adverse Effects on Listed Aquatic and Aquatic-Dependent Species and Critical Habitat.** 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
e.g., **vehicle and equipment fueling**	***e.g.,*** • **Oil & grease** • **Diesel** • **Gasoline** • **TSS** • **Antifreeze**	***e.g.,*** • **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 and Critical Habitat.
Vehicle and Equipment Storage	Motor oil, antifreeze, coolant, grease/lubricant, hydraulic fluid, diesel, and gasoline.	Storage of vehicles and equipment is on compacted asphalt millings and the storage area is bermed with millings to prevent contaminants from leaving the site. Vehicles and equipment are regularly inspected for leaks.
Equipment Fueling	Diesel and/or gasoline, fuel additive.	Fueling is carries out on the compacted asphalt millings and in designated areas with spill mats and spill kits nearby.

Potential Pollutant Source	Potential Pollutants	Controls to Avoid Adverse Effects on Listed Aquatic and Aquatic-Dependent Species and Critical Habitat.
☐ 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 2021 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 2015 MSGP of any required benchmark(s) or numeric effluent limits. I comply with the applicable monitoring requirements and have not had any exceedances

☐ My facility has had exceedances of one or more benchmark(s) or numeric effluent limits under the 2015 MSGP, but I have addressed them during my coverage under the 2015 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 2015 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 provided information supporting 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 provide information supporting 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

Only if the applicable EPA Regional Office has granted you a waiver from electronic reporting, 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 threatened and endangered species or designated 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 of Section E.4 of Appendix E. 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 list(s) of species and critical habitat in your action area on this sheet, as required in Step 3 of Section E.4 of Appendix E. You must include a list for applicable listed NMFS and USFWS 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 USFWS species, include the USFWS Official Species List full printout from your IPaC query (including the consultation code and event code at the top of the FWS printout). *Note: If your Official Species List from the USFWS indicated no species or critical habitat were present in your action area, include the consultation code and event code that can be found at the top of your Official Species List in your NOI basis statement. If an Official Species List was not available on IPaC, list the contact date, the ecological services field office and the 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.*

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542
http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To: May 06, 2021
Consultation Code: 02ENNM00-2021-SLI-0938
Event Code: 02ENNM00-2021-E-02231
Project Name: 2021 MSGP SWPPP - Hanover Fleet Storage Yard Facility

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with

Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment(s):

- Official Species List
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Project Summary

Consultation Code: 02ENNM00-2021-SLI-0938
Event Code: 02ENNM00-2021-E-02231
Project Name: 2021 MSGP SWPPP - Hanover Fleet Storage Yard Facility
Project Type: Guidance
Project Description: 6401 Hanover Dr NW, Albuquerque, NM 87121 and the flow of discharge off the facility to point of discharge to impaired waters; Documentation of Eligibility with respect to Endangered Species Coverage under the Multi-Sector General Permit (MSGP 2021) for Stormwater Discharges Associated with Industrial Activities.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.104996650000004,-106.7067569260743,14z

Counties: Bernalillo County, New Mexico

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Rio Grande Silvery Minnow *Hybognathus amarus*	Endangered

Population: Wherever found, except where listed as an experimental population
There is **final** critical habitat for this species. Your location overlaps the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/1391

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Rio Grande Silvery Minnow *Hybognathus amarus*	Final

https://ecos.fws.gov/ecp/species/1391#crithab

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-chinned Sparrow *Spizella atrogularis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31

NAME	BREEDING SEASON
Brewer's Sparrow *Spizella breweri* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9291	Breeds May 15 to Aug 10
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
Golden Eagle *Aquila chrysaetos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31

NAME	BREEDING SEASON
Pinyon Jay *Gymnorhinus cyanocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15
Rufous Hummingbird *selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Virginia's Warbler *Vermivora virginiae* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441	Breeds May 1 to Jul 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Willow Flycatcher *Empidonax traillii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

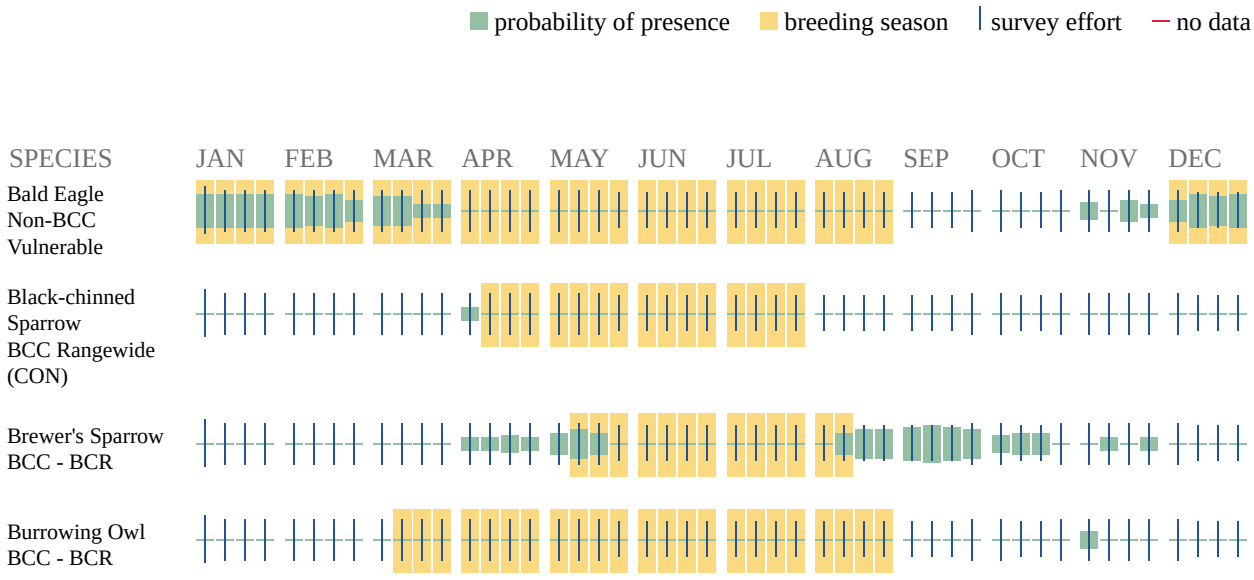
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

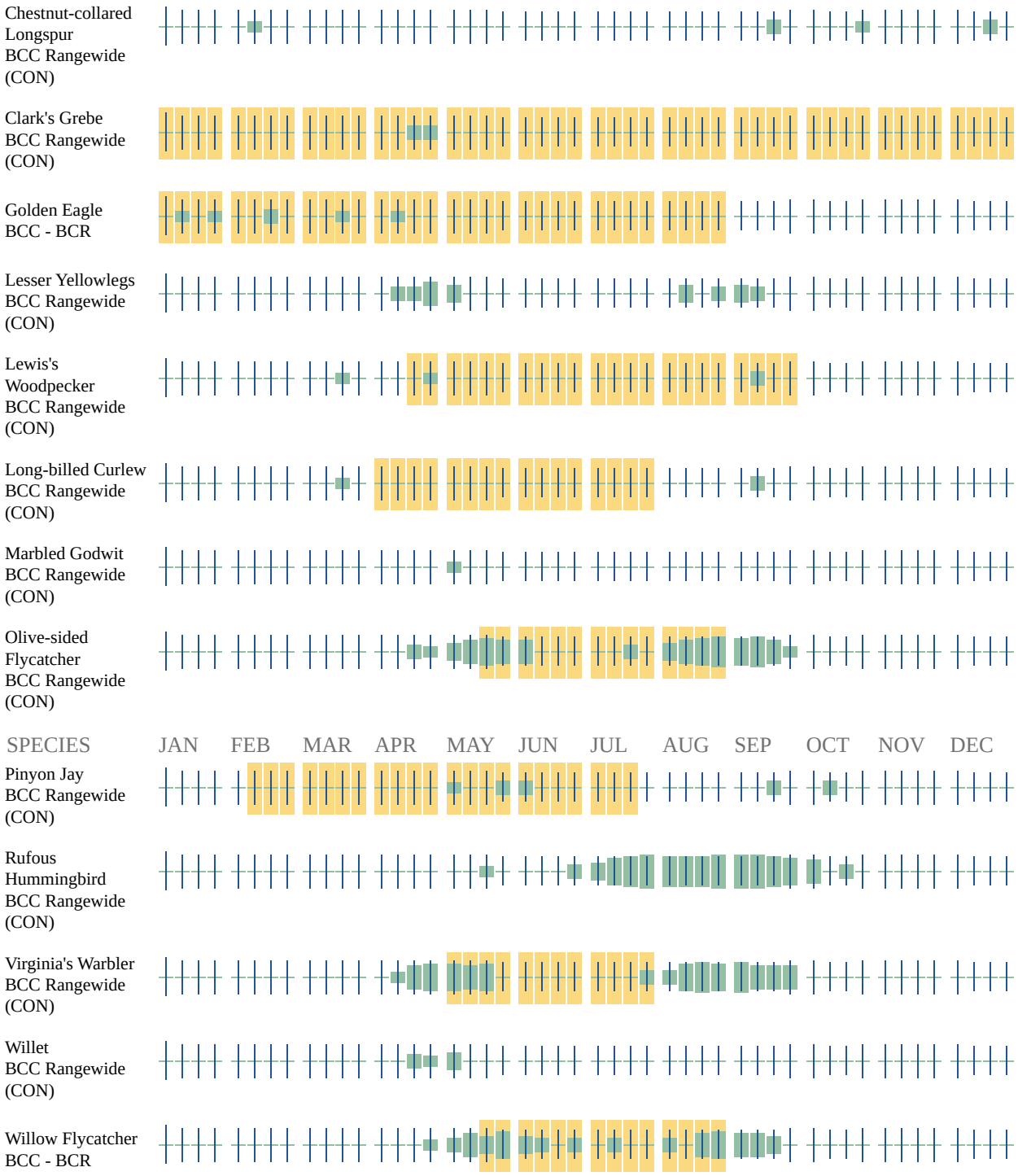
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

APPENDIX H
HISTORIC PROPERTIES PRESERVATION SCREENING MEMORANDUM

This Page Intentionally Left Blank

Weston Solutions, Inc.
3840 Commons Ave. NE
Albuquerque, NM 87109

(505) 837-6520
WestonSolutions.com

May 6, 2021

To: Jake Daugherty and Michael Buchanan, Environmental Compliance Coordinators
City of Albuquerque (COA) Solid Waste Management Department (SWMD)

Re: City of Albuquerque Fleet Storage Yard - Hanover Storm Water Pollution Prevention Plan Eligibility Screening for the National Historic Preservation Act

Dear Jake and Michael,

On behalf of the City of Albuquerque (COA), Weston Solutions Inc. (Weston) presents the results of the determination of eligibility for the SWMD Department's Fleet Storage Yard – Hanover Facility, regarding the National Historic Preservation Act (NHPA), for coverage under the Multi-Sector General Permit (MSGP 2021) for Storm Water Discharges associated with Industrial Activity.

A search of historic places was conducted using the National Register of Historic Places Database and Research (https://www.nps.gov/subjects/nationalregister/database-research.htm) and included all historic properties located in Albuquerque, NM from 1966 to 2012. As a result of this search, there are no historic properties located within the facility or on the adjacent properties, and thus, discharges from the facility do not have the potential to influence any known historic properties. The facility does not have plans to install any new storm water control measure in the area; therefore, the facility meets the eligibility of **Criterion A**.

Criterion A is described as follows:

> *Your storm water discharges, and allowable non-storm water discharges do not have the potential to have an effect on historic properties and you are not constructing or installing new storm water control measures on your site that cause subsurface disturbance.*

Very truly yours,

Shannon Archuleta
Environmental Scientist
Weston Solutions, Inc.

APPENDIX I
COPY OF THE NOTICE OF INTENT, ACKNOWLEDGEMENT LETTER AND DELEGATION OF AUTHORITY LETTER

This Page Intentionally Left Blank

CITY OF ALBUQUERQUE

Office of the Mayor/ Chief Administrative Officer

September 15, 2015

U.S. Environmental Protection Agency, Region 6
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue Suite 1200
Dallas, TX 75202-2733

Re: Delegation of Signatory Authority for City of Albuquerque, National Pollutant Discharge Detection and Elimination System (NPDES) Permits

To Whom It May Concern:

As the Chief Administrative Officer (CAO) of the City of Albuquerque (COA), in accordance with Federal Regulations 40 CFR 122.22(b), I hereby delegate the following positions to be Certifying Officials for the purposes of reporting under the COA's federal permits with the U.S. Environmental Protection Agency. These federal permits include: (1) General Permit NMR04A000 for its Municipal Separate Storm Sewer System (MS4); (2) Multi-Sector General Permit (MSGP) NMR05000 for its Transit and Solid Waste Facilities and; (3) Construction General Permit (CGP) for COA public projects.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Chief Administrative Officer

- Annual Report for the Municipal Separate Storm Sewer System (MS4) Permit
- Requests for changes to the COA's Storm Water Management Program (SWMP)

Engineering Division Manager

- Data Monitoring Reports (DMRs) for the MS4 Permit
- Certification of Storm Water Pollution Prevention Plans (SWPPPs) and Annual Reports for general facilities as needed under the MSGP
- Certification of eNOIs general facilities as needed under the MSGP

Transit Director

- Data Monitoring Reports (DMRs) for Transit facilities
- Certification of Storm Water Pollution Prevention Plans (SWPPPs) and Annual Reports under the MSGP for Transit facilities
- Certification of eNOIs under the MSGP for Transit facilities

Solid Waste Director

- Data Monitoring Reports (DMRs) for Solid Waste Facilities
- Certification of Storm Water Pollution Prevention Plans (SWPPPs) and Annual Reports under the MSGP for Solid Waste Facilities
- Certification of eNOIs under the MSGP

Department of Municipal Development (DMD) Construction Management Managers

- Certification of SWPPPs for DMD and Capital Implementation Program (CIP) projects under the CGP
- Certification of eNOIs for DMD and CIP projects under the CGP

Parks & Recreation (Parks) Construction Managers, Supervisors, or Superintendents

- Certification of SWPPPs for CIP and Parks projects under the CGP
- Certification of eNOIs for CIP and Parks projects under the CGP

DMD and Parks Construction Managers, Supervisors, Superintendents, or Inspectors

- Construction Site Inspection Forms for DMD, CIP, and Parks projects under the CGP

This letter designates positions of signatory authority rather than naming specific individuals who hold the designated positions. The COA has chosen this method of delegating signatory authority to ensure consistency in meeting permit requirements during staff changes.

I understand the role and responsibilities of the COA as they relate to the MS4 permit and have selected individuals in these positions because of their understanding and knowledge of the permit requirements, including stormwater certification for construction personnel.

Best Regards,

Robert J. Perry
Chief Administrative Officer

Electronic cc: Wilfred Gallegos, P.E.; Director, DMD
Melissa Lozoya, P.E.; Deputy Director, DMD
Bryan Wolfe, P.E., Construction Services Division Manager, DMD
David Harrison, P.E., Construction Services Section Manager, DMD
Ron Romero, P.E., Engineering Division Manager, DMD
Ralph Saiz, Construction Manager, Parks Construction Division, DMD
Keith Reed, P.E., Deputy Director, Parks
Bruce Rizzieri, Director, Transit
John Soladay, Director, Solid Waste
Jill Holbert, Associate Director, Solid Waste

APPENDIX J
DOCUMENTATION OF MAINTENANCE TO CONTROL MEASURES

This Page Intentionally Left Blank

APPENDIX K
DOCUMENTATION OF CORRECTIVE ACTION TAKEN

This Page Intentionally Left Blank

APPENDIX L
SAMPLE AND ANALYSIS PLANS

This Page Intentionally Left Blank

APPENDIX M
REPORTS

M1- Quarterly Routine Facility Inspections

M2 – Quarterly Visual Storm Water Assessment

M3 – EPA Industrial Storm water Sampling Guidance

M4 – Annual Report Example

M5 – Sampling Data Reports

This Page Intentionally Left Blank

M1 – QUARTERLY ROUTINE FACILITY INSPECTIONS

This Page Intentionally Left Blank

M2 – QUARTERLY VISUAL STORM WATER ASSESSMENT

This Page Intentionally Left Blank

M3 – EPA INDUSTRIAL STORM WATER SAMPLING GUIDANCE

This Page Intentionally Left Blank

EPA 832-B-09-003

Industrial Stormwater Monitoring and Sampling Guide

March 2009

Final Draft

Acknowledgements

All photos are courtesy of Tetra Tech, Inc. Sampling illustrations in Section 2 are courtesy of Washington Department of Ecology's guide on *How To Do Stormwater Sampling: A guide for industrial facilities* (available at http://www.ecy.wa.gov/pubs/0210071.pdf)

Final Draft
Prepublication Copy

A formatted version of this guide will be available in April, 2009.

Industrial Stormwater Monitoring and Sampling Guide

The Industrial Stormwater Monitoring and Sampling Guide ("guide") is a how-to primer for industrial facility operators on how to conduct visual and analytical monitoring of stormwater discharges. The target audience is operators of facilities subject to the U.S. Environmental Protection Agency's (EPA) 2008 Multi-Sector General Permit (2008 MSGP) or a similar State-issued industrial stormwater permit. The information presented will also be useful to anyone interested in industrial stormwater monitoring. The procedures presented in this guide, specifically related to monitoring methodology and quality assurance, will help ensure that stormwater samples yield usable information.

The 2008 MSGP covers specific industrial activities (see Appendix D of the 2008 MSGP, available at www.epa.gov/npdes/msgp) in States, territories, and Indian Country lands where EPA is the National Pollutant Discharge Elimination System (NPDES) permitting authority (i.e., in those States or territories not authorized to issue NPDES permits themselves – see Appendix C of the 2008 MSGP).

This guide does not impose any new legally binding requirements on EPA, States, or the regulated community, and does not confer legal rights or impose legal obligations upon any member of the public. In the event of a conflict between the discussion in this document and any statute, regulation, or permit, this document would not be controlling.

Monitoring vs. Sampling. **In this guide, "sampling" refers to the actual, physical collection and analysis of stormwater samples. The term "monitoring" refers to both sampling and visual observations of stormwater discharges, including the related preparation and documentation tasks.**

Interested parties are free to raise questions and objections about the substance of this guide and the appropriateness of the application of this guide to a particular situation. EPA and other decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from those described in this guide where appropriate.

1. Introduction to Stormwater Monitoring and Sampling

Most industrial stormwater permits require installation and implementation of control measures to minimize or eliminate pollutants in stormwater runoff from your facility. The control measures you choose for your facility must be documented in your facility-specific Stormwater Pollution Prevention Plan (SWPPP). The results of your stormwater monitoring will help you determine the effectiveness of your control measures, and overall stormwater management program. Evaluation of your stormwater management program will include inspections, visual assessments, and monitoring (i.e., sampling) of specified stormwater discharges. Regular stormwater inspections and visual assessments provide qualitative information on whether there are unaddressed potential pollutant sources at your site, and whether existing control measures are effective or need to be reevaluated. Stormwater sampling provides quantitative (i.e., numeric) data to determine pollutant concentrations in runoff and, in turn, the degree to which your control measures are effectively minimizing contact between stormwater and pollutant sources, and the success of your stormwater control approach in meeting applicable discharge requirements or effluent limits.

The following are the types of industrial stormwater monitoring requirements typically included in industrial general permits:

- **Visual Assessments of Discharges.** Permittees are required to regularly and frequently (e.g., quarterly under the 2008 MSGP) take a grab sample during a rain event and assess key visual indicators of stormwater pollution – color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other qualitative markers of pollution. The findings of these assessments are used to trigger further facility inspections and corrective actions to modify problems found at the site.

- **Indicator or Benchmark Sampling**. Stormwater samples are collected from a site's discharge points (or outfalls) for laboratory analysis and the results are compared with benchmark pollutant concentrations as an indicator of the performance of stormwater control measures. A benchmark pollutant concentration is a level above which a stormwater discharge could adversely affect receiving water quality (and control measures must be evaluated) and, if below, the facility is not expected to have an impact on receiving water quality. This type of monitoring differs from "compliance monitoring" (see below) in that exceedances of the indicator or benchmark levels are not considered violations, but rather "red flags" that could point to a problem at the site with exposed pollutant sources or control measures that are not working correctly. For instance, the 2008 MSGP includes "benchmarks" that are based to a large degree on EPA's aquatic life criteria. Where the average of samples taken over four consecutive quarters exceed the applicable benchmark concentration of a particular pollutant, the permittee is required to investigate whether the higher pollutant levels can be attributed to some pollutant source or faulty control measure(s), and to address such problems through corrective action and possibly further monitoring.

- **Compliance Sampling.** Where a facility is subject to one of the Federal effluent limitation guidelines (ELGs) addressing limits on stormwater runoff, sampling is required to determine compliance with those limits. Table 1 provides a list of the current applicable effluent limitation guidelines.

Table 1. Applicable Effluent Limitations Guidelines (2008 MSGP Part 2.1.3)

Regulated Activity	40 CFR Part/Subpart
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I
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
Runoff from asphalt emulsion facilities	Part 443, Subpart A
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, or D
Runoff from hazardous waste landfills	Part 445, Subpart A
Runoff from non-hazardous waste landfills	Part 445, Subpart B
Runoff from coal storage piles at steam electric generating facilities	Part 423

These limits are required to be included in all general industrial permits. Typically, permits require corrective action and further sampling when an effluent limitation is exceeded. An exceedance of an applicable effluent limitation guideline constitutes a violation of the permit.

- **Monitoring Requirements for Discharges to Impaired Waters** - General industrial permits may have special monitoring requirements for facilities that discharge pollutants of concern into impaired waters.

For an explanation of these monitoring requirements in the 2008 MSGP see Part 6.2. Part 8 of the 2008 MSGP includes the benchmark and effluent limitation guideline monitoring requirements for each of the industrial sectors affected by such requirements.

2. Preparation for Monitoring

This section describes the information you will need before monitoring. While this guide is meant to be a general primer for anyone interested in industrial stormwater monitoring, Section 2 follows the organization of the 2008 MSGP. Many State general permits are very similar to the 2008 MSGP. It is EPA's hope that this format will be of use to permittees in most states. However, if you are subject to a State industrial general permit, you should compare your permit's monitoring requirements to the requirements reflected in this guide to ensure that you are following all applicable State requirements.

In general, preparation is critical to make sure that industrial stormwater monitoring is conducted properly and in a timely manner. Most of this information should have been collected previously for the purposes of submitting your permit application or Notice of Intent (NOI), and in developing the monitoring procedures section of your stormwater pollution prevention plan (SWPPP). However, this guide reviews some of the steps necessary to develop this information, such as the site map component of the SWPPP, in case facilities have not already done so. If you have already completed any of these steps in this section, you can skip to the next application section or subsection in this guide. For more information on how to develop a SWPPP, refer to EPA's guide *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, available on EPA's website at www.epa.gov/npdes/stormwater/msgp.

If you have already submitted your NOI, the following documents will serve as good resources for information that you will need prior to monitoring:

- A copy of your NOI or application submitted to EPA or a State, and your assigned permit registration number.

- A copy of the EPA/State response to your NOI/permit application submission if it includes specific details pertaining to your monitoring (e.g., pollutants required to be monitored, frequency of monitoring, benchmark or compliance sampling requirements, etc.).

- A copy of your applicable permit, including the accompanying fact sheet.

- A complete copy of your SWPPP, which must include a detailed site map of your facility with locations of all stormwater monitoring points, and a description of the procedures you or your

stormwater pollution prevention team will follow when conducting monitoring and visual assessments.

2.1 Determine Where Stormwater Is Discharged From Your Property

If you have not already done so, walk the grounds and perimeter of your facility during a storm event to identify where runoff discharges from the site (known as "outfalls"). Outfalls are locations where stormwater exits the facility property, including pipes, ditches, swales, and other structures that transport stormwater. If possible, walk outside the boundary of your facility to identify outfalls that may not be apparent from within your site.

Stormwater discharges to the slot drain and is conveyed offsite through a valved pipe.

You should note where:

- Concentrated stormwater exits your facility (e.g., through a pipe, ditch or similar conveyance). These outlets are usually good sampling points.

- Dispersed runoff (i.e. sheet flow) flows offsite (e.g., through a grassy area or across a parking lot). Note whether concentrated flows commingle with the sheet flow.

- Storm drain inlets or catch basins are located. Try to determine where the storm drains send your runoff (e.g., to your municipal separate storm sewer system [MS4], to a combined sewer system, to the separated sanitary sewer, or directly to a nearby waterbody).

- Authorized non-stormwater discharges commingle with stormwater prior to discharge (such commingled discharges may be covered under your permit).

- Areas where stormwater might enter your facility from neighboring facilities and commingle with your stormwater discharges.

Terms to Know:

Combined Sewer System: Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies.

MS4: A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) which are owned and operated by a … public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes … that discharges to waters of the United States; designed or used for collecting or conveying stormwater; which is not a combined sewer; and which is not part of a publicly owned treatment works (POTW). [40 CFR 122.26(b)(8)].

Mark these locations on your facility site map, which will be included as part of your SWPPP, and label each outfall location with unique identifiers to differentiate them. For example, you may decide to name the different outfalls according to where the stormwater is being discharged, such as MS4-1, MS4-2, etc. for outfalls discharging to the MS4 or ST-1, ST-2, etc. for outfalls discharging directly to an adjacent stream. Using unique identifiers will help you to coordinate monitoring requirements.

In addition to marking the outfalls on the map, you will need to determine the drainage area for each discharge point. If your facility is large and has significant changes in elevation, a topographic map may be necessary. However, if your facility is small and relatively flat, the best way to define the drainage area for each outfall is an on-the-ground visual assessment, preferably during a rain event. Sketch the basic drainage areas on the map for each outfall. Knowing the drainage area for each outfall is helpful when your sampling indicates problems at that outfall. You can focus your efforts on the industrial materials and activities in that drainage area, instead of the entire site, to identify what may be causing the problem.

2.2 Determine Where You Will Collect Samples

Now that you have determined the different points of discharge from your site, you will need to select the exact locations from which you will be collecting your stormwater samples. Note that Part 5.1.5.2 of the 2008 MSGP requires industrial operators to document in their SWPPPs the location where samples will be collected. Generally, industrial stormwater permits require that you sample stormwater discharges prior to the stormwater leaving your facility, and at a location downstream from all of your industrial materials and activities. The reason behind requiring such a location is so that the sample is

representative of your facility's discharge, taking into account the types of pollutants that may be contained in runoff from the property.

Appropriate sample locations include:

- Underground pipes that collect stormwater from drop inlets and convey stormwater to an offsite location (e.g., street, curb or MS4). Be sure you collect only the stormwater discharging from your facility and not the baseflow in the pipes that is being discharged from facilities upstream. Do not enter underground locations to collect samples. Use a pole with a sampling container attached at the end to collect the sample.

- Open ditches, gutters or swales that carry stormwater from your facility to an offsite location. If these conveyances contain runoff from another facility, it is important to note that in your SWPPP;

- Facility driveways and other street access points; and

- Outlets discharging offsite from onsite stormwater detention ponds or other types of structural control measures. It is important to sample at the OUTLET of your structural control measures, as opposed to the INLET of such structures, in order to determine the quality of the water after treatment.

Where to Sample When There Are Multiple Discharge Points

You are required to monitor all outfalls that receive stormwater discharges from your industrial activity. See Part 6.1.1 of the 2008 MSGP. If you have multiple stormwater discharge points at your facility, you need to identify which outfalls are associated with industrial materials and activities, and monitor those outfalls. Understanding the hydrologic connection between your outfalls and the parts of your facility that drain to those points, and the pollutants associated with the industrial activities in these areas, will assist you in designing a monitoring program that is representative of the pollutants being discharged from your site. Developing such an understanding will also help later on when you begin to assess your sampling results and determine where improvements could be made to your stormwater control measures. The site map you prepare (see Part 5.1.2 of the 2008 MSGP) will help you understand the correlation between your areas of potential pollutant sources, the direction of stormwater flow from those areas, and the discharge points.

Note that you are not required to monitor at outfall locations that receive stormwater flow only from unregulated areas of your site (i.e., there are no industrial materials or activities in the drainage area). For instance, a hypothetical facility may have two outfalls, one that receives discharges from an area where industrial materials are handled and stored, and a second outfall that receives discharges from an unregulated parking lot used by employees. In this scenario, the industrial permittee would only collect samples from the first outfall because it discharges stormwater associated with industrial activity. Alternatively, if the site's second outfall (e.g., the outfall receiving runoff from the parking lot) also drains areas of the facility with regulated industrial activities, then this outfall would also need to be sampled. In this situation, sampling for this outfall should be done at a location prior to where the two flows commingle so that you are capturing the industrial portion of the flow. See Part 6.1.2 of the 2008 MSGP.

Where to Sample if Outfalls Are Substantially Identical

If your facility has two or more outfalls whose discharges are "substantially identical," some industrial stormwater permits, including the 2008 MSGP, allow you to monitor the discharge at just one representative outfall and apply the results to the other substantially identical outfalls. EPA defines "substantially identical" in the 2008 MSGP as follows:

> "… 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 …." See Part 6.1.1 of the 2008 MSGP.

The flexibility provided to permittees to sample at just one location, which is considered representative of all substantially identical outfalls, is an exception to the rule stated above that samples must be taken from all outfalls at a facility. Note that this exception does not apply to compliance monitoring (effluent limitation guideline monitoring), which must be conducted at each outfall to which the effluent guideline applies.

In choosing which of the substantially identical outfalls from which to sample, you should select the outfall that has been observed to have the most consistent flow. To use the substantially identical outfall exception, you must document in your SWPPP how the two or more outfalls are substantially identical, based on the above definition. You will need to document the following information:

- The locations of the outfalls;
- Estimated size of the drainage area (in square feet) for each outfall;
- General industrial activities conducted in the drainage area of each outfall;
- Control measures being implemented in the drainage area of each outfall;
- Why the outfalls are expected to discharge similar stormwater; and
- An estimate of the runoff coefficient of the drainage areas (0.0 no runoff potential to 1.0 all precipitation runs off).

The runoff coefficient is the ratio of excess runoff to the amount of precipitation for a given time over a given area, with a 0 (zero) runoff coefficient meaning no runoff potential and 1.0 (one) meaning a completely impervious surface and all stormwater runs off. The runoff coefficient is related to the amount of impervious surfaces (buildings, pavement, sidewalks, etc.) versus pervious surfaces (grass,

graveled areas, etc.) at the site. The more impervious surface a facility has, the larger the runoff coefficient. Light industrial facilities typically have a runoff coefficient between 0.50 and 0.80 and heavy industrial facilities typically have a runoff coefficient between 0.60 and 0.90.

Here is an example where a facility could take advantage of the "substantially identical outfalls" exception: a metal recycling facility with a large scrap metal pile has three separate outfalls that are each connected by their own drainage ditch to different portions of the same pile, and the runoff that is discharged is managed using the same type of control measure in each drainage area. In this scenario, the facility's operator can use the "substantially identical outfall" exception because the industrial activities at the site are all the same, the runoff flows through exposed areas that presumably contribute the same type of pollutants, and the drainage area has the same or similar runoff coefficients. Note that the substantially identical outfall exception could not be used if there were in fact differences in any of the required components defined above.

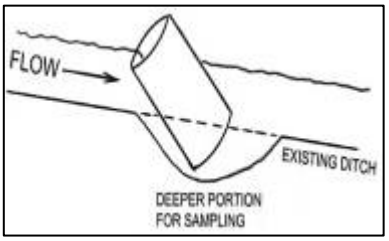
If your permit does allow you to use a substantially identical outfall exception, make sure you carefully review the type of monitoring for which this exception applies. For instance, while the 2008 MSGP allows permittees to use the substantially identical outfall exception for benchmark and visual assessment samples, the permit prohibits use of this exception for compliance monitoring (e.g., for use in showing compliance with numeric effluent limitation guidelines). Therefore, if a facility permitted under the 2008 MSGP is subject to a numeric limit based on an EPA effluent limitation guideline, it would have to monitor all outfalls at the site receiving flows from the applicable industrial activities. See Part 6.2.2.2 of the 2008 MSGP.

Where to collect a sample

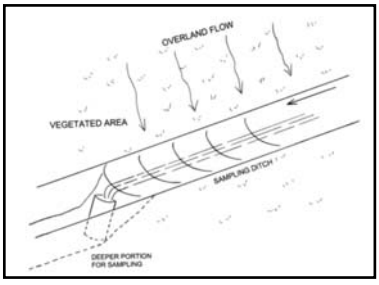
Sampling Sheet Flow

In some areas of your facility it may be difficult to obtain a sample because the runoff drains as sheet flow before it becomes concentrated enough for sampling. If the flow is too shallow to directly fill a collection bottle, you can overcome this by:

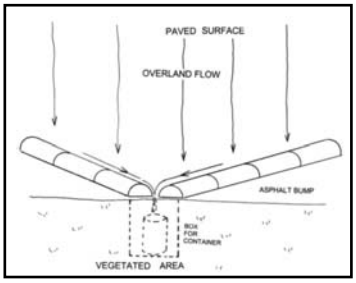
- Concentrating the sheet flow by excavating a small depression in an existing ditch or other location where stormwater runoff flows.



- Installing a trough, gutter or ditch to intercept and concentrate stormwater flow.



- Installing “speed” bumps to convey and concentrate a large area of sheet flow.



Collecting a sheet flow stormwater sample.

You should make these modifications during a period when rain is not forecast so any pollutants generated can be cleaned up before a storm hits. Also, if you dig a ditch or disturb the earth in some way, line the disturbance with concrete or plastic so that you do not contaminate your stormwater samples with sediment or other pollutants.

Sampling from a Pipe

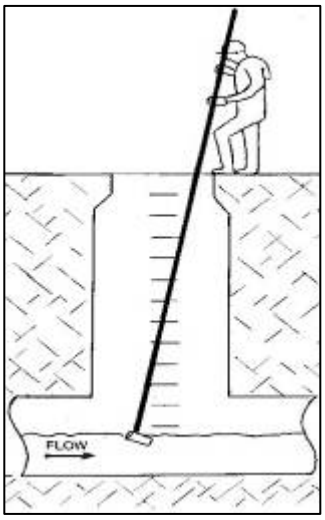
For runoff flowing through a pipe into a ditch or receiving water, you should sample the outflow directly from the pipe. For hard-to-reach pipes, it may be necessary to fasten a collection bottle to a pole (see Sampling from a Manhole in Table 2 below).

When collecting any type of stormwater sample it is imperative that the sample is collected before the stormwater reaches the receiving water.

Sampling From a Drainage Ditch or Swale

If your stormwater is discharged via a drainage ditch or vegetated swale, take a grab sample from a consistently flowing part of the ditch / swale. If the ditch / swale is too small or shallow, install a barrier device in the channel or deepen a small area so you are able to sample directly into the bottles. Allow sufficient time to pass after disturbing the bottom so that any solids stirred up do not contaminate your sample.

Sampling From a Stormwater Detention / Retention Basin or Other Treatment Device



If it is necessary for you to sample from a detention or retention basin, do so at the outfall of the structure. Collecting samples from stagnant or slowly moving water inside a pond will not yield a representative sample as the pollutants might not be adequately mixed. Stormwater basins may hold stormwater for long periods of time. Collect your sample within 30 minutes from when the pond begins to discharge.

Potential Sampling Issues

Depending on the location of your monitoring points, you may encounter additional challenges beyond deciding which sampling technique to employ at each site. Table 2 identifies some stormwater sampling problems common to industrial facilities and guidance for how EPA suggests you address them if they occur at your site.

Table 2. Solutions to Typical Stormwater Sampling Problems

Problem	Solution
Run-on from Neighboring Properties	Ideally, your stormwater samples will contain only runoff from your site. However, stormwater from a neighboring facility can "run on" and commingle with your own regulated discharge, possibly adding contaminants not found at your facility. You are responsible for any and all pollutants discharged from your site irrespective of the pollutants' origin and whether the other facility has permit coverage. This responsibility includes run-on discharges from neighboring properties if this discharge commingles with your own regulated discharge. To accommodate stormwater run-on, EPA requires as part of the SWPPP site description that you document the locations and sources of run-on. As part of this documentation, if you collect and analyze samples of the run-on, you will need to report all such findings in your SWPPP.
Stormwater from industrial areas commingles with stormwater discharges from non-industrial areas or areas not regulated under the MSGP before it reaches the surface water body or MS4.	Attempt to sample the industrial stormwater discharge before it mixes with stormwater from non-industrial areas.
Adverse Weather Conditions	High tides and high flow or flood conditions can cause stormwater conveyances to reach maximum capacity, pipes to become clogged or submerged, and other unrepresentative flow situations. High flows could also be dangerous, so you should use your best professional judgment when selecting sampling locations. In some cases you may need to sample at a point before the intended outfall location.
There are numerous stormwater outfalls in one area.	Construct an impound channel or join together flows by building a weir or digging a ditch to collect discharge at a low point for sampling purposes. This artificial collection point should be lined with plastic to prevent infiltration and the introduction of

Problem	Solution
	sediment. Or, alternatively, sample at several locations to represent total site runoff.
The outfall is inaccessible (examples include underwater discharges or unreachable discharges such as a pipe discharging out of a cliff).	Go upstream of the discharge until a sample can be taken (i.e., to the nearest manhole or inspection point). You may need to sample at several locations to best represent runoff from this discharge point if you cannot access an upstream location.
A facility has many sampling locations making it difficult to collect all of the samples during the first 30 minutes of discharge, as required by the 2008 MSGP.	Have a sampling crew ready when storms are forecast so that all outfalls can be sampled during the first 30 minutes. Also, automatic samplers may be used to collect samples within the first 30 minutes, triggered by the amount of rainfall, the depth of flow, flow volume or time.
A stormwater sample location is beneath a manhole.	For accessibility and safety, use a sampling pole to collect samples from a manhole. Before a person can enter a manhole to collect a sample, they must be trained in confined space entry.
Stormwater from more than one industry type is commingled.	You must comply with monitoring requirements for all applicable sectors and SIC codes.

2.3 Determine Which Types of Monitoring Requirements Apply At Each Outfall

The next step in preparing for monitoring at your site is to determine the type of monitoring requirements that correspond to each outfall. The type of monitoring requirements to which you are subject will differ according to your permit. Different monitoring requirements may also apply to individual outfalls on your property based on the type of industrial activity discharging to that point, and even the receiving water to which you are discharging. Using your permit, determine the type of monitoring requirements to which your specific facility is subject, and document in your SWPPP the specific monitoring requirements that applies to each outfall, including the frequency of monitoring and the specific parameters that must be monitored.

Recall that it is not necessary to monitor an outfall if it does not have any industrial activity associated with it (e.g., discharge from an employee parking lot that does not commingle with stormwater runoff from an area of industrial activity) or if the outfall does not drain to a surface water (i.e. the outfall drains to a sanitary sewer or combined sewer system).

The following applies to the types of monitoring required under the 2008 MSGP. If you are not subject to the 2008 MSGP, consult your State permit to determine your monitoring requirements.

- ***Visual Assessments*** (Part 4.2 of the 2008 MSGP) – All 2008 MSGP permittees are required to collect samples of their stormwater discharge for visual inspection. The following qualitative characteristics must be assessed:

    - color;
    - odor;
    - clarity;
    - floating solids;
    - settled solids;
    - suspended solids;
    - foam;
    - oil sheen; and

- other obvious indicators of stormwater pollution.

Visual assessments must be conducted at all outfalls, although if several outfalls are "substantially identical" then only one visual assessment must be conducted on the set of outfalls. The sampling frequency for visual assessments under the 2008 MSGP is quarterly. The monitoring quarters are: January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31.

- ***Benchmark Monitoring*** (Part 6.2.1 of the 2008 MSGP) – This type of analytic monitoring applies to certain industrial sectors regulated under the 2008 MSGP. Permittees subject to these requirements must take periodic grab samples of their stormwater discharge to compare the concentrations of key indicator pollutants to their corresponding benchmark concentrations. The benchmark values are based in large part on EPA's aquatic life water quality criteria and are meant to serve as indicators of how well a facility's stormwater control efforts are working. If a particular benchmark is exceeded, this indicates to a permittee that there may be a problem at the site, such as a spill, exposed pollutant source, or a faulty control measure, and triggers a required review of the potential problem to determine what corrective actions are necessary. For example, a total suspended solids (TSS) concentration found in a benchmark sample of greater than 100 mg/L, which is the applicable benchmark concentration for TSS, would require a facility to re-evaluate and potentially revise control measures implemented to control dust, soil erosion, or other sources of suspended solids. Note that the exceedance of the benchmark is not a violation (because benchmarks are typically not enforceable limits), but the failure to conduct the follow-up investigation and applicable corrective actions would be a violation of the permit.

Be sure to update your SWPPP and site map whenever you change or add new control measures. Control measure maintenance activities must be documented (preferably in a log), and such records must be kept with your SWPPP and stormwater file.

Determine whether you are subject to any benchmark monitoring requirements based on your particular industrial sector or subsector. The benchmark monitoring requirements differ based on the sector or subsector under which a particular facility falls. Note that not all sectors are subject to this type of monitoring. Appendix D in the 2008 MSGP provides the Standard Industrial Classification (SIC) code and activity codes categorized by sectors and subsectors. Use Appendix D to link your industrial activities with their associated SIC code sectors / subsectors. Your facility will have a primary industrial activity and associated SIC or activity code (which is the major determinant of your permit requirements), and, possibly, additional secondary sectors / subsectors with additional requirements for which you must comply. Next, using Part 8 of the 2008 MSGP, under your particular sector or subsector, determine whether you are subject to any benchmark monitoring requirements, and the corresponding benchmark that applies. Consider the following example: if you operate a gold mine (subsector G2) you are subject in Part 8.G.8.2 to the following benchmark monitoring requirements:

Table 3. Subsector G-2.		
Subsector (Discharges may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Cutoff 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)[1]	no benchmark value
	Total Antimony	0.64 mg/L
	Total Arsenic	0.15 mg/ L
	Total Beryllium	0.13 mg/L
	Total Cadmium[1]	Hardness Dependent
	Total Copper[1]	Hardness Dependent
	Total Iron	1.0 mg/L
	Total Lead[1]	Hardness Dependent
	Total Mercury	0.0014 mg/L
	Total Nickel[1]	Hardness Dependent
	Total Selenium	0.005 mg/L
	Total Silver[1]	Hardness Dependent
	Total Zinc[1]	Hardness Dependent

Based on this table, you then know the pollutant parameter for which you must conduct benchmark monitoring, and the corresponding benchmark concentration against which you will compare each individual grab sample. Each sector or subsector subject to benchmark monitoring requirements includes a similar table in Part 8 of the 2008 MSGP.

After you have determined which (if any) benchmark sampling requirements apply, document in your SWPPP which outfalls are subject to such requirements, the frequency of monitoring, and the parameters that must be analyzed. If your facility has multiple outfalls, be aware that there may be different requirements for different outfalls depending on the type of industrial activity conducted in the drainage area of each outfall. You are only required to conduct benchmark monitoring for those outfalls with discharges from the specific sectors / subsectors that are affected by such requirements. Where an outfall includes no discharges from those sectors or subsectors for which benchmark monitoring requirements apply, then no benchmark samples need to be taken at that outfall.

The required benchmark monitoring frequency under the 2008 MSGP is quarterly. The monitoring quarters, beginning with the first quarter on April 1, 2009 are: April 1 – June 30, July 1 – September 30, October 1 – December 31 and January 1 – March 31.

Exceptions for Inactive and Unstaffed Sites (Part 6.2.1.3 of the 2008 MSG) – The requirement for benchmark monitoring does not apply to inactive and unstaffed facilities, providing there are no industrial materials or activities exposed to stormwater. This exception only applies to benchmark monitoring requirements and not to the other types of monitoring described above.

To claim this special exemption, you must note on the next quarterly benchmark monitoring report that your facility is inactive and unstaffed, and you must keep an inactive and unstaffed certification onsite (see Part 4.2.1.3). The requirement for conducting a quarterly visual assessment also does not apply inactive and unstaffed sites, as long as there are no industrial materials or activities exposed to stormwater. If you are invoking the exception for inactive and unstaffed sites, maintain a signed and certified statement onsite with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater.

Hardness-Dependent Benchmarks (Appendix J of the 2008 MSGP) **–** The benchmark values of some metals are dependent on the level of hardness in your receiving waters (see 2008 MSGP, Appendix J). Hardness is a characteristic of water that results from the presence of dissolved salts, especially calcium sulfate or bicarbonate, and is usually reported as carbonate, noncarbonate or calcium + magnesium (Ca + Mg). If you are required to monitor for a hardness-dependent pollutant, you must first determine the hardness of your receiving water before you can establish the corresponding benchmark concentration.

- ***Effluent Limitations Monitoring*** (Part 6.2.2 of the 2008 MSGP) – Eight of the 2008 MSGP's 29 industrial sectors are required to monitor to determine if they comply with EPA-defined effluent limitation guidelines. These monitoring requirements are included in Part 8 of the 2008 MSGP. Effluent limitation guidelines are legally enforceable limitations that must not be exceeded in stormwater discharges.

  Similar to the benchmark monitoring requirements, samples only need to be taken at those outfalls with discharges from the specific activities that are subject to effluent limitation guidelines; otherwise these requirements do not apply. As stated previously, permittees subject to these monitoring requirements must take samples at all applicable outfalls, and no exceptions are given for substantially identical outfalls. However, if you are required to monitor a pollutant both for benchmark and effluent limitation guideline purposes, you only need to take one sample for both requirements.

When monitoring requirements overlap, e.g., TSS once per year for an effluent limit and once per quarter for benchmark monitoring, you may use a single sample to satisfy both monitoring requirements (i.e., one of your four quarterly benchmark samples would be used for your yearly effluent limit sample).

Table 4 identifies the industrial activities that are subject to effluent limitation guideline monitoring requirements and the associated sampling parameters. Effluent limitation guideline samples must be taken once per year (see Part 8 of the 2008 MSGP for the numerical values of each effluent limit).

Table 4. Required Monitoring for Effluent Limitations Guidelines

Regulated Activity	Where in 2008 MSGP	Sector	Effluent Limit Parameters
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 8.A.7	A	debris, pH
Runoff from phosphate fertilizer manufacturing facilities	Part 8.C.4	C	total P, fluoride

Regulated Activity	Where in 2008 MSGP	Sector	Effluent Limit Parameters
Runoff from asphalt paving and roofing emulsion facilities	Part 8.D.4	D	total suspended solids (TSS), oil and grease, pH
Runoff from material storage piles at cement manufacturing facilities	Part 8.E.5	E	TSS, pH
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 8.J.9	J	TSS, pH
Runoff from hazardous waste landfills	Part 8.K.6	K	biochemical oxygen demand (BOD_5), TSS, ammonia, alpha terpineol, benzoic acid, p-cresol, phenol, total recoverable zinc, pH, aniline, naphthalene, pyridine, total recoverable chromium,
Runoff from non-hazardous waste landfills	Part 8.L.10	L	biochemical oxygen demand (BOD_5), TSS, ammonia, alpha terpineol, benzoic acid, p-cresol, phenol, total recoverable zinc, pH
Discharges from coal storage piles	Part 8.O.8	O	TSS, pH

Determine whether you are subject to any effluent limitation guideline monitoring requirements. Document in your SWPPP which outfalls are subject to such requirements, the frequency of monitoring, and the parameters that must be analyzed.

- ***Impaired Waters Monitoring*** (Part 6.2.4 of the 2008 MSGP) – The 2008 MSGP requires facilities to monitor, at least in the first year of permit coverage (and yearly thereafter depending on the sample results in the first year), for the presence of any pollutant causing an impairment to their receiving water. This requirement is triggered regardless of whether the particular pollutant is used or stored at the industrial site; however the facility may be able to discontinue monitoring after the first year if the pollutant is not present in the sample and is not expected to be present in any discharge. In advance of conducting this monitoring, you should already have a good idea of whether the pollutant will be found in your discharge. When you developed your SWPPP, you conducted a complete inventory of your site to determine what pollutants or pollutant constituents could be discharged in stormwater runoff. See Section 3.1 of EPA's guide, *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, particularly the discussion about conducting an "Inventory of Materials and Pollutants". Using this inventory from your SWPPP, you will be able to determine if any materials stored or used at your facility could contribute to impairment of your receiving water.

  The next section of this guide includes specific steps to help you determine if you are subject to impaired waters monitoring requirements. After following those steps, document in your SWPPP which outfalls are subject to impaired waters monitoring requirements, the frequency of sampling, and the parameters that must be monitored.

- ***State / Tribal Monitoring Requirements*** (Part 6.2.3 of the 2008 MSGP) – The 2008 MSGP includes a number of additional monitoring requirements that are unique to individual States

and/or Indian Country lands. These requirements are set out in Part 9 of the permit. These requirements may include additional or more frequent benchmark monitoring requirements, alternative benchmark thresholds, or additional parameters that must be monitored to establish compliance with applicable water quality standards.

Based on the State or Indian Country land in which they are located, each 2008 MSGP permittee must consult the applicable Part 9 section to determine what, if any, additional monitoring requirements apply. If you are subject to such requirements, you must document in your SWPPP which outfalls are subject to these provisions, the frequency of applicable sampling, and the parameters that must be monitored

- ***Additional Monitoring Required by EPA –*** It is possible EPA may require additional monitoring (see 2008 MSGP Part 6.2.5). You will be notified by the Agency if additional monitoring is required.

2.4 Determine if Your Facility is Subject to Impaired Waters Monitoring Requirements

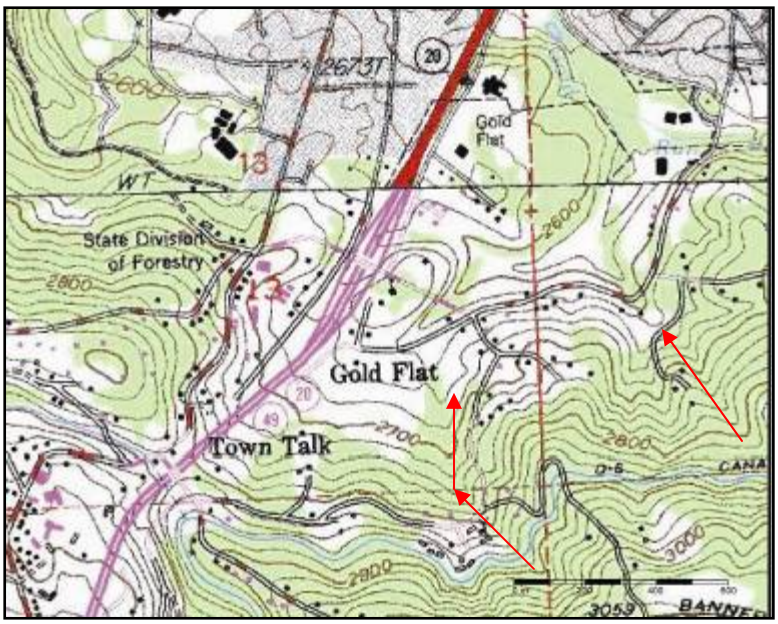
If you are required by your industrial stormwater permit to monitor for pollutants that cause impairment to your receiving water, you must first identify the receiving waters (e.g. ditch, creek, intermittent stream, lake, arroyo, etc.) into which your facility discharges stormwater and mark them on your site map. Note that you will have already identified your receiving waters if you filed an NOI to be covered by the 2008 MSGP.

A. Identify Your Receiving Water(s)

Do these monitoring requirements apply to me if I discharge into a dry ditch?
Yes, if the ditch eventually conveys the runoff to a waters of the United States.

There are several ways to identify your receiving waters. Your receiving water may be a lake, stream, river, ocean, wetland or other waterbody, and may or may not be located adjacent to your facility. Your facility might discharge directly into its receiving water, or indirectly to the receiving water by discharging first through an MS4, ditch, or other conveyance.

If the discharge from your facility does not discharge into an underground storm sewer system, you can use your site map and local topographic maps to pinpoint the closest waterways. Using the contours on the topographic map and your facility's outfall locations, determine the direction stormwater runoff flows from your facility. Once you know the direction of flow, you should be able to identify the receiving waters into which you discharge.



Sample section of a U.S.G.S. quadrangle map, with arrows showing direction of flow.

After identifying where your stormwater enters a waterbody, identify any additional interconnected waters for at least one linear mile downstream from the entrance point of your discharge (in case there are concerns about impacts to these downstream waters).

Resources to help you identify receiving waters:

- EPA's Water Locator Tool (available at www.epa.gov/npdes/stormwater/msgp) allows you to locate nearby receiving waters and impaired waterbodies within a 10 mile radius of your facility.

- EPA's Enviromapper (www.epa.gov/enviro/emef) enables you to find nearby waterbodies by entering your facility's zip code, address, facility name or identification number, EPA Region, watershed, or latitude/longitude data. Additional information on the location of impaired waterbodies can also be obtained.

- Topographic maps, which can be obtained from the U.S. Geological Survey (USGS) at http://topomaps.usgs.gov/ordering_maps.html, or through a retailer.

If your stormwater drains into an MS4, you will likely need to contact the operator of the system (e.g., the local public works department, the highway department, etc.) to identify the first receiving water your stormwater is released to after entering the MS4. Some MS4s have their storm sewer infrastructure maps available online.

Remember, the MS4 into which your facility's stormwater discharges is NOT your receiving water. The first waterbody that the MS4 discharges to after receiving your stormwater is the receiving water for your facility.

B. Determine if Your Receiving Water is Impaired and Whether a TMDL Has Been Completed

Once you have identified your receiving water(s), you will need to find out if the waterbody is impaired, and, if so, whether a total maximum daily load (TMDL) has been approved or established.

- **Water quality impairment status.** You need to determine whether your facility's receiving water is listed by your State as impaired and/or has an approved or established Total Maximum Daily Load (TMDL). EPA's Water Locator Tool (available at www.epa.gov/npdes/stormwater/msgp) will help find impaired waters within a 10 mile radius of your facility. Another place to check is EPA's website on Water Quality Assessment and TMDL information (www.epa.gov/waters/ir) or you can also contact your State water agency (cfpub2.epa.gov/npdes/contacts.cfm?program_id=6&type=STATE).

"Impaired waters" are streams, rivers, and lakes that do not currently meet their applicable designated uses and water quality standards. States, territories, and authorized tribes are required under the Clean Water Act to compile lists of known impaired waters, called 303(d) lists. Stormwater discharges to impaired waters may trigger additional control measures and monitoring requirements. For facilities subject to EPA's 2008 MSGP, see Part 2.2 for a more detailed discussion of water quality-based effluent limitations and conditions for discharging to impaired waters.

If your receiving water is impaired, use EPA's Water Locator Tool or Water Quality Assessment and TMDL website, or a State agency to help you determine:

- For what pollutant(s) is the water impaired? Make a separate list of all pollutants that have caused your waterbody to be impaired.

- Has an approved TMDL been completed for each of the pollutants? Some TMDL documents include information suggesting the type of monitoring that should be conducted to improve the understanding of the impairment or to demonstrate achievement of applicable wasteload allocations (WLAs).

C. Determine What Monitoring Requirements Apply

Having determined the pollutants that cause the impairment, you should now consult your permit to determine the type of monitoring that must be conducted, the frequency of monitoring, and whether any exceptions apply to certain pollutants. As discussed in Section 2.3 above, this must all be documented in your SWPPP so that it is clear which requirements apply to which outfall.

The 2008 MSGP lists several exceptions to and clarifications of the requirement to monitor for each impairment pollutant. In Part 6.2.4.1 of the 2008 MSGP, the permit clarifies that no monitoring is required when a waterbody's biological communities are impaired but no pollutant is specified as causing the impairment, or when a waterbody's impairment is related to hydrologic modification, impaired hydrology, or temperature. The permit also clarifies that monitoring is only required for pollutants for which a standard analytical method exists as defined in 40 CFR Part 136. In addition, certain exceptions exist that enable the permittee to be excused from sampling after the first year if it is found either that:

- The pollutant for which the waterbody is impaired is not detected above natural background levels in the discharge, and it is documented that the pollutant is not expected to be present above natural background discharges; or

- The pollutant for which the waterbody is impaired is not present and not expected to be present in the discharge.

Both the parameters that must be sampled and the frequency of monitoring for impairment pollutants may be subject to State- or Indian Country land-specific requirements. Therefore, each 2008 MSGP permittee must also consult Part 9 of the permit when determining which impaired waters sampling requirements apply.

2.5 What Type of Storm Events Qualify for Monitoring

In addition to understanding which monitoring requirements apply and where, it is also critical to develop an understanding of what type of discharge event you will be sampling. Under the 2008 MSGP, two preconditions must be met before a storm or snowmelt event is considered adequate to be monitored (see Part 6.1.3 of the 2008 MSGP).

- The storm / snowmelt event must create an actual discharge from your site ("measurable storm event"). This storm event will vary based on numerous factors at your site, the most obvious being the actual size and duration of the storm event. However, the amount of impervious surface at your facility will impact this as well. If your facility is covered mostly by grass or another type of vegetation with only a small amount of paved surfaces or roofs, it will take a larger storm to create a discharge from your site than it would at a facility that is entirely paved. Another factor affecting whether and how frequently you have a measurable storm event will be how frequently rain occurs at your facility and the size of the most recent storms. Saturated soil will generate a stormwater discharge more quickly than dry soil; however, VERY dry soil can also become compacted and become nearly impervious to rain, thereby converting precipitation to runoff quickly as well. You will need to pay attention to your facility's particular characteristics to develop an understanding of what type of rain events or snowmelt results in a discharge.

- At least 72 hours must have elapsed since the previous measurable storm event (unless you are able to document that less than a 72-hour interval is representative for local storm events during the sampling period, or if you are monitoring snowmelt consistent with Part 4.2.1 [quarterly visual assessments] or Part 6.2.1 [benchmark monitoring] of the 2008 MSGP).

In order to properly characterize rain events at your facility, it is a good idea to begin by documenting each event as part of your facility's routine maintenance activities. You can purchase a simple rain gauge and keep a notebook handy in order to document the dates on which rain occurred and the amount of rain that fell. You should also consider documenting whether or not an actual discharge from your facility occurred for each rain event. Tracking rainfall amounts and discharge information will help you to better predict which storm events will be measureable and result in a discharge.

In order to be prepared to take advantage of storms that will result in a "measurable storm event":

- Be familiar with local precipitation trends, storm patterns, and seasonal variations.

- Check weather forecasts so you can prepare to sample upcoming precipitation events.

- In addition to your local television news and the Weather Channel, you can get weather information online from http://www.wrh.noaa.gov (National Weather Service) and http://www.weather.com.

Note: You should try to collect both benchmark samples and visual monitoring samples concurrently so you can compare visual observations with the laboratory results, and reduce your field activities burden.

What To Do If You Are Unable To Sample – EPA acknowledges there may be times you are unable to complete required monitoring. The following are guidelines on how you should deal with such times.

- *Areas with Intermittent Stormwater Runoff* **–** If your facility experiences limited rainfall for extended periods of the year (i.e., in arid or semi-arid climates), or freezing conditions that often prevent runoff from occurring, then the quarterly monitoring events may be distributed during seasons when discharging does occur. If you are unable to collect four samples in one year because of insufficient runoff, document this fact in your SWPPP and continue quarterly monitoring until you have collected four samples.

- *Snowmelt Sampling* – If you are located where appreciable snow is common, one of your samples must include the capture of snowmelt discharge. If, however, you experience prolonged subfreezing temperatures, you may only be able to acquire a sample once over two quarters. You will then have to complete the monitoring requirements as above.

- *Adverse Weather Conditions* **–** When adverse weather prevents sampling per your monitoring schedule, you must sample during the next qualifying storm event. Adverse conditions are those that are dangerous or create inaccessibility for personnel, caused by such things as flooding, high winds, electrical storms or situations that otherwise make sampling impractical (e.g., drought or extended frozen conditions).

2.6 Select the Monitoring Team

Identify the members of your facility's pollution prevention team (which you identified in your SWPPP) who will collect samples and conduct visual assessments of discharges. To be considered as a member of the monitoring team, applicable staff must be familiar with the SWPPP, especially the site plan, the layout of the facility, potential pollutant sources, and the monitoring and reporting program. They also need to possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and be able to evaluate the effectiveness of control measures. Typically, monitoring staff are based near the site to enable them to be available on short notice to sample storm events.

Ideally, the pollution prevention team consists of at least one individual from each shift so that a team member is always present during normal operating hours.

It is also important that monitoring staff understand and follow all quality assurance quality control (QAQC) techniques and procedures to ensure that the data is good. You should discuss these techniques with your laboratory prior to taking samples and properly train all sampling staff.

2.7 Select a Laboratory to Analyze the Samples

Your stormwater samples will need to be analyzed for the parameters you identified in section 2.3 by a qualified laboratory. Labs must use the approved methodologies found at 40 CFR Part 136 and return a report with chemical concentrations including data quality assurance information.

EPA recommends that you select a laboratory that is a participant in the EPA's Discharge Monitoring Report - Quality Assurance (DMRQA) Program, and, if possible, be approved by the National Environmental Laboratory Accreditation Program (NELAP). NOTE: for ELG compliance monitoring, participation in DMRQA is a minimum requirement.

Things to discuss with the laboratory

- What type and size of bottle will be provided for each test?
- How full do I fill the bottle?
- Are there any safety concerns with materials provided by the lab?
- What is the best way to preserve the samples?
- What kind of labels will be supplied and how should I fill them out?
- Will the lab deliver the supplies or do I need to pick them up?
- What are the maximum holding times for each water quality parameter to be sampled?
- Will the lab provide pH paper? Samples need to be tested for pH within 15 minutes of collection to be valid, typically in the field.
- Will the lab pick up the samples from my facility or do I need to deliver them?
- Can you walk me through filling out the chain-of-custody forms?
- Is the quantitation limit for each parameter less than the benchmark or effluent limitation concentration?*

* The quantitation limit is the minimum concentration of a parameter that the lab can accurately report using a particular method.

- A comprehensive list of NELAP-approved laboratories can be found at www.nelac-institute.org/accred-labs.php

- To ensure your chosen laboratory is eligible and reliable, you may want to request documentation showing they are certified to analyze environmental samples, and evidence they participate in DMRQA or other performance evaluation testing results.

You should ask the laboratory about any additional services and products they offer. Such as:

- pre-labeled bottles and pre-printed chain-of-custody forms;

- training on sample collection, documentation and data interpretation;

- sampling and courier services; and

- complete sampling kits which include bottles, packing materials, bottle labels, coolers and chain-of-custody forms; many laboratories provide free sampling kits.

2.8 Document Monitoring Procedures in Your SWPPP

Ensure your monitoring procedures are correctly documented in your SWPPP (see 2008 MSGP Part 5.1.5.2). The required information includes:

- The monitoring requirements that specifically apply to your facility.
- Information related to the substantially identical outfall exception, if you will use it.
- Your sampling procedures.
- Your procedures for performing quarterly visual assessments of stormwater discharges. This SWPPP element includes the routine facility inspections and comprehensive site inspections required by the 2008 MSGP (see 2008 MSGP Part 4.1 and 4.3, respectively).

Figure 1 is an example of a completed MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form. You should fill out this form (Appendix A) with the sampling locations and monitoring requirements that apply to your facility and include a copy in your SWPPP.

Benchmark Levels and ELGs					
Industry Sector	Pollutant	Benchmark Level	ELG		
			Daily Max	Monthly Average	Instant Min/Max
D	TSS	100	23	15	
D	Oil and Grease		15	10	
D	pH				6 - 9
E2	Iron	1			
E2	TSS	100	50		
E2	pH				6 - 9

Sample Summary								
Outfall Identifier	Industry Sector (SIC)	Basis	Frequency	Timing	Total Suspended Solids (SM 2540D)	pH	Oil and Grease (EPA Method 1664A)	Iron (EPA Method 200.9)
e.g. 001-A	Sector D (SIC 2951)	Benchmark	1/Quarter	1st wk of month	✓	✓	✓	
e.g. 001-A	Sector D (SIC 2951)	ELG	1/year	January	✓			
e.g. 001-B	Subsector E2 (SIC 3271)	Benchmark	1/Quarter	1st wk of month	✓			✓
e.g. 001-B	Subsector E2 (SIC 3271)	ELG	1/Year	January	✓	✓		

Figure 1. Example MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form with monitoring requirements, sampling locations and industry sectors.

3. Conduct Monitoring

This section describes sampling preparation, choosing the right storm event to monitor, how to collect stormwater samples, how to conduct quarterly visual assessments, quality control considerations, and how to report the results.

The information contained in this section is not specific to monitoring for the 2008 MSGP or any particular general industrial permit.

3.1 What to Have In Place Prior to Collecting Stormwater Samples

Preparation is essential, especially if you are in a climate where measureable storm events are infrequent.

- ***In-Office Preparations*** – Your in-office preparations should include the following:
    - Contacting the lab well ahead of time so that you have the sample bottles before a measurable storm event.
    - Paying attention to weather forecasts so that you are tracking patterns that are likely to result in a measurable storm event.
    - Knowing who your monitoring personnel are and how to contact them when a measurable storm event is expected.
    - Having sampling gear assembled and checked for readiness.
    - Preparing sample bottle labels using waterproof ink with the following information (if not already done by the lab):
        - Facility name and address
        - Sample location identifier (e.g., Outfall 001)
        - Name or initials of sampling personnel
        - Parameter and associated analytical method (e.g., TSS, Method # 0160.2; consult with your contract laboratory for analytical method numbers)
        - Sample type (generally will be “grab” samples)
        - Sample preservation notes
        - Date and time after completing sampling event
    - Having chain-of-custody forms ready for use.

The chain of custody form is a document that travels with the sample from collection through analysis. Each individual that handles the sample will place their name, date, and time on the chain-of-custody form. The form is used to maintain the integrity of the sample by providing documentation of the control, transfer, and analysis of samples (see Section 3.4 below for a more detailed discussion of chain-of-custody).

- ***Sampling Supplies*** – Collect the following supplies and keep them ready for quick use:

    - Clean, sterilized sample bottles, sized appropriately for the parameter to be analyzed (many labs provide the appropriate bottles or will tell you what size to get). Glass must be used for oil and grease samples; plastic containers can be used for other parameters. Use Teflon or aluminum-lined caps.

      For rinsing sample bottles, use only distilled water

    - If bottles are new but not pre-cleaned, they must be pre-conditioned before use by filling with water for several days (the duration can be reduced by using a dilute solution of hydrochloric acid).

    - Additional glass or clear plastic bottles suitable for visual assessments.

    - Visual monitoring forms (see example in Appendix B).

    - Clipboard and site-specific monitoring checklist.

    - If needed, a pole (sold at field supply stores) on which to attach sample bottles and attachment clips or strapping tape to secure the bottle to the pole.

    - Safety equipment, including first aid kit.

    - Hand sanitizer solution.

    - Carrying case for sampling equipment or backpack for carrying equipment to remote locations.

    - Powder-free disposable nitrile or latex gloves (sold by medical and laboratory suppliers or may be provided by your contract laboratory). Do *not* use powdered gloves as they may contaminate your samples.

    - Indelible pens / markers that can write on wet surfaces.

    - Foul-weather gear including footwear appropriate for the conditions at your sampling locations (e.g., non-slip boots).

    - Sturdy cooler and ice or ice packs for stowing and preserving your samples en route to the lab (the lab may provide an appropriate container).

    - Field notebook or field forms for your sampling records (waterproof notebooks are available at office supply stores).

    - pH paper and appropriate chemical preservatives for adding to sample bottles (obtain from your laboratory).

Preparing sampling supplies.

- ***Optional or as-needed supplies:***
    - Sodium bicarbonate (for safety reasons if using acid preservative additives)
    - A graduated stick to measure water depth for determining safe / wade-able sampling access locations (if a sampling pole will be used, you can modify it with depth markings)
    - Mosquito repellent
    - Flashlight in case of sudden loss of light or darkness under storm conditions
    - Flagging tape for marking access to remote or overgrown locations
    - Camera, used for:
        - Recording evidence of potential pollutants or sampling conditions.
        - Especially useful if different people will do the sampling throughout the permit term.
        - Pictures of sample appearance along with the visual inspection records can help “normalize” visual assessments.
        - Pictures of the sampling location can help you find the same spot for subsequent sampling events.

Develop a stormwater sampling checklist to ensure consistency and continuity across sampling events. Since stormwater sampling is not a regular part of a facility's workload, a checklist of things to have prepared before sampling, sampling activities, and sampling locations will help you remember from quarter to quarter. You can make the checklist by noting the things you did for the first sampling event to remember for future sampling events. Keep the checklist updated as you gain experience with sampling.

3.2 Collect Stormwater Samples

Contact the lab prior to collecting stormwater samples so they know to expect the samples and have adequate staff available to conduct the analyses within the applicable holding times (the lab may offer courier service). Inform them of the pollutant parameters for which your samples will be analyzed.

A stormwater grab sample is collected directly into the sample container.

Follow the protocol below to obtain an accurate grab or manual sample. A grab sample is a single sample "grabbed" by filling up a container, either by hand or attached to a pole. Obtaining accurate data is vital to your ability to assess how your stormwater control measures are performing.

- Wear disposable powder-free gloves for sampling; never touch the inside of the lid or bottle.
- For oil and grease: fill the glass sample bottle directly from the discharge; never collect in a container first and then transfer to the sample bottle because oily residue will collect along the inside of the first collection bottle and make the sample inaccurate.

Remember, oil and grease must be collected directly into the glass sample bottle.

- If you have problems accessing the stormwater discharge point (e.g., access is too far or dangerous), use a pole or other appropriate sampling apparatus.

- Sample only stormwater discharging from your facility (i.e., do not sample from puddles, ponds or retention basins).

- Sample from a turbulent section in the central part of the flow; avoid touching the bottom or sides of the stormwater conveyance.

- Fill the sample bottle nearly to the top (meniscus almost at the rim) by holding the opening into the flow of water; do not rinse or overfill the bottles.

Sample bottles labeled with location, date, time, sample collector, analysis, and preservative type.

While stormwater samples are typically grab samples, in some situations the use of an automatic sampler may be appropriate. Automatic samplers are mechanical devices that monitor site conditions and collect a sample when needed. The automatic sampler can be set up well in advance of a storm, or set up as a permanent installation, and the technician can retrieve the sample after the storm when conditions are favorable. Advantages of automatic samplers include low labor costs, convenience, and safety – personnel are not out in the storm trying to collect one or more samples. The major disadvantage is cost; automatic samplers are expensive. Secondarily, the automatic sampler cannot collect visual observations, and they cannot be used for collection of certain measurements.

After the samples have been collected:

- Place the samples in a sturdy cooler partially filled with ice. As a general rule, samples should be kept at approximately 39°F (4°C) until the cooler is delivered to the lab.

- Put a completed chain-of-custody form enclosed in a re-sealable plastic bag inside the cooler. If you have several

pH has a 15 minute holding time; therefore, the sample must be analyzed within 15 minutes of collection.

coolers complete a separate chain of custody form for each cooler.

- Deliver the samples to the lab (e.g. drive, arrange same-day pick-up by the lab, or use an express / overnight service) as soon as possible, bearing in mind the holding times for each parameter sampled.

Stormwater samples packed for delivery to the lab, note the chain of custody forms attached to the lid.

3.3 Record Information for Each Monitoring Event

For each individual sample collected, you should note the following information:

- The sample / outfall identifier.
- The duration between the storm event you sampled and the end of the previous storm event that resulted in a discharge of stormwater from your site (i.e., a “measurable storm event”).
- The date and duration of the storm event sampled.
- Rainfall measurement or estimate (in inches).
- Estimate of the total volume of the discharge sampled from the outfall.

You should record this information on a Stormwater Collection Form (see appendix C for an example).

3.4 Quality Assurance Considerations

The following actions must be followed explicitly. Quality assurance (QA) helps maintain the accuracy and integrity / legal defensibility of your monitoring results by documenting the stewardship of your samples, by minimizing biases in sampling and lab procedures, and by helping to assess the accuracy and precision of the lab's analyses.

Holding Times and Sample Preservation

Samples that cannot be delivered to the lab on the same day may need to be preserved, often by cooling to 4°C (i.e., in an ice bath) and/or with added chemical preservatives (laboratory-supplied bottles may already include preservatives). If your samples need to be analyzed for more than one parameter you may need to bottle more than one sample at an outfall using different preservatives. In addition, you should be aware of the maximum holding time allowed for a particular parameter before which the sample must be analyzed. Following is a table with typical preservation and holding requirements for benchmark parameters and additional potential pollutants of concern (the latter will not have a numeric value in parentheses). Work with your laboratory service providers to develop a list of containers to optimize "sharing" of containers across different parameters. Not all laboratories provide the same container types for the different parameters. Laboratories frequently provide pre-completed custody records and seals, and will provide pre-labeled sample bottles for ease of use in the field as part of their routine "value-added" services. Pre-completed custody records and labels require only time, date, and samplers' initials in order to complete this critical documentation. Your laboratory may also have additional sampling, sample handling, or shipping instructions helpful to your sample collection personnel. NOTE: Whenever possible, minimize the amount of lead time sample containers / kits are outside of the laboratory. Extended storage of pre-preserved containers for some analytes may present opportunity for blank contamination, even under ideal storage conditions.

Table 5. Sample Preservation and Hold Times

Parameter (Benchmark Level, mg/l or as specified)	Preservation		Maximum Holding Time	Sample Container
	Cool to 4º C?	Additional		
Aluminum, Total Recoverable (0.75)	N	HNO_3 (nitric acid) to pH <2	6 months	500 mL HDPE
Ammonia (2.14)	Y	H_2SO_4 (sulfuric acid) to pH <2	28 days	500 mL HDPE
Antimony, Total Recoverable (0.64)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Arsenic, Total Recoverable (0.15)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Beryllium, Total Recoverable (0.13)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Biological Oxygen Demand, BOD_5 (30)	Y	None	48 hours	1L HDPE or glass
Cadmium, Total Recoverable (0.0005 – 0.0053)*	N	HNO_3 to pH <2	6 months	500 mL HDPE
Chemical Oxygen Demand, COD (120.0)	Y	H_2SO_4 to pH <2	28 days	100 mL HDPE or glass
Chromium (0.58 – 3.82)*	N	HNO_3 to pH <2	6 months	500 mL HDPE

Parameter (Benchmark Level, mg/l or as specified)	Preservation		Maximum Holding Time	Sample Container
	Cool to 4º C?	Additional		
Copper, Total Recoverable (0.0038 – 0.0332)*	N	HNO_3 to pH <2	6 months	500 mL HDPE
Cyanide, Total (0.022)	Y	NaOH (sodium hydroxide) to pH >12, refrigerate in dark	14 days; 24 hours if sulfide present	1 L HDPE
Fluoride		None	28 days	100 mL HDPE
Hardness (as CaCO3)		HNO_3 or $H_2SO_4$to pH <2 (method dependent)	6 months	100 mL HDPE
Iron, Total Recoverable (1.0)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Lead, Total Recoverable (0.014 – 0.262)*	N	HNO_3 to pH <2	6 months	500 mL HDPE
Magnesium, Total Recoverable (0.064)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Mercury, Total Recoverable (0.0014)	N	HNO_3 to pH <2	28 days	500 mL HDPE
Nickel, Total Recoverable (0.15 – 1.02)*	N	HNO_3 to pH <2	6 months	500 mL HDPE
Nitrate + Nitrite Nitrogen (0.68)	Y	H_2SO_4 to pH <2	28 days	200 mL HDPE
Oil and Grease	Y	HCl or H_2SO_4 to pH <2	28 days	1L Boston round glass
pH (6.0 – 9.0 s.u.)	N	None	15 min (Field test)	50 mL
Phenols, Total Recoverable	Y	H_2SO_4 to pH <2	28 days	500 mL HDPE
Phosphorous, Total (2.0)	Y	H_2SO_4 to pH <2	28 days	500 mL HDPE
Radium, Total Recoverable		HNO_3 to pH <2	6 months	1L HDPE
Radium, dissolved		Field-filtered HNO_3 to pH <2; if not field filtered - none	Field filtered, preserved 6months; if not field filtered, filter on receipt, preserve to pH <2 6 months	1L HDPE
Selenium, Total Recoverable (0.005)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Silver, Total Recoverable (0.0007 – 0.0183)*	N	HNO_3 to pH <2	6 months	500 mL HDPE
Total Suspended Solids, TSS (100)	Y	None	7 days	200 mL HDPE
Turbidity (50 NTU)	Y	store in the dark	48 hrs	100 mL HDPE
Uranium		HNO_3 to pH <2	6 months	500mL HDPE
Zinc, Total Recoverable (0.04 – 0.26)*	N	HNO_3 to pH <2	6 months	500 mL HDPE
Landfill Parameters				
Alpha Terpineol	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Aniline	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Benzoic Acid	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Napthalene	Y	NA	7 days to extraction	1L Amber glass

Parameter (Benchmark Level, mg/l or as specified)	Preservation		Maximum Holding Time	Sample Container
	Cool to 4º C?	Additional		
			40 days to analysis	
p-Cresol	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Pyridine	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass

*These values are hardness dependent.

Field Blanks

Field blanks are distilled or de-ionized water samples prepared when you are collecting stormwater samples. Field blanks are prepared, in the field, after cleaning the sampling equipment but before collection of water quality samples. Blanks are prepared by pouring distilled de-ionized water into each scoop, dipper, etc. used for sample collection and then into sample bottles as if they were actual field samples. The field blanks are processed and analyzed in an identical manner as the stormwater samples. If the lab detects any contamination in the blanks, your sampling results could be considered tainted (either from contamination or errors in sampling or analysis). Collection and analysis of field blanks is not required by the 2008 MSGP; however, field blanks are used for quality control to assess whether contamination was introduced during sampling, and may prove useful in interpretation of results.

Chain of Custody Forms and Procedures

Samples must be traceable from the point of collection until the sampling results are reported. To do this, document who is in possession of the samples using the chain of custody procedures below. One person should be responsible for the care and custody of the samples, and for generating the chain of custody record until the samples are properly transferred or relinquished to the laboratory. Chain of custody tasks include:

- Ensure that the sample labels are properly filled in.
- Complete the chain of custody form with the date, time, parameter and sample locations for each sample, and sign the form.
- During the transfer of custody of the samples, both the persons relinquishing and receiving the cooler (including lab personnel) must record the date and time on the chain of custody form and sign it.
- Record the shipping method, courier name(s), and other pertinent information as remarks on the chain of custody form.
- The original chain of custody form remains with the samples and a copy must be provided to the facility for inclusion in project records.

Chain of custody records are critical to ensure that no tampering occurs between sample collection and analysis. Your analytical service provider may provide training or written instructions to assist in your completion of accurate custody records. This is another key area where many laboratories invite the opportunity to work with their clients as part of their value-added services.

3.5 Conducting Visual Assessments of Stormwater Discharges

All facilities covered by the 2008 MSGP must perform quarterly visual assessments, irrespective of benchmark monitoring.

Visually inspecting stormwater samples from a measurable discharge at your sampling outfalls is an inexpensive way of assessing the performance of your control measures. The sample should be collected and analyzed in a colorless glass or plastic bottle. It is recommended that you take photographs of the discharges at the time of observation in case more than one person is doing the assessments and because photos can be helpful in determining the effectiveness of your control measures and any need to make changes to control measures.

Assess the general appearance, as an indicator of contaminants, of your discharges for these characteristics:

- ***Color*** – If the discharge has an unusual color, such as reddish, brown, or yellow hue, this may indicate pollutants or suspended sediment.

- ***Odor*** – If the discharge has a noticeable odor, for instance if it smells like gasoline fumes, rotten eggs, raw sewage, or solvents odor, or has a sour smell, this could be indicative of pollutants in the discharge.

- ***Clarity*** – If the discharge is not clear, but is instead cloudy or opaque, this could indicate elevated levels of pollutants in the discharge.

- ***Floating solids*** – If you observe materials floating at or near the top of the bottle, take note of what the materials appear to be.

- ***Settled solids*** – You should wait about a half hour after collection, then note the type and size of materials that are settled at the bottom of the bottle.

- ***Suspended solids*** – Particles suspended in the water will affect its clarity, and color and could be attributable to pollutant sources at your facility.

- ***Oil sheen*** – You should check the surface of the water for a rainbow color or sheen; this would indicate the presence of oil or other hydrocarbons in the discharge.

- ***Foam*** – You should gently shake the bottle and note whether there is any foam.

- ***Other obvious indicators of stormwater pollution.***

To record your visual monitoring results you can use the optional “Quarterly Visual Monitoring Form” in Appendix B (or a comparable one of your own).

4. Evaluate Monitoring Results

The primary purpose of any industrial stormwater monitoring program, consisting of analytic chemical monitoring and visual assessments, is to provide feedback on the performance of your selection and implementation of control measures. Visual evidence of pollution in a stormwater sample, a spike in the concentration of a benchmark pollutant, or the exceedance of a numeric effluent limitation provides an indicator that modifications or additions to the site's control measures need to be considered to improve the effectiveness of your stormwater program.

The following will aid you in interpreting your monitoring results and revising your control measures, if necessary.

4.1 Evaluating Quarterly Visual Assessment Results

For anything but colorless and odorless stormwater in your discharge, you should investigate what area of your site or what specific pollutant sources are contributing to the contamination of your site's runoff. To search for the source of pollutants, you should move upstream from the discharge point. You should scrutinize your exposed industrial materials and activities (material handling equipment, industrial machinery, raw materials, finished product, wastes, or products that are stored, used or created onsite, etc.). Examine where material handling activities occur, such as: storage, loading and unloading, and material transporting. Be aware, the source could be from an ongoing activity or the result of a spill or other infrequent occurrence. In looking at your samples, consider the following:

- When there is a distinct color or odor, are the abnormalities associated with any raw materials, chemicals or other materials used at the site?

- Muddiness or sediment may have been picked up from areas where there is disturbed earth or other unpaved areas lacking adequate control measures.

- Foam or oil sheen may be the result of a leak or spill of materials.

- Cloudiness indicates suspended solids such as dust, ash, powdered chemicals, and ground up materials. Determine whether you use any of these materials and whether they are exposed to stormwater.

Clean up all sources of potential contamination, make changes to your control measures, and update your SWPPP, as necessary.

4.2 Evaluating Benchmark Monitoring Results

The analysis of your benchmark monitoring results can yield valuable information about the characteristics of your runoff and how well your control measures are working. Once you have received your lab results for your benchmark samples, compare these concentrations to the benchmark values that apply to your facility. The 2008 MSGP requires that you conduct four benchmark samples in your first year, and then compare the average value to the applicable benchmark. If the average concentration of your samples exceeds the benchmark, then you are required under the permit to evaluate whether changes to your control measures are necessary. See Parts 6.2.1.2 and 3.2. However, prior to the completion of the four samples, if one or more sample results makes an exceedance of the benchmark mathematically certain, you are required to conduct this evaluation without waiting for the results of the remaining benchmark samples.

Table 6 will help you decide a course of action depending on the results of your benchmark samples.

Table 6. Evaluation of Benchmark Monitoring Results

Does the average of your four quarterly benchmark samples for any pollutant exceed the applicable benchmark concentration? OR If you have not yet completed your four quarterly benchmark samples, does the total value of your samples already make an exceedance of the benchmark mathematically certain (e.g., the sum of the concentration of your samples exceeds four times (4X) the benchmark concentration)?	
YES	**NO**
You must evaluate whether modifications to the stormwater control measures used at your site are necessary. You will need to consider whether there is a problem in the selection, design, installation, and/or operation of applicable control measures. Follow the evaluation and corrective action process in Parts 3.2, 3.3, and 3.4. An exceedance of a benchmark does not necessarily mean that your control measures are insufficient. Continue reading below for additional items to consider as you proceed.	Sample results below benchmark limits provide an indication that your control measures are working as intended to minimize the discharge of pollutants. Although your samples indicate properly functioning control measures, you should continue to note changes to your site that may affect the quality of stormwater runoff, and to link such changes to your future monitoring results. You are still required to meet all requirements in the permit affecting the implementation and maintenance of your control measures, despite the good results of your benchmark monitoring.

If benchmarks were exceeded:

- Did you sample correctly?
    - Did you start with clean sample collection jars and were the samples preserved and submitted to the lab within the allotted time frame?
    - Did you properly sample the discharge flowing from the site or did you collect the sample from a low spot or stagnant pool?

- Was anything atypical going on at the site prior to or during the storm? Atypical activities could include:

  - A leak or spill that was not adequately cleaned up.
  - Construction, painting and paving activities.
  - Having a large amount of material (raw materials, wastes or products) recently delivered or being prepared for shipment.

- Did you observe anything during visual inspections that may have indicated that stormwater runoff would have been exposed to pollutants? If so, are control measures in place to address the pollutant sources?

The more the benchmark was exceeded, the greater your facility's problems may be, necessitating a more robust response. For example, if your results for TSS were over the benchmark value by a relatively small amount (e.g., TSS values of 110 to 150 mg/L, compared to the 100 mg/l benchmark level assigned to TSS), then simply performing additional housekeeping measures (e.g., frequent sweeping) may reduce the values below the benchmark of 100 mg/l by the next storm. However, an exceedance above 150 mg/l may warrant new or supplementary control measures (assuming your control measures are performing as designed) that more effectively reduce the potential for sediment in discharges (e.g., installing storm inlet filters, seeding / stabilizing disturbed areas, implementing dust and debris controlling procedures). TSS values exceeding benchmarks by orders of magnitude indicate a serious problem, and may require structural control measures (e.g., paving, installing berms around piles of loose material, placing operations under cover, placing grassy swales or basins in the discharge flow path to trap sediment).

Until your visual observations and sampling results show that pollutants are not found in your discharges or are present in concentrations below benchmark values, the pollution prevention team should engage in an iterative process in which control measures are selected, implemented, evaluated and modified until determined to be completely effective.

There may be circumstances where benchmark values cannot be reasonably achieved because of local natural background concentrations (see 2008 MSGP Part 6.2.1.2). In such cases, EPA allows for benchmark exceedances. For example, high natural background levels of iron in soils or groundwater could cause exceedances of a benchmark value. This provision exempts facilities from further control measure evaluation and benchmark monitoring when natural background levels are solely responsible for the exceedance of a benchmark value.

To make this determination, natural background pollutant concentrations must be greater than the corresponding benchmark value, and there is *no* net facility contribution of the pollutant (i.e., average concentration detected in runoff from all monitored outfalls over four separate events minus the average natural concentration of the parameter for four separate events does not exceed zero).

For example, if the natural background concentration of TSS from an undisturbed watershed is 200 mg/L, an exemption from further benchmark monitoring / control measure evaluation is available if the average of your four benchmark samples is equal to or lower than 200 mg/L. There are additional requisites for claiming a natural background level exemption, including documentation. Details of these are contained in the 2008 MSGP in Part 6.2.1.2 and the Fact Sheet.

4.3 Effluent Limitation Guideline Monitoring Results

What happens if your facility is subject to numeric effluent limits (for ELG compliance monitoring) and your stormwater sample exceeds the effluent limits for one or more parameters? Within 24 hours of receiving the lab report you must prepare a corrective action report, including:

- Identification of the condition triggering the need for corrective action review;
- Description of the problem identified; and
- Date the problem was identified.

Within 14 days of receiving the lab report, you must document the following information:

- Summary of corrective action(s) taken or to be taken;
- Notice of whether any modifications to your control measures and any related changes to your SWPPP are necessary as a result of this discovery or corrective action;
- Date corrective action initiated; and
- Date corrective action completed or expected to be completed.

You must submit these reports with your annual report and retain a copy onsite with your SWPPP

The 2008 MSGP requires that you conduct follow-up monitoring within 30 calendar days of implementing corrective actions (or during the next qualifying runoff event, should none occur within 30 days, see Part 3 of the 2008 MSGP). Monitoring must be performed for any pollutant(s) that exceeded the effluent limit. If the results from the follow-up monitoring exceed the effluent limit(s), you are required to submit an Exceedance Report to EPA no later than 30 after receipt of your lab results. The exceedance report must include:

- NPDES permit tracking number;
- 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; what you have done and intend to do (should your corrective actions not yet be complete) to correct the violation; and
- An appropriate contact name and phone number.

In addition to preparing the Exceedance Report, you must continue to monitor, at least quarterly, until your stormwater discharge is in compliance with the effluent limits or until EPA waives the requirement for additional monitoring.

4.4 Specific Pollutants and Control Measure Options

All facilities need to gear their control measures toward their specific pollutants of concern, as determined by the materials and activities onsite. Below is a brief discussion of some of the most common pollutants and control measure options.

- **Total Suspended Solids (TSS)**. Small sediment particles are easily suspended and carried by surface water flows. These particles may be blown onto the site from unpaved areas within or adjacent to your facility as well as being tracked in on the tires of vehicles. Excess particles may be self-generated, particularly in the concrete, asphalt, scrap recycling, automobile salvage, and mining sectors. See the discussion above for control measure options for controlling TSS.

- **Oil and Grease.** Often, oil and grease may be observed as a film, sheen or discoloration on the top of a discharge or receiving water. But such a surface anomaly may not be obvious, in which case detection by a lab would be the only way. This could be a pollutant of concern for any facility, especially if there are exposed vehicles or equipment. Therefore, it is vital that due diligence regarding "reportable quantity" (RQ) spills or leaks be observed. Basically, an RQ for oil is any quantity of oil that causes a film, sheen or discoloration on a receiving water surface (and for which there are separate reporting requirements to regulatory agencies). If detected you must find the source and mitigate it. Start with the vehicle / equipment maintenance and storage areas or where shipping / receiving and the like are done. Above ground storage tanks and waste storage are other likely sources.

  Available control measures range from regularly monitoring these areas and applying an absorbent material (choose a bio-based absorbent like Nature's Broom, not a clay-based material) as soon as an oil leak or spill is observed. Consider coverage of and secondary containment for storage areas where oil or grease are stored, transferred or disposed of. An oil water separator downstream of the area(s) most likely to contain oil or grease could provide enough treatment to reduce oil and grease to acceptable levels in the discharge.

- **pH**. pH values below benchmark range indicate that acidic substances are exposed to stormwater. In this case you need to determine whether any of your industrial processes use acids and if so, where. Does your facility do plating, or are lead-acid batteries used or stored on-site? If acids are being used to clean parts, for example, where are the parts stored after being treated with the acid? Where are waste acids stored and how are they disposed? Which operations could expose acids to stormwater? Coal piles are also a source of acidified runoff.

  High pH values indicate that a base or alkaline material (such as lye) is exposed to stormwater. Cement and some cleansers can produce high pH values.

  Control measures applicable to controlling pH include housekeeping (sweeping and cleaning areas where materials that affect pH could be exposed to stormwater); overhead coverage and disposal of waste materials in covered receptacles. Low or high pH runoff can be collected and neutralized by adding an appropriate agent to neutralize pH values to the 6.0 – 9.0 range. Alternatively, flow can be directed to come in contact with a neutralizing substance (e.g., acidic coal pile runoff directed to flow through a limestone channel).

- **Chemical Oxygen Demand (COD)**. COD is the amount of dissolved oxygen in water consumed by the chemical breakdown of organic and inorganic matter (i.e., COD is not a specific component in the discharge). Therefore, a high COD value indicates elevated quantities of pollutants in runoff, especially carbon. Examples of facilities that handle materials which could cause high COD levels include the wood and paper product industries. Control measures applicable to controlling COD levels are the basic stormwater ones: good housekeeping and covering materials with the potential to allow carbon or other organic materials to be carried by stormwater.

- **Metals.** Metals originate from many sources and consequently a number of industries must monitor for metals, including facilities such as wood preservative and agricultural chemical makers, mines, and foundries. Depending on a facility's activities, metals can be found in a dissolved form and/or adsorbed to particles or sediment. It is because both the dissolved and particulate forms can occur at the same time is why stormwater discharges are analyzed for "total recoverable metals." After identifying those operations that could expose stormwater to metals sources, implement control measures capable of reducing metals concentrations, including good housekeeping (sweeping and disposing of metal wastes in covered containers), covering / shielding operations, and directing run-on away from any critical outdoor areas. Ion exchange techniques can also be employed to remove dissolved metals.

5. Record-Keeping and Reporting

It is important that accurate record-keeping of monitoring activities become a standard operating procedure at your facility. You need to be able to show that monitoring and sampling events not only meet all permit requirements, but are defensible and abide by all QA/QC procedures. It is always preferable to document too much as opposed to too little when dealing with any sort of permit compliance. Create easy to use log books for keeping track of rain events. Be sure that your site map is up to date and easy to understand. Develop simple instruction sheets for recording sampling, visual assessments, or other monitoring activities. The instructions should be kept in logical locations (e.g. in sample kits, in the SWPPP notebook) and updated as needed.

When possible, use standardized forms such as those provided in the appendices of this monitoring guide to record your monitoring activities. This will provide consistency in information reported. Example forms are provided in this guide in Appendix A (2008 MSGP Industrial Stormwater Monitoring Form), Appendix B (2008 MSGP Visual Monitoring Form), and Appendix C (2008 MSGP Industrial Stormwater Collection Form).

If possible, regularly transfer sampling records and sample results into databases or spreadsheets. This will provide back-up records for hard-copy logs or forms as well as providing an easy way to analyze your sampling data.

5.1 Reporting Monitoring Data

Each state industrial stormwater permit has different requirements for how monitoring data should be reported. Facilities subject to EPA's 2008 MSGP must submit to EPA all monitoring data collected no later than 30 days after receiving complete lab results for all monitored outfalls. You must submit even if your facility is reporting "no discharge" or a change in status from "active and staffed" to "inactive and unstaffed."

Facilities must use the online eNOI system (www.epa.gov/npdes/eNOI) to report results. EPA's Electronic Notice of Intent (eNOI) system is an online electronic permit application system that enables stormwater entities to submit NOI forms to EPA. eNOI also allows registered eNOI users to report discharge monitoring data and submit annual reports and other reporting information to EPA.

If you cannot access eNOI, the paper MSGP Discharge Monitoring Report (MDMR) reporting form (available at www.epa.gov/npdes/stormwater/msgp) can be submitted to the appropriate address identified in the 2008 MSGP (Part 7.6.1).

Even if you submit monitoring data via eNOI, the paper MDMR form can help ensure you have the information you need to complete all the required fields. Rather than go line by line through the MDMR, which the instructions do, this Guide will highlight the information needed to fill out the MDMR.

You will need the following information to submit monitoring data via eNOI and complete the MDMR, at a minimum:

1. Permit tracking number
2. The facility SWPPP

3. Monitoring records
4. Lab reports
5. Corrective actions

Permit Tracking Number – The permit tracking number is a unique identifier assigned to your facility by EPA. EPA tracks report submittals using the Permit Tracking Number rather than facility name or address. Thus, if you do not include the Permit Tracking Number you may not get credit for submitting the MDMR.

Facility SWPPP – The facility SWPPP includes several pieces of information needed for the MDMR, including:

- The number of stormwater outfalls.
- Which, if any, of the outfalls discharge substantially identical effluents.
- Alternative monitoring periods, if the facility is located in an area of irregular stormwater runoff.

Monitoring Records – Detailed monitoring records will make completing the MDMR easier. As previously discussed, monitoring records must include:

- The date(s) of all monitoring events during the MDMR reporting period.
- Any stormwater outfalls that did not have a discharge during the MDMR reporting period.
- Whether the discharge resulted from rainfall or snowmelt.
- The duration of the storm event.
- The number of inches of rainfall from the monitored storm event(s).
- The number of days since the previous measurable storm event, which may or may not be the previous *monitored* measurable storm event.

Lab Reports – The lab will provide a detailed report with the results of your stormwater analyses and detailed QA/QC data to verify that the results are accurate. For each parameter the lab will typically report one of three results to be reported on the MDMR.

1. The measured concentration to be compared against the benchmark or effluent limitation guideline.
2. BQL or below quantitation limit means that the parameter is present at some amount greater than zero but less than the quantitation limit but the method used is not precise enough to give an exact concentration. Report BQL and the numeric quantitation limit on the MDMR.
3. ND or not detected means that the parameter was not detected in the sample. Report ND and the detection limit on the MDMR. Note that the ND level is typically three to five times less than the quantitation limit.

Other lab reports you may need include receiving water hardness results if any of your required parameters are hardness dependent, and data on natural background pollutant levels if you are claiming that an exceedance of a benchmark limit is due to natural background conditions.

Corrective Actions – The 2008 MSGP requires you to implement corrective actions if the lab report indicates an exceedance of one or more numeric effluent limits or if the average of four quarterly samples exceeds the applicable benchmark. You must document discovery of effluent limit(s) or

benchmark concentration(s) exceedances within 24 hours of receiving the lab report, including the condition triggering the need for corrective action review; a description of the problem; and the date the problem was identified. Within 14-days of receiving the lab report you must summarize the corrective action that was taken or will be taken, including a description of the corrective action; start and end dates; and whether the SWPPP will be modified. You can submit the corrective action report(s) via eNOI or along with the paper MDMR form.

6. Train Personnel

You must train your stormwater pollution prevention team in the proper procedures for sample collection, visual assessments, tracking and reporting. Trainings should be held regularly to update staff on any permit or SWPPP changes. New employees that become members of the stormwater pollution prevention team should be trained in general stormwater awareness as well as the following monitoring-specific topics:

- How to anticipate a measurable storm event.
- Where to monitor.
- How to collect and document the collection of stormwater samples including the assembling of "field blank" samples.
- How to perform and document visual assessments.
- How to handle and send the samples to the lab.
- How to interpret the results.
- How to keep accurate and complete records and report appropriate information to the permitting authority.

7. References

APHA (American Public Health Association). 1998. *Standard Methods for the Examination of Water and Wastewater, 20th Edition*. American Public Health Association, 20th Edition.

Ecology. 2002. *How To Do Stormwater Sampling: A Guide for Industrial Facilities*. Publication #02-10-071. State of Washington Department of Ecology, Olympia, Washington.

"EPA Administered Permit Programs: The National Pollutant Discharge Elimination System." *Code of Federal Regulations* Title 40, Pt. 122.

"Guidelines Establishing Test Procedures for the Analysis of Pollutants." *Code of Federal Regulations* Title 40, Pt. 136.

USEPA (U.S. Environmental Protection Agency). 1992. *NPDES Storm Water Sampling Guidance Document*. EPA 833-8-92-001. U.S. Environmental Protection Agency, Office of Water, Washington D.C.

USEPA (U.S. Environmental Protection Agency). 2008. *NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP)*. U.S. Environmental Protection Agency, Washington D.C.

Appendix A – 2008 MSGP Industrial Stormwater Monitoring Form

MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form

Name of Facility:

Address:

Permit Tracking Number:

Pollutants to sample (Method)

Benchmark Levels and ELGs

Industry Sector	Pollutant	Benchmark Level	ELG		
			Daily Max	Monthly Average	Instant Min/Max

Sample Summary

Outfall Identifier	Industry Sector (SIC)	Basis	Frequency	Timing

Appendix B – 2008 MSGP Visual Monitoring Form

MSGP Quarterly Visual Assessment Form

(Complete a separate form for each outfall you assess)

Name of Facility:		Permit No.:		
Street Address:		City:	State:	Zip Code:
Outfall Number:	"Substantially Identical Outfall"? □ No □ Yes (identify substantially identical outfalls):_____			
Quarter/Year:	Substitute Sample?: □ No □ Yes (identify quarter/year when sample was originally scheduled to be collected):			
Person(s)/Title(s) collecting sample:				
Person(s)/Title(s) examining sample:				
Date & Time Storm or Snowmelt Began:	Date & Time Sample Collected: _____	Date & Time Sample Examined: _____		
Nature of Discharge: □ Rainfall □ Snowmelt				
Rainfall Amount: inches	Previous Storm Ended > 72 hours Before Start of This Storm? □ Yes □ No* (explain):			
Parameter				
Color	□ None □ Other (describe):			
Odor	□ None □ Musty □ Sewage □ Sulfur □ Sour □ Petroleum/Gas □ Solvents □ Other (describe):			
Clarity	□ Clear □ Slightly Cloudy □ Cloudy □ Opaque □ Other (describe): _____			
Floating Solids	□ No □ Yes (describe):			
Settled Solids**	□ No □ Yes (describe):			
Suspended Solids	□ No □ Yes (describe):			
Oil Sheen	□ None □ Flecks □ Globs □ Sheen □ Slick □ Other (describe): _____			
Foam (gently shake sample)	□ No □ Yes (describe):			
Other Obvious Indicators of Storm Water Pollution	□ No □ Yes (describe): _____			

* 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.

Sampling not performed due to adverse conditions: □ No □ Yes (explain): _____

_____

Sampling not performed due to no measurable storm event occurring that resulted in a discharge during the monitoring quarter:
□ No □ Yes (explain): _____

Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions taken below (attach additional sheets as necessary).

Certification by Facility Responsible Official (Refer to MSGP Subpart 11 Appendix B for Signatory Requirements)

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.

A. Name _____ B. Title _____

C. Signature_____ D. Date Signed_____

Appendix C – 2008 MSGP Industrial Stormwater Collection Form

MSGP Industrial Stormwater/Snowmelt Discharge Collection Form

Name of Facility:

Address:

Person(s)/Title(s) collecting sample:

Permit Tracking Number:

Outfall Numbers/Sample Locations:

Discharge Information

Nature of Discharge (circle one): Rainfall or Snowmelt

Rainfall Amount (inches):

Date of Discharge Sampling:

Date & Time Storm Began:

Date & Time Storm Ended:

Date & Time of Previous Measurable Storm Event:

Type of Analyses Required

Sample Collection Information

Date & Time Sample Collection Began:

Date & Time Sample Collection Ended (if different):

Date	Time	Sample Identification/Outfall	Preservative (Y/N)	Number of Containers								Collection Method	Laboratory Log Number

Shaded area for laboratory use only

Sampled by: (*signature*)	Date/Time:	Relinquished by: (*signature*)	Date/Time:	Received by: (*signature*)	Date/Time:
Received by: (*signature*)	Date/Time:	Received by: (*signature*)	Date/Time:	Received by: (*signature*)	Date/Time:

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.

Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions below (attach additional sheets as necessary).

Certification by Facility Responsible Official (Refer to MSGP Subpart 11 Appendix B for Signatory Requirements)

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.

A. Name_____

B. Title_____

C. Signature_____

C. Date Signed_____

M4 – ANNUAL REPORT EXAMPLE

This Page Intentionally Left Blank

M5 – SAMPLE DATA REPORTS

This Page Intentionally Left Blank