

ATTACHMENT E**LINEAR UNDERGROUND AND OVERHEAD PROJECT REQUIREMENTS****NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES
(GENERAL PERMIT)****I. LINEAR UNDERGROUND AND OVERHEAD PROJECT BASELINE REQUIREMENTS**

LUPs are identified as one of three types of risk (Type 1, 2, and 3) based on the LUP area or segment's threat to water quality. LUP Types are determined through SMARTS and clarified in Attachment E.1 when obtaining permit coverage. LUP Type 1, 2, and 3 dischargers shall implement the following minimum best management practices to reduce or prevent pollutants in construction stormwater discharges, monitoring requirements, and reporting requirements. If a requirement in this attachment does not specify a specific LUP Type, then the requirement applies to LUP Type 1, 2, and 3 dischargers.

All LUP dischargers shall comply with the following requirements:

- a. Construction areas, where 70 percent or more of the construction activity occurs on a paved surface, shall be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day;

or

- b. Construction areas where greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them shall be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition.

II. LUP MINIMUM BEST MANAGEMENT PRACTICES**A. Good Site Management "Housekeeping"**

1. LUP dischargers shall implement good site management measures (i.e., "housekeeping") for construction materials that could potentially be a threat to water quality if discharged or exposed to stormwater. At a minimum, LUP dischargers shall implement the following good housekeeping measures:
 - a. Identify and protect the products used and/or expected to be used and the end products that are produced and/or expected to be produced from

- exposure to stormwater. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (e.g., poles, equipment pads, cabinets, conductors, insulators, bricks, etc.);
- b. Apply BMPs to erodible stockpiled construction materials (e.g., soil, spoils, fly-ash, stucco, hydrated lime, etc.) to prevent erosion and pollutant transport;
 - c. Store chemicals in watertight containers with secondary containment to prevent any spillage or leakage or store in a complete enclosed storage area;
 - d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (e.g., poles, equipment pads, cabinets, conductors, insulators, bricks, etc.);
 - e. Implement BMPs to control the off-site tracking of sediment and loose construction and landscape materials; and,
 - f. Implement BMPs to control the discharge of plastic materials and limit the use of plastic materials when more sustainable, environmentally-friendly alternatives exist. Dischargers shall consider the use of plastic materials resistant to solar degradation where plastic materials are deemed necessary.
2. LUP dischargers shall implement good housekeeping measures for waste management, which, at a minimum to the extent feasible, shall consist of the following:
- a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, masonry wash waters, and other wash waters. Wash waters shall be captured and treated prior to discharge or disposed of at a permitted facility that can accept that waste, to mitigate impacts to water quality;
 - b. Provide containment (e.g., secondary containment) of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the stormwater drainage system or receiving water;
 - c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills;
 - d. Keep debris or trash in waste containers if it is subject to transport from the site by wind or runoff;

- e. Cover waste disposal containers at the end of every business day and during a precipitation event;
 - f. Prevent discharges from waste disposal containers to the stormwater drainage system or receiving water (e.g., containers with solid bottoms and regular maintenance);
 - g. Contain and securely protect stockpiled waste material from wind and precipitation unless actively being used; and,
 - h. Secure and contain concrete washout areas and other washout areas that may contain additional pollutants to minimize discharge into the underlying soil and onto the surrounding areas. Washout areas shall be covered prior to and during a precipitation event.
3. LUP dischargers shall implement good housekeeping for vehicle/equipment storage and maintenance, which shall consist of the following:
 - a. Contain fuel, grease, and oil to prevent them from leaking into the ground, storm drains or surface waters;
 - b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area with BMPs installed; and,
 - c. Clean leaks immediately and dispose of leaked materials properly in accordance with the law.
 4. LUP dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:
 - a. Contain and protect stockpiled materials such as mulches and topsoil, or other erodible landscape materials, from wind and precipitations unless being actively used;
 - b. Contain packaged landscape materials (e.g. fertilizers) when they are not being actively used;
 - c. Discontinue the application of any erodible landscape material at least 2 days before a forecasted precipitation event as defined in Attachment B or during periods of precipitation; and,
 - d. Apply erodible landscape material at quantities and rates according to manufacturer recommendations or based on written specifications by knowledgeable and experienced field personnel.
 5. LUP dischargers shall implement good housekeeping measures on the construction site to control aerial deposition of site materials and from site

operations. Such particulates can include, but are not limited to, , metals, nutrients, organics, sediment, other particulates, and trash.

6. LUP dischargers shall document all housekeeping BMPs in the SWPPP that correspond to the nature and phase of the construction activities.

B. Non-Stormwater Management

1. LUP dischargers shall implement the following measures to control all non-stormwater discharges during construction, to the extent feasible:
 - a. Wash vehicles in such a manner as to prevent non-stormwater discharges to surface waters or municipal separate storm sewer system drainage systems;
 - b. Clean streets in such a manner as to prevent unauthorized non-stormwater discharges from reaching surface water or municipal separate storm sewer system drainage systems; and,
 - c. Eliminate any non-stormwater discharges that are not specified in Section IV.A of this General Permit's Order, Authorized Non-Stormwater Discharges.

C. Preserve of Existing Topsoil

1. LUP dischargers shall preserve existing topsoil, unless infeasible, through the following practices:
 - a. Stockpiling existing topsoil, or transferring topsoil to other locations, to deploy and reestablish vegetation prior to termination of coverage; and;
 - b. Stabilizing disturbed topsoil during construction.
2. Preserving existing topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.¹

D. Erosion Control

1. LUP dischargers shall implement the following practices to eliminate or minimize site erosion:
 - a. Implement effective wind erosion controls;
 - b. Preserve existing vegetation;

¹ Examples may include the removal of topsoil containing invasive seedbanks, lack of space to stockpile topsoil, and sites that are designed to be highly impervious after construction with little to no vegetation intended to remain.

- c. Minimize the amount of soil exposed during construction activity;
- d. Minimize the disturbance of steep slopes;
- e. Schedule earthwork to minimize the amount of disturbed area when feasible;
- f. Immediately initiate stabilization for disturbed areas whenever earth disturbing have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days;²
- g. Minimize soil compaction in areas other than where the intended function of a specific area dictates that it be compacted;
- h. Erosion control BMPs (with the exception of sprayed products) shall be available on-site, or at a nearby location (e.g., common lay-down yard), year-round with trained persons able to deploy the product under the direction of the Qualified SWPPP Practitioner;
- i. Reestablish vegetation or non-vegetative erosion controls as soon as practicable;
- j. If feasible, divert up gradient run-on water from contacting areas of exposed soils disturbed by construction activities or convey run-on through the site in a manner that prevents erosion from areas of construction and does not compromise the effectiveness of erosion, sediment, and perimeter controls;
- k. Run-on water flowing onto a site from off-site areas may be separated from a site's stormwater discharge to eliminate commingled contribution. Run-on diversion shall occur prior to entering an area affected by construction activity. Run-on flow diversion shall be conveyed through or around the construction activity in plastic pipe or an engineered conveyance channel in a manner that will not cause erosion due to flow diversion. Run-on combined with a site's stormwater discharge is considered a stormwater discharge.
- l. Limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary,

² In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the Regional Water Board. Stabilization shall be completed within a period of time determined by the Regional Water Board. In limited circumstances stabilization may not be required if the intended function of a specific area of the site necessitates that it remains disturbed.

the discharger shall consider the use of plastic materials resistant to solar degradation;

- m. Control stormwater and non-stormwater discharges to minimize downstream channel and bank erosion; and,
 - n. Control peak flowrates and total volume of stormwater and authorized non-stormwater discharges to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
2. LUP dischargers that stabilize soil using bonded-fiber matrices, hydromulches, spray tackifiers, or other land-applied products shall:
- a. Apply the product according to the manufacturer's instructions and guidance; and,
 - b. Apply the product according to the manufacturer's guidance to allow for ample cure time and to prevent treatment chemicals from being transported by runoff.

E. Sediment Controls

1. LUP dischargers shall implement the following site sediment controls:
- a. Establish and maintain effective perimeter controls;
 - b. Stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site;
 - c. Design, install, and maintain effective sediment controls to minimize the discharge of pollutants utilizing site-specific BMPs; and,
 - d. At a minimum, design sediment basins and impoundments according to the CASQA's current Construction BMP Guidance Handbook and utilize outlet structures that withdraw water from the surface, unless infeasible.³ LUP dischargers utilizing sediment basins shall complete installation prior to other land disturbing activities unless infeasible.

³ California Stormwater Quality Association (CASQA), [Construction BMP Handbook](https://www.casqa.org/sites/default/files/casqa-handbook-construction/master_hanbook_file_2015_sec.pdf) (January 2015), <https://www.casqa.org/sites/default/files/casqa-handbook-construction/master_hanbook_file_2015_sec.pdf> [as of May 20, 2021] (CASQA Construction BMP Handbook)

F. Additional LUP Type 2 and 3 Requirements:

1. At LUP Type 2 and 3 sites, dischargers shall implement the following additional erosion and sediment control BMPs for areas under active construction:⁴
 - a. Design and construct cut and fill slopes in a manner to ensure slope stability and to minimize erosion including, but not limited to, these practices:
 - i. Reduce continuous slope length using terracing and diversions;
 - ii. Reduce slope steepness; and,
 - iii. Roughen slope surfaces with large cobble or track walking.
 - b. Install linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes according to sheet flow lengths as shown in Table 1 until slope has reached Notice of Termination conditions for erosion protection. When infeasible to comply with Table 1 due to site-specific geology or topography, the QSD shall include in the SWPPP a justification for the use of an alternative method to protect slopes from erosion and sediment loss.

Table 1 - Critical Slope and Sheet Flow Length Combinations for Linear Sediment Reduction Barrier

Slope Ratio (Vertical to Horizontal)	Sheet flow length not to exceed
≤ 1:20	Per QSDs specification.
> 1:20 to ≤ 1:4	35 feet
> 1:4 to ≤ 1:3	20 feet
> 1:3 to ≤ 1:2	15 feet
> 1:2	10 feet

2. Limit construction activity traffic to and from the project to entrances and exits that employ effective controls to prevent off-site tracking of sediment.
3. Maintain and protect all storm drain inlets, perimeter controls, and BMPs at entrances and exits (e.g. tire wash off locations).

⁴ Active areas of construction are areas undergoing land surface disturbance and associated site areas included in the SWPPP. This includes construction activity during the preliminary phase, mass grading phase, streets and utilities phase, and the vertical construction phase.

4. Remove any excess sediment or other construction activity-related materials that are deposited on the impervious roads by vacuuming or sweeping prior to any precipitation event.
5. Implement additional site-specific sediment controls upon written request by the Regional Water Boards when the implementation of the other requirements in this Section are determined to inadequately protect the site's receiving water(s).

G. Surface Water Buffer⁵

1. LUP dischargers shall provide and maintain natural buffers and/or equivalent erosion and sediment controls when a water of the United States is located within 50 feet of the site's earth disturbances, unless infeasible.
2. LUP dischargers shall comply with one of the following alternatives for any discharges to Waters of the United States located within 50 feet of a site's earth disturbances:
 - a. Provide and maintain a 50-foot undisturbed natural buffer, from the edge of the disturbed area to the top of bank; or
 - b. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve, in combination, the sediment load reduction equivalent to a 50-foot undisturbed natural buffer. The equivalent sediment load may be calculated using RUSLE2 or another method approved by the Regional Water Board; or,
 - c. Implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer when it is infeasible to provide and maintain an undisturbed natural buffer of any size. The equivalent sediment load may be calculated using RUSLE2 or another method approved by the Regional Water Board.

⁵ The surface water buffer requirements apply to work above the top-of-bank or high-water level of waters of the United States. Work within a channel or streambed (water body-dependent construction), Clean Water Act section 404 projects with section 401 certification, and projects where no natural surface buffer exists (e.g. concrete channelization) are exempt from the requirements. All types of in-channel work may be regulated under Section 401 (Clean Water Act - Regional Boards), Section 404 (Clean Water Act - Army Corps of Engineers) or Section 1602 (California Fish and Game Code).

H. Pesticide Application

1. LUP dischargers shall only apply pesticides that have been authorized for use through California Department of Pesticide Regulation. The application of pesticides shall follow manufacturer's guidance.

I. Demolition of Existing Structure

1. LUP dischargers shall prevent demolition materials from being exposed to precipitation. Demolition materials should be covered with an impermeable barrier such as, but not limited to, plastic sheeting prior to precipitation to prevent known contaminants from being mobilized. Dischargers unable to cover demolished material that were not previously investigated or found to be absent of applicable pollutants in reportable quantities shall sample for any non-visible pollutants that may be in stormwater discharges that may be present such as, but not limited to, asbestos, leaded paint, or PCBs⁶.

J. Maintenance and Repair

1. LUP dischargers shall begin maintaining, repairing, and/or implementing design changes (reviewing alternatives that have not been used yet) to BMPs within 72 hours of identification of failures or other short comings, and complete the changes as soon as possible, prior to the next forecasted precipitation event.
2. LUP dischargers shall have a Qualified SWPPP Practitioner (QSP) verify all BMP maintenance and repairs were appropriately implemented during the next visual inspection following completion. The QSP may delegate BMP maintenance and repair verification to an appropriately trained delegate.

III. MONITORING REQUIREMENTS

A. General Requirements

1. The monitoring requirements of this section are issued pursuant to Water Code section 13383 and specifies monitoring requirements for LUP dischargers subject to this Order.
2. LUP dischargers shall implement the Construction Site Monitoring Program in compliance with this section at the time of the commencement of construction activity and shall continue implementation until the project is complete and the project site is stabilized as defined in Section III.H in the Order.

⁶ PCBs were used between January 1, 1950 and January 1, 1980 and should be considered to be potentially present in structures built during that timeframe. "Structure", in this instance, shall have been constructed with floor space (such as a building).

B. Monitoring Exceptions

1. LUP dischargers shall conduct visual inspections and collect samples to meet the requirements of this Attachment. Dischargers are not required to physically conduct visual inspections or collect samples under the following conditions:
 - a. During dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour;
 - b. Outside of scheduled site operating hours; or,
 - c. When the LUP site is not accessible to personnel.
2. LUP sites that are inactive may reduce the visual inspection frequency and suspend sampling per Section III.G of the Order.
3. LUP dischargers shall provide an explanation with supporting information for all missed visual inspections or sampling required by this Attachment, to be included in the Annual Report.

C. Visual Inspection Requirements

1. LUP dischargers shall perform visual inspections, based on their LUP Type, in accordance with Table 2 below. The purpose of the visual inspections is to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSD, QSP, or be trained by the QSP.

Table 2 – Visual Inspection Schedule⁷

LUP Type	Weekly	Pre-Qualifying Precipitation Event	During Qualifying Precipitation Event	Post-Qualifying Precipitation Event
1	X	X	X	Not Applicable
2	X	X	X	X
3	X	X	X	X

2. LUP dischargers shall conduct weekly visual inspections to ensure that BMPs are properly installed and maintained.
3. LUP dischargers shall have a QSP conduct a pre-Qualifying Precipitation Event inspection within 72 hours prior to any weather pattern that is

⁷ This table is limited to routine weekly inspections and Qualifying Precipitation Event related inspections. Other visual inspections may be required under this Permit and are described in the applicable Sections.

forecasted to have a 50% chance (Probability of Precipitation (PoP) of 0.5 inches or more in a 24-hour period (Quantitative Precipitation Forecast). Precipitation forecast information shall be obtained from the [National Weather Service Forecast Office](https://www.weather.gov/) (e.g. by entering the zip code of the project's location at <https://www.weather.gov/>) and shall be included as part of the inspection checklist weather information. If extended forecast precipitation data (greater than three days) is available from the National Weather Service, the pre-precipitation event inspection may be done up to 120 hours in advance. The pre-Qualifying Precipitation Event inspection shall include an inspection of the following:

- a. All stormwater drainage areas to identify leaks, spills, or uncontrolled pollutant sources and when necessary implement appropriate corrective actions to control pollutant sources.
 - b. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP and when necessary implement appropriate corrective actions to control pollutant sources.
 - c. All stormwater storage and containment areas to detect leaks and check for available capacity to prevent overflow.
4. LUP dischargers shall conduct daily visual inspections at least once every 24-hour period during Qualifying Precipitation Events.. Qualifying Precipitation Events are extended for each subsequent 24-hour period forecast to have at least 0.25 inches of precipitation. The Qualifying Precipitation Event ends when there are two consecutive 24-hour periods of less than 0.25 inches of precipitation forecast. The QSP shall check the National Weather Service forecast at least once per day during the entire Qualifying Precipitation Event.
5. LUP Type 2 and 3 dischargers shall conduct post-Qualifying Precipitation Event visual inspections within 96 hours after each qualifying precipitation event. The 96-hour time frame may include the two consecutive 24-hour periods with less than 0.25 inches forecast, which mark the end of the precipitation event. The inspection is to:
- a. Identify if BMPs were adequately designed, implemented, and effective;
 - b. Identify BMPs that require repair or replacement due to damage; and,
 - c. Identify any additional BMPs that need to be implemented and revise the SWPPP accordingly.
6. LUP dischargers shall conduct all visual inspections during scheduled site operating hours.
7. For each required inspection, LUP dischargers shall develop and complete an inspection checklist that, at a minimum includes:

- a. Inspection type (weekly, pre-precipitation, daily precipitation, or post-precipitation event);
- b. Inspection date and time the inspection was conducted;
- c. Weather information, including the presence or absence of precipitation, an estimate of the beginning of the Qualifying Precipitation Event, duration of the event, date of the Qualifying Precipitation Event, and the approximate amount of precipitation in inches (using an on-site measurement device or gauge);
- d. Site information, including stage of construction, activities completed since last inspection, and approximate area of the site exposed;
- e. A description of any BMPs evaluated and any deficiencies noted, including those that may have resulted in the release of non-visible pollutants;
- f. A list of the inspections of all BMPs inspected, including erosion controls, sediment controls, chemical and waste controls, and non-stormwater controls;
- g. Report of the presence of any floating and suspended materials, odors, discolorations, , visible sheens, and any sources of pollutants in discharges and contained stormwater;
- h. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates;
- i. Photographs of areas of concern and the QSP's description of the problem, if any; and,
- j. Inspector's name, title, and certification, if any.

D. Water Quality Monitoring Requirements

LUP dischargers shall collect samples of discharges, based on their LUP Type, in accordance with Table 3 below, to monitor water quality and assess compliance with the requirements of this General Permit. Samplers shall be the QSD, QSP, or be trained by the QSP.

Table 3 – Sample Collection Schedule

LUP Type	Stormwater Discharge Sample Collection (when applicable)	Receiving Water Sample Collection (when applicable)	Non-Visible Sample Collection (when applicable)
1	Not Applicable	Not Applicable	X
2	X	Not Applicable	X
3	X	X (Post-exceedance)	X

1. LUP Type 2 and 3 Stormwater Discharge Monitoring Requirements

- a. LUP Type 2 and 3 dischargers shall collect stormwater samples from sampling locations at one or more locations representative of the project's construction activities, during discharge and within site operating hours. The samples shall be representative of the discharge flow and characteristics.
- b. LUP Type 2 and 3 dischargers shall obtain a minimum of 3 samples from each discharge location per 24-hour period of each qualifying precipitation event, during active discharge.
- c. LUP Type 2 and 3 dischargers shall collect samples of stored or contained stormwater during discharge from the impoundment, in accordance with Attachment J.
 - i. LUP Type 2 and 3 dischargers shall analyze all their effluent samples for:pH and turbidity (refer to Order, Section IV.C.3.c and d); and,
 - ii. Any additional parameter required by the Regional Water Board.
- d. LUP Type 2 and 3 dischargers may sample run-on from surrounding areas if there is reason to believe run-on may contribute to exceedance of numeric action levels and/or numeric effluent limits.

2. LUP Type 3 Receiving Water Monitoring Requirements

- a. LUP Type 3 dischargers who discharge directly into receiving waters are required to monitor that receiving water if sampling results from the discharge monitoring location meets either of the following conditions:
 - i. pH value falls outside of the range of 6.0 and 9.0 pH units or
 - ii. Turbidity exceeds 500 NTU.

- b. Receiving water monitoring does not apply if run-on from a forest fire or any other natural disaster caused the stormwater results to fall outside the pH range or exceed the turbidity value.
 - c. LUP Type 3 dischargers required to conduct receiving water monitoring shall collect samples as follows:
 - i. Collect, at minimum, one upstream receiving water sample from an accessible and safe location that is:
 - 1. Representative of the receiving water;
 - 2. As close as possible to the discharge location; and,
 - 3. Upstream from the discharge location.
 - ii. Collect, at minimum, one downstream receiving water sample from an accessible and safe location that is:
 - 1. Representative of the receiving water;
 - 2. As close as possible to the discharge location; and,
 - 3. Downstream from the discharge location.
 - d. LUP Type 3 dischargers shall analyze the samples for the parameter that triggered this monitoring (either pH or turbidity, or both).
 - e. LUP Type 3 dischargers shall collect the samples once every 24-hour period of the qualifying precipitation event.
 - f. The LUP Type 3 discharger shall specify the specific locations where samples were collected, date and time of sample collection, as well as constituents analyzed.
 - g. The Regional Water Board delegate may require, in writing, that the discharger continue to sample the receiving water for the parameter that required this monitoring (pH and/or turbidity) after the qualifying precipitation event ends.
3. Non-Visible Pollutant Monitoring Requirements
- a. LUP dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with:
 - i. Evidence of pollutant releases that are not visually detectable in stormwater discharges; and,

- ii. Releases of substances which could cause or contribute to an exceedance of water quality objectives in the receiving waters.
 - b. LUP dischargers are required to conduct sampling and analysis for non-visible pollutants identified in the SWPPP or otherwise known to be on site, only when the pollutants may be discharged due to failure to implement BMPs, a container spill or leak, or a BMP breach, failure, leak, or malfunction.
 - c. LUP dischargers shall collect at least one sample, within 8 hours, from each discharge location hydraulically downgradient the observed triggering event or condition.
 - d. LUP dischargers shall continue to collect at least one sample per applicable discharge location for each 24-hour period that there is discharge, until the necessary corrective actions are completed to control further discharge of the pollutant.
 - e. LUP dischargers are not required to sample if one of the conditions described in Section III.D.3.b above (e.g., breach or spill) occurs and, prior to discharge, the material containing the pollutant is fully remediated or removed; and BMPs to control the pollutant are implemented maintained, or replaced.
 - f. LUP dischargers shall analyze samples in the field or submit them to a laboratory as specified in Section III.F of this Attachment for all non-visible pollutant anticipated to be present in the discharge, including applicable TMDL-specific pollutants listed in Table H-2 in Attachment H.
 - g. The LUP discharger shall collect at least one sample from each discharge location downgradient where the visual inspections triggered the monitoring.
4. The discharger shall collect samples during the first two hours of discharge that occurs during site operating hours if possible; otherwise as close in time to the beginning of the storm event as practicable.
5. The LUP dischargers shall collect and analyze representative discharge samples in the field or by a laboratory as specified in Section III.F of this Attachment for the following:
6. All identified non-visible pollutant parameters anticipated to be present in the discharge, including applicable TMDL-related pollutants listed in Table H-2 in Attachment H; and or,.

E. Sample Collection and Handling Instructions

1. LUP dischargers shall:

- a. Identify applicable parameters that require laboratory analysis to be tested for each stormwater discharge location (pH and turbidity are typically analyzed with field meters).
- b. Request the laboratory provide the appropriate number of sample containers, types of containers, sample container labels, blank Chain of Custody forms, and sample preservation instructions.
- c. Use the appropriate sample shipping method to the laboratory. The laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory to meet all method hold times). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.
- d. Use only the sample containers provided/specified by the laboratory to collect and store samples. Use of any other type of containers could cause sample contamination.
- e. Prevent sample contamination by not touching or putting anything into the sample containers before collecting stormwater samples.
- f. Not overfill sample containers. Overfilling can change the analytical results.
- g. Secure each sample container cap is tightly secured without stripping the cap threads.
- h. Label each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.
- i. Carefully pack sample container into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment; frozen ice packs or ice is placed into the shipping container to keep sample close to 4° C (39° F) until arriving at the laboratory (do not freeze samples).
- j. Complete a Chain of Custody form is with each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, the analysis that is required for each sample container, and both the signatures of the persons relinquishing and receiving the sample containers.

2. Personnel shall be designated and trained for the collection, maintenance, and shipment of samples in accordance with the above sample protocols and laboratory-specific practices.
3. LUP dischargers shall perform all sampling and preservation protocols in accordance with the 40 Code of Federal Regulations Part 136 and the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association).⁸
4. LUP dischargers may refer to Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Program Plan (QAPrP) more information on sampling collection and analysis.⁹

F. Analytical Methods Requirements

1. LUP dischargers shall refer to Table 4 for applicable test methods, detection limits, and reporting units.

⁸ Unless other test procedures have been specified in this General Permit or by the Water Boards.

⁹ Additional information regarding [SWAMP's QAPrP](https://www.waterboards.ca.gov/water_issues/programs/swamp/quality_assurance.html#qapr) can be found at: <https://www.waterboards.ca.gov/water_issues/programs/swamp/quality_assurance.html#qapr>. [as of October 20, 2020]

Table 4 - Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharger Type	Method. Detection Limit	Reporting Units
pH	Field test with calibrated portable instrument using U.S. EPA approved procedures	Type 2 and 3	0.2	pH units
Turbidity	U.S. EPA 0180.1 and/or field test with calibrated portable instrument	Type 2 and 3	1	NTU
Non-Visible Pollutant Parameter(s)	U.S. EPA-approved test method for the specific pollutant parameter	All Types	Dependent on the test method	Dependent on the test method

2. All monitoring instruments and equipment shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Additionally, records of calibration shall be retained for at least 3 years and made available upon request.
3. LUP Type 2 and 3 dischargers shall perform pH analysis on-site with a calibrated pH meter using a U.S. EPA acceptable test method.
4. LUP Type 2 and 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at a [State Water Board Environmental Laboratory Accreditation Program](#) (ELAP) laboratory. Acceptable test methods include Standard Method 2130 or U.S. EPA Method 180.1.
5. All analyses of laboratory-analyzed parameters shall be sent to and conducted at a laboratory recognized by the State Water Board Environmental Laboratory Accreditation Program (ELAP), with the exception of field analysis conducted by the discharger for turbidity and pH.

6. LUP dischargers shall assign a value of (0) for all non-visible pollutant analytical results less than the minimum level (reporting limit), as reported by the laboratory, used in calculations required by this permit (e.g., numeric action level and numeric effluent limitation exceedance determinations), so long as a sufficiently sensitive test method was used as evidenced by the reported method detection limit and minimum level.

G. Exceedance Response Requirements¹⁰

1. LUP discharger are subject to the applicable numeric action levels (NAL) and/or numeric effluent limitations (NELs) based on their LUP Type as shown in Table 5 below.

Table 5 - Numeric Action Levels and Numeric Limitations

Parameter	Discharger Type	Numeric Action Level	Numeric Effluent Limitation
pH	LUP Type 2 and 3	Lower NAL = 6.5 Upper NAL = 8.5	Not Applicable
Turbidity	LUP Type 2 and 3	250 NTU	Not Applicable
TMDL-related Pollutant	All LUP Types that are Responsible Dischargers	Refer to Table H-2 in Attachment H	Refer to Table H-2 in Attachment H

2. For pH and turbidity, the reportable value to determine an exceedance shall be the average of all discrete samples obtained from each discharge location per day, with a required minimum of three samples. Averages shall be calculated separately for each discharge location; averaging all discharge locations on a site is not allowed. Since the pH scale is logarithmic, a simple mean arithmetical average of the values would be inaccurate. To resolve this, dischargers may either report the median value to two decimal places or use an online pH averaging calculator, available on the Water Board Construction

¹⁰ Terms including, but not limited to, numeric action level and exceedances are defined in Attachment B of this General Permit.

General Permit website, or any equivalent online calculator. NTU values may be averaged arithmetically.

3. Whenever analytical results indicate that the discharge is below the lower NAL for pH, above the upper NAL for pH, exceeds the turbidity NAL, or exceeds an applicable TMDL-related NAL, the discharger shall determine the source(s) of the pollutant and implement corrective actions to:
 - a. Meet BAT and BCT requirements;
 - b. Reduce or prevent pollutants in stormwater and authorized non-stormwater discharges from causing exceedances or receiving water.
4. LUP dischargers shall iterate corrective actions until the discharge is in compliance with the applicable NAL(s).
5. The source evaluation shall be kept with the SWPPP and specifically address what corrective actions were taken or will be taken and provide a schedule for their completion.

IV. LUP REPORTING REQUIREMENTS

A. Visual Inspections

1. LUP dischargers shall keep all completed inspection checklists and related documentation with the SWPPP on-site or electronically.

B. Water Quality Monitoring

1. LUP Type 2 and 3 Stormwater Discharge Monitoring Reporting¹¹
 - a. Type 2 and 3 LUP dischargers shall electronically submit through SMARTS all field sampling results within 30 days of the completion of the precipitation event or within 10 days if the field sampling results demonstrate the exceedance of the pH and/or turbidity numeric action levels.
 - b. Types 2 and 3 LUP dischargers that exceeded the pH and/or turbidity numeric action levels shall prepare a Numeric Action Level Exceedance Report when requested, in writing, from a Regional Water Board delegate and shall submit and certify each Numeric Action Level Exceedance Report through SMARTS within 30 days of receiving the written request, in accordance with Section IV of this General Permit's Order.

¹¹ Terms including, but not limited to, numeric action level and exceedances are defined in Attachment B of this General Permit.

- c. The Numeric Action Level Exceedance Report shall include:
 - i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each parameter.
 - ii. The date, place, time of sampling, visual inspections, and/or measurements, including precipitation.
 - iii. An assessment of the existing BMPs associated with the sample that exceeded the numeric action level, a description of each corrective action taken including photographs, and date of implementation.
 - d. Types 2 and 3 LUPs that prepared a Numeric Action Level Exceedance Report shall retain a copy of the report for a minimum of three years after the date the exceedance report is certified and submitted.
2. LUP Type 3 Receiving Water Monitoring Reporting
 - a. LUP Type 3 dischargers conducting receiving water monitoring shall electronically submit through SMARTS all receiving water samples within 10 days after completion of the precipitation event.
 3. Non-Visible Pollutant Monitoring Reporting¹²
 - a. All LUP dischargers that conducted non-visible pollutant monitoring shall electronically submit through SMARTS all field and/or analytical sampling results within 30 days after obtaining the analytical result or within 10 days if the analytical results demonstrate the exceedance of an applicable TMDL-related numeric action level or numeric effluent limitation or Basin Plan parameter.
 - b. All LUP dischargers that exceeded an applicable TMDL-related numeric action level shall prepare a Numeric Action Level Exceedance Report when requested, in writing, from a Regional Water Board delegate and shall submit and certify each Numeric Action Level Exceedance Report through SMARTS within 30 days of receiving the written request, in accordance with Section IV of this General Permit's Order.
 - c. The Numeric Action Level Exceedance Report shall include:
 - i. The analytical method(s), method reporting unit(s), and method detection limit(s) for each parameter;

¹² Terms including, but not limited to, numeric action level, numeric effluent limitations, and exceedances are defined in Attachment B of this General Permit.

- ii. The date, place, time of sampling, visual inspections, and/or measurements, including precipitation; and,
- iii. An assessment of the existing BMPs associated with the sample that exceeded the numeric action level, a description of each proposed corrective action taken, including photographs, and date of implementation.
- d. All LUP dischargers that prepared a Numeric Action Level Exceedance Report shall retain a copy of the report for a minimum of three years after the date the exceedance report is certified and submitted.
- e. All LUP dischargers that exceed an applicable TMDL-related numeric effluent limitation shall comply with the water quality based corrective action requirements in Section VI.R of the Order.

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