Stormwater Pollution Prevention Plan

Round Mountain 500 kilovolt (kV) Area Dynamic Reactive Support Project - Fern Road Substation

Traditional Project Risk Level 2

WDID#: Pending

Property Address: 12347 Fern Rd West, Whitmore, Shasta County, California 96096

Estimated Construction Project Dates:
Start of Construction August 1, 2023
Completion of Construction August 31, 2025

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Date: July 6, 2023

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Qualified SWPPP Developer Certification

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Round Mountain 500kV Dynamic Reactive Support – Fern Road Substation Project

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, 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."

	7/6/2023
Project QSD Signature	Date
Josh Thomas	**27604**
Project QSD Name	Project QSD Certificate Number
Environmental Compliance PM, S2S	**661-343-3611**
Title and Affiliation	Telephone Number

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Amendment Log

Project Name: Round Mountain 500kV Dynamic Reactive Support – Fern Road Substation Project

Amendment No.	Date	Amendment Description

Section 1 SWPPP Requirements

1.1 Introduction

The Round Mountain 500 kilovolt (kV) Area Dynamic Reactive Support - Fern Road Substation Project is located just east of Fern Rd., Shasta County, California. The property is owned by LS Power Grid California, LLC and is being developed by LS Power Grid California, LLC.

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's current Construction General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit) Order No. 2009-0009-DWQ as amended in 2010 and 2012 (NPDES No. CAS000002) issued by the State Water Resources Control Board (State Water Board).

Effective September 1, 2023, the New General Permit Order No. WQ 2022-0057-DWQ (NPDES No. CAS000002) will supersede Order No. 2009-0009-DWQ as amended in 2010 and 2012 (NPDES No. CAS000002).

However Provision III.C (*Regulatory Coverage under the Previous Permit*), and III.C.1 state that Dischargers that obtain coverage under State Water Board Order 2009-0009-DWQ, as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ, (current permit) prior to the effective date of the New General Permit, may continue coverage under the current permit until its regulated project(s) receive an approved Notice of Termination (NOT) from the Regional Water Board, up to two years after the effective date of the New General Permit. Two years after September 1, 2023, all existing Notices of Intent subject to the previous permit will be administratively terminated.

III.C.1.a of the New General Permit states, A discharger continuing regulatory coverage under the previous (current) permit cannot increase a project's disturbed acreage through the Change of Information process, on or after the effective date of this General Permit; the discharger must submit a Notice of Intent for coverage under this General Permit for the increase in disturbed acreage.

III.C.3. of the New General Permit states, Dischargers that submit a NOT for previous permit termination up to two years after the effective date of this General Permit and receive NOT approval from the Regional Water Board are not subject to the New General Permit (unless the discharger subsequently submits new Permit Registration Documents).

III.C.4. of the New General Permit states, Dischargers with coverage under the previous (current) permit that need regulatory coverage after September 1, 2025, under the New General Permit, shall submit, in SMARTS, the following items by August 31, 2025:

a) A certification of the discharger's intent to obtain regulatory coverage under this General Permit;
b) A revised Notice of Intent and other Permit Registration Documents, revised to address new or changed requirements per this General Permit, as applicable; and
c) The applicable fee.

In accordance with the current General Permit this SWPPP is designed to address the following objectives:

- Control all pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity;
- Identify and control, eliminate, or treat all non-stormwater discharges where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit; and
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology (BAT/BCT) standard.

1.2 Permit Registration Documents

Required Permit Registration Documents (PRDs) shall be provided to the State Water Board via the Stormwater Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel under the direction of the LRP. The project-specific PRDs include:

- Notice of Intent (NOI);
- Risk Assessment (Construction Site Sediment and Receiving Water Risk Determination) Including Individual Method Calculation Documentation if applicable;
- Site Maps;
- Annual Fee;
- Signed Certification Statement;
- SWPPP; and
- Post-Construction Water Balance Calculation or Other Documentation.

Site Maps are located in Appendix A. A copy of the applicable PRDs, including the NOI, Risk Assessment Documentation, Post Construction Documentation, and Waste Discharge Identification (WDID) Receipt Letter are available in Appendix B.

1.3 SWPPP Availability and Implementation

The SWPPP shall be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the SWPPP shall be made available via a request by radio/telephone.

The SWPPP shall be implemented concurrently with the start of ground disturbing activities.

1.4 SWPPP Amendments

The SWPPP should be revised when:

- There is an applicable General Permit violation;
- There is a reduction or increase in total disturbed acreage;
- BMPs do not meet the objectives of reducing or eliminating pollutants in stormwater discharges;
- There is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s), or municipal separate storm sewer system (MS4);

- There is a change in the project duration; or
- Deemed necessary by the QSD.

Each amendment must include the date, a description of the change(s) and the QSD's signature. Amendments shall be recorded in the Amendment Log near the front of the SWPPP and include certifications in Appendix C. The SWPPP text and/or figures shall be revised, replaced, inserted, and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be made by or at the direction of a QSD. The QSP, LRP, Contractor, or appropriate field personnel shall notify the QSD when an amendment or revision is needed.

1.5 Annual Report

Annual Reports for the reporting year beginning July 1st and ending June 30th shall be prepared and certified/submitted no later than September 1st of each year in accordance with information required by the on-line forms.

1.6 Changes to Permit Coverage

The General Permit allows for the reduction or increase of the total acreage covered by the WDID number. When a change occurs, the SWPPP should be modified appropriately, and modified PRDs shall be filed electronically within 30 days of the reduction or increase in total disturbed area as a Change of Information (COI) in SMARTS.

1.7 Notice of Termination

A Notice of Termination (NOT) must be submitted electronically by the LRP via SMARTS to terminate coverage under the General Permit. The NOT must include a final Site Map and representative photographs of the project site that demonstrate final stabilization has been achieved. The NOT shall be submitted within 90 days of completion of construction. The Regional Water Board will consider a construction site complete and approve the NOT when the conditions of the General Permit have been met.

1.8 Required Non-Compliance Reporting

If a General Permit discharge violation occurs (including un-authorized non-stormwater discharges) or if the project receives a written Notice of Violation (NOV) or order from a regulatory agency, the contractor will immediately notify the **QSP and the KP Project Manager (PM) and LS Power Grid Construction (LSPGC) PM**. The QSP will provide a written report (Section 6.1) and will file the written report with the project team within 7 days of occurrence, or as specified in the Special Provisions.

If a Notice of Non-Compliance is necessary, it will be submitted by the QSP or QSD. If planned changes in construction activity will result in non-compliance with the CGP, the discharger (**LSPGC**) is required to give advance notice to the RWQCB and local storm water management agency.

The report will contain the following items:

- The date, time, location, nature of operation, and type of unauthorized discharge, including the cause or nature of the notice or order;
- The control measures (BMPs) deployed before the discharge event, or prior to receiving the notice or order;

- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence; and
- An implementation and maintenance schedule for any affected BMPs.

Section 2 Project Information

2.1 Project and Site Description

2.1.1 Site Description

The Round Mountain 500 kilovolt (kV) Area Dynamic Reactive Support Fern Road Substation Project comprises approximately 40 acres of project area with approximately 13 acres of ground disturbance and is located in Shasta County, California. The site is bounded by mountainous oak woodland/grazing land to the north, south, west and east. Additionally, there is mountain residential land to the west. The project site is located east of Fern Road and east of the existing PG&E transmission right-of-way, approximately 1.6 miles northwest of the unincorporated community of Whitmore, approximately 9.3 miles north of State Highway 44 in unincorporated southern Shasta County, and 0.47 miles north of Old Cow Creek.

The project site access is located at latitude, 40.642681° longitude -121.937114° and is identified on the Site Maps in Appendix A.

From Redding, CA, access to the project site is provided by turning left onto Old 44 Dr. from CA-44 E and continuing east on Old 44 Dr. for 0.8 miles. Then turn right onto Whitmore Rd. and continue for 11 miles, then turn left onto Fern Rd. and continue 3.8 miles. The access road to the project site will be on the east side of Fern Rd.

2.1.2 Existing Conditions

As of the initial preparation date of the SWPPP, the project site consists of undeveloped vegetated mountainous oak woodland/grazing land. The project site has not been previously developed for agricultural use, although cattle grazing has been a longstanding use of the site. The project site has no known historic sources of contamination.

Current ground cover is earthen with native vegetation consisting of medium height grasses, shrubs, small trees. Cobble/boulder sized rocks are scattered across the site.

Existing facilities include the PG&E Round Mountain - Table Mountain #1 and #2 500 kV transmission lines.

2.1.3 Existing Drainage

The project site is somewhat flat with surrounding, uneven slopes, sloping downhill to the south, east, and slightly to the west. The elevation of the project ranges from 1,919 feet to 1,985 feet above mean sea level (msl). Surface drainage at the site currently flows to the south and southwest as sheet flow. Stormwater is conveyed through surface runoff to an unnamed seasonal drainage and Old Cow Creek (Shasta County), and eventually into Cow Creek, and ultimately, to the Sacramento River. Stormwater discharges from the site are not considered direct discharges, as defined by the State Water Board to Cow Creek nor the Sacramento River. Existing site topography, drainage patterns, and stormwater conveyance systems are shown in Appendix A.

Site topography is variable and generally slopes to the southwest at an approximate grade of 3 percent. There is approximately 15 feet of topographic relief across the site.

None of the seasonal or intermittent and ephemeral streams or Old Cow Creek are listed on the 303(d) list.

The project ultimately discharges to Sacramento River which is listed for water quality impairments on the most recent 303(d) list for:

- Temperature, water
- Toxicity

2.1.4 Geology, Groundwater, and Rainfall

The site is underlain by moderately well drained Kilarc very stony sandy clay loam, 10 to 30 percent slopes. The typical profile for this soil type is as follows: 0 to 9 inches: very stony sandy clay loam, 9 to 22 inches - clay, 22 to 44 inches - clay loam, 44 to 48 inches - weathered bedrock. Groundwater is expected to be encountered at more than 80 inches below ground surface and the annual average precipitation at the project site is 33 to 38 inches primarily falling between November and March. Ponding and flooding are not expected to occur at the project site and the capacity of the most limiting layer to transmit water (Ksat) is moderately low to moderately high (0.06 to 0.20 in/hr).

Based on Isopluvial Maps, the 5-year, 24-hour event for the project is 4.65 inches. This information should be considered during the selection and design of related BMPs.

2.1.5 Project Description

The Fern Road Substation would include Static Synchronous Compensator (STATCOM) units, a 500 kV switchyard and associated facilities, occupying a total of approximately 7.5 acres. Ancillary facilities, including an access road and parking, would require grading and disturbance of approximately three (3) additional acres.

The Proposed Project's primary component is the construction of the Fern Road Substation that would include two new STATCOM units, with a rated real power output of zero MW and a nominal terminal voltage of 500 kV. The STATCOM units would not increase the capacity of the regional electric transmission system. The proposed STATCOM units and associated facilities would be constructed within the new Fern Road Substation and include:

- Lightning Shielding Masts;
- Nine 500 kV Sulfur Hexafluoride (SF6) Gas-Insulated Circuit Breakers and associated Disconnect Switches, Current Transformers, Voltage Transformers;
- 500 kV Disconnect Switches;
- 500 kV Voltage Transformers;
- 500 kV Power line Carrier Equipment;
- 500 kV Station Service Transformers;
- 500 kV Bussing;
- 500 kV Surge Arresters;
- One approximately 10,150 square foot, 55 foot tall metal GIS enclosure;
- One Microwave Tower Communications Enclosure;
- One Control Enclosure;

- Four 500 kV Take-Off Towers;
- PEA Project Description
- LS Power Grid California, LLC April 2022
- Round Mountain 500 kV Area Dynamic Reactive Support Project 3.0-5
- Three Three-Phase 500 kV Main Power Transformers (including One Installed Spare);
- Outdoor Heating Ventilation and Air Conditioning (HVAC) Equipment and insulated gas bipolar transistor (IGBT)/Converter Cooling Equipment;
- Outdoor Air Core Reactors;
- Outdoor Medium Voltage Bussing;
- Outdoor Medium Voltage Instrument/Auxiliary Transformers;
- Outdoor Medium Voltage Surge Arresters
- Outdoor Medium Voltage Group Operated Air Break Switches; and
- Two approximately 4,000 square feet STATCOM IGBT Valve/Control Enclosures containing the following equipment:
    - IGBT Converters
    - Protective Relaying and Control Equipment
    - Supervisory Control and Data Acquisition (SCADA) Equipment
    - Cooling Equipment
    - Alternating Current/ Direct Current (AC/DC) Auxiliary Power Equipment
    - Spare Parts and Maintenance Tool Storage
    - Miscellaneous Support Facilities.

All major equipment (e.g., power transformers, power circuit breakers, reactors, IGBT value/control enclosures, GIS enclosure, cooling equipment) would be installed on concrete foundations. The maximum amount of oil required for the transformers at the Fern Road Substation facilities would be approximately 21,550 gallons for each of the three transformers. Each transformer would have an oil containment system consisting of an impervious, lined, open or stone-filled sump area around the transformer. The tallest structure within the Fern Road Substation would be the approximately 199-foot-high microwave tower. The microwave tower and take-off tower foundations would be approximately 8 to 10 feet in diameter and set approximately 20 to 25 feet below ground-level.

Below-grade work would include the construction of equipment foundations, oil containment for transformers, the grounding grid, low voltage cable needed for the GIS Substation Equipment & STATCOM equipment, conduit, and erection of the control enclosures. No other below grade work or cable installations are proposed.

Access Roads

The existing and primary access to the Proposed Project for both construction and operation and maintenance (O&M) would be from Fern Road. Fern Road is an existing two-lane, approximately 30-foot wide, public paved road providing access to the Proposed Project from Whitmore Road via Old 44 Drive, from State Route 44 and Interstate 5. No improvements are expected to be required along Fern Road.

The Proposed Project site would be accessed from Fern Road via an upgraded access road. The existing approximately 700 foot, 15-foot wide, private dirt road would be extended an additional approximately 1,000 feet and widened to approximately 20 feet. The road would be graded and rocked for a total of approximately length of approximately 1,700 feet to accommodate access to the temporary staging yard, deliveries, and worker access for construction and O&M. The upgraded access road would be monitored for damage and would

be repaired as needed. Site access roads would be surfaced with dust resistant base rock or gravel to maintain an all-weather roadway.

The Proposed Project would also require the development of a new access road, which would provide internal access within the Fern Road Substation facility during construction and O&M. The internal road would be graveled or rocked and would loop around the substation. This new road would be approximately 20 feet wide and 1,500 feet long and would include a gate at the substation's entrance. Construction of this internal access road would include grading and rocking per the final Proposed Project design. A permanent gate would be installed at the Fern Road Substation facility driveway.

Overland access may be required during construction of the Proposed Project, as well as for the PG&E off-site distribution upgrades. This area would be restricted to the "Limits of Construction" area and would not require any ground disturbance or tree removal. An overland access would avoid any state or federal jurisdictional waters.

The Proposed Project would be located on existing grazing land. Although watercourses have been identified, these watercourses would be avoided and not crossed during construction or operation of the Proposed Project.

Temporary Staging Area and Driveway
Preparation of the staging area at the Project site would involve clearing, grubbing, and limited grading. The staging area may be used as a refueling area for vehicles and construction equipment; as an equipment wash station; for assemblage; for storage of material and equipment, storage containers, construction trailers, and portable restrooms; and for parking and lighting. Some substation equipment, such as disconnect switches, instrument transformers, take-off towers, insulators, conductors, bus, connectors, conduit, cable trench, rebar, etc. would be received and temporarily stored at the staging area prior to installation.

Construction workers would typically meet at the staging area each morning and park vehicles. All construction equipment and vehicles associated with the Project would be parked within the staging area while inactive and at the completion of each workday, where practical.

In-ground fencing would be installed at the staging area. Gravel may be used to line the ground at the staging area to avoid the creation of unsafe surface conditions and unnecessary sediment transport off-site. Perimeter security fencing would be installed around the outer limits of the work area. Lighting would also be installed for security purposes. Temporary construction power would be provided via existing distribution near the Proposed Project site. Temporary generators would be a contingency if distribution power is unavailable.

2.1.6 Developed Condition

The Fern Road Substation pad would be graded to drain stormwater directly off-site. Stormwater would sheet flow to the adjacent land surface during storm events. The footprint of the Project would not significantly impact any existing stormwater drainage patterns. During O&M activities, runoff from the site would filter through the underlying soils or evaporate. On-site stormwater would be managed consistent with the Spill Prevention, Control, and Countermeasure (SPCC) Plan.

Post construction drainage patterns and/or conveyance systems are presented in Appendix A and a summary of drainage information is located in the following table.

Table 1: Construction Site Estimates

Percent Impervious Before Construction	0 %
Runoff Coefficient Before Construction	0.20
Percent Impervious After Construction	14 %
Runoff Coefficient After Construction	0.50

Final stabilization will be achieved on the project by meeting the 70% final cover method. Stabilization will be achieved within 90 days of completion of construction activities by stabilizing permanently disturbed areas with aggregate base, asphalt, or gravel and by stabilizing temporarily disturbed areas and previously vegetated areas with mulch.

2.2 Stormwater Run-On from Offsite Areas

The anticipated offsite run-on to this construction site is minimal because the site is uphill of the surrounding land and existing roadside drainage ditches convey concentrated stormwater away from the project area.

2.3 Construction Site Sediment and Receiving Water Risk Determination

A construction site risk assessment has been performed for the project and the resultant risk level is:

Level 2

Project risk level is based on the analytical results of two components, Sediment Risk and Receiving Water Risk. Sediment Risk calculations include analysis of project duration, location, and soil conditions. Receiving Water Risk is based on proximity to impaired receiving waters. Risk Level determination documentation is included in Appendix B and summarized in the tables below.

Table 2: Summary of Sediment Risk

RUSLE Factor	Value	Method for Establishing Value
R	141.30	(US EPA, Construction Rainfall Erosivity Factor Calculator)
K	0.2	GIS Map Method
LS	5.34	GIS Map Method
Total Predicted Sediment Loss (tons/acre)		150.91
Overall Sediment Risk Low: < 15 tons/acre Medium: ≥ 15 and < 75 tons/acre High: ≥ 75 tons/acre		☐ **Low** ☐ **Medium** ☒ **High**

High Receiving Water Risk is assigned to a project where the disturbed area discharges directly or indirectly to a 303(d)-listed waterbody impaired by sediment, siltation, or turbidity, has a USEPA approved TMDL implementation plan for sediment, siltation, or turbidity OR has designated beneficial uses of Spawn, Cold, and Migratory (Sensitive Receiving Water Body).

The stream segments located in the Project work area flow off-site and enter an irrigation canal that receives its water from Old Cow Creek and then returns to Old Cow Creek downstream. Old Cow Creek is a tributary to Cow Creek, a tributary to the Sacramento River, which is a tributary to the San Francisco Bay and Pacific Ocean.

Per the PEA (April 2022), “the streams within the Survey Area are ephemeral or intermittent, very small, and do not contain gravelly bottoms that are preferred for steelhead spawning purposes. There are known CNDDB occurrences somewhere within the reach of Old Cow Creek which is located approximately 0.5 mile south of the Proposed Project and somewhere within the reach of South Cow Creek which is located approximately three miles southeast of the Proposed Project CDFW, 2021b)”.

All of the stream segments and seasonal wetlands would be avoided and would not be impacted by construction activities.

No surface waters near the Proposed Project are listed as impaired by the CVRWQCB on the most recently approved Section 303(d) listing (CVRWQCB, 2019).

Table 3: Summary of Receiving Water Risk

Receiving Water (direct or indirect)	**303(d) Listed for Sediment Related Pollutant**	**TMDL for Sediment Related Pollutant**	**Beneficial Uses of Cold, Spawn, and Migratory**
Seasonal unnamed streams	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Intermittent unnamed streams	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Ephemeral unnamed streams	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Seasonal wetland	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Old Cow Creek	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Is the project area or segment located within the flood plain or flood prone area of a Sensitive Receiving Water Body?			☐ Yes ☒ No
Overall Receiving Water Risk			☒ **Low** ☐ **High**

Low receiving water risk is assigned to this project because the disturbed area does not discharge directly or indirectly to a 303(d)-listed waterbody impaired by sediment, siltation, or turbidity, does not have USEPA approved TMDL implementation plan for sediment, siltation, or turbidity and does not have designated beneficial uses of Spawn, Cold, and Migratory (Sensitive Receiving Water Body).

2.4 Construction Schedule

The site sediment risk shall be determined based on construction taking place between the dates listed on the cover of this SWPPP. Modification or extension of the schedule may affect risk determination and permit requirements and therefore project personnel shall contact the QSD regarding any schedule changes.

It is expected that this project will obtain the NOT prior to August 31, 2025, and will not need to obtain coverage under the New General Permit. If these conditions change, a change of information (COI) would need to be filed before August 31, 2025, in order to continue coverage under the New General Permit.

2.5 Potential Construction Activity and Pollutant Sources

A list of construction activities and associated materials that are anticipated to be used onsite are included in Appendix D. The activities and associated materials will or could potentially contribute pollutants, other than sediment, to stormwater runoff.

The anticipated activities and associated pollutants were used in Section 3 to select the BMPs for the project. The location of pollutants and/or associated BMPs are shown on the Site Map(s) in Appendix A.

Sampling requirements for non-visible pollutants are described in Section 7. Additional pollutants and/or more specific products may be onsite. Refer to the Safety Data Sheets (SDS), which shall be retained onsite, likely at the construction trailer.

2.6 Identification of Non-Stormwater Discharges

Non-stormwater discharges consist of discharges which do not originate from precipitation events. The General Permit provides allowance for specified non-stormwater discharges that do not cause erosion or carry other pollutants. Authorized non-stormwater discharges will be managed with the stormwater and non-stormwater BMPs described in Section 3 and/or shown in Appendix A and will be minimized to the extent feasible.

Non-stormwater discharges that may be authorized from this project site include de-chlorinated potable water sources such as:

- Irrigation of Vegetative Erosion Control Measures
- Pipe Flushing and Testing
- Water to Control Dust
- Uncontaminated Groundwater from Dewatering
- Atmospheric Condensate from Refrigeration, Air Conditioners, Compressors, etc.
- Irrigation Drainage
- Landscape Watering
- Springs
- Foundation or Footing Drainage

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit or authorized under a separate NPDES permit, are prohibited. If an unauthorized non-stormwater discharge situation is observed, the QSP will

initiate actions, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site.

Activities at the site that may result in unauthorized non-stormwater discharges include:

- Improper Dumping
- Spills
- Wet Utility Line Breaks
- Leaks from Tanks, Containers, or Equipment
- Improper Cleaning of Vehicles, Equipment, Impervious Surfaces, etc.
- Improper Use or Application of Construction or Landscape Related Materials
- Inadequate Containment of Potential Pollutants
- Flushing and Disinfecting Water
- Contaminated Water From Dewatering Operations
- Contaminated Water From Run-on

Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

Groundwater was not encountered during soil borings that were conducted as part of the Proposed Project's Geotechnical Engineering Report (Terracon, 2021); therefore, dewatering during construction activities is not anticipated. However, if dewatering is needed, LSPGC would follow all applicable state and federal regulations.

2.7 Required Site Map Information

The construction project Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter, general topography, and/or other map requirements are located in Appendix A.

Section 3 Best Management Practices

3.1 Schedule for BMP Implementation

BMPs must be implemented, modified, and maintained to reflect the phase of construction and the weather conditions. In order to be effective, some BMPs must be installed before the site is disturbed and other may require multiple applications or installations. The schedule for deployment of BMPs in identified in Section 3.6.

The following BMP and A-ESCP selection tables indicate the BMPs that should be implemented on the construction site; alternate methods may be implemented if effective and approved by the QSP. Fact Sheets/Cut Sheets for BMPs which describe the purpose, application, limitations, implementation, inspection, and maintenance are provided in Appendix H. Copies of the applicable A-ESCPs for this project are included in Appendix H. The QSD shall be contacted in the event of a conflict between the SWPPP, the Site Map(s), Fact Sheets or other documents.

3.2 Erosion and Sediment Control

Erosion and sediment controls are required to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking, and wind erosion control.

3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering, binding soil particles, and/or strengthening the subsurface.

This construction project will implement the following practices to provide effective temporary and/or final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.
2. Control the area of soil disturbing operations shall be such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Provide effective soil cover for inactive areas. Inactive is defined as areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
4. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.
5. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding, or alternate effective methods.
6. Apply permanent erosion control to remaining disturbed soil areas prior to the completion construction.
7. Maintain sufficient erosion control materials onsite to allow implementation in conformance with this SWPPP and the General Permit.

8. Limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist.
9. Implement appropriate erosion control BMPs in conjunction with sediment control BMPs for areas under active construction.

Table 4: Erosion Control BMPs

Fact Sheet	BMP Name	Project Specific Notes/Instructions
EC-1	Scheduling	Entire project, as practicable, limit or stop earthwork activities and pollutant use during precipitation.
EC-2	Preservation of Existing Vegetation	Where feasible for the project in all affected areas. Vegetation to be preserved will be marked in the field to ensure it is not disturbed during work. Vegetation removal, where required, would be completed utilizing mechanized removal equipment or by hand using chain saws. Vegetation removal would not occur outside of approved work areas.
EC-3	Hydraulic Mulch	For temporary erosion controls at inactive disturbed areas. Mulching or other suitable stabilization measures would be used to protect exposed areas during and after construction activities.
EC-4	Hydroseeding	Not currently proposed for this project. However, if conditions change or it is determined that seeding is necessary, consultation with the Project Biologist is required.
EC-5	Soil Binders	For temporary erosion controls at inactive disturbed areas. Apply with any mulch. Can be used to stabilize stockpiles as a temporary measure.
EC-6	Straw Mulch	Apply to disturbed soil areas prior to anticipated rain, as needed for temporary erosion control.
EC-7	Geotextiles and Mats	Use to cover stockpiles when stockpile covers are required or on sensitive overland crossings.
EC-8	Wood Mulching	Install in landscape areas upon completion of soil disturbing activities. Mulching or other suitable stabilization measures would be used to protect exposed areas during and after construction activities.
EC-15	Soil Preparation and Roughening	As necessary throughout the project. Following initial vegetation clearing, topsoil would be salvaged to a depth of 12 inches, or to actual depth if shallower, for onsite storage and use in site restoration, as appropriate. Salvaged topsoil material would be kept on-site in the immediate vicinity of temporary disturbance areas or at a nearby approved work area to be used in restoration of temporarily disturbed areas as appropriate.
EC-16	Non-Vegetative Stabilization	Entire project for stabilization at laydown areas and access routes, as needed.
WE-1	Wind Erosion Control	Entire project at open disturbed soil areas, dirt access routes, and active stockpiles.

3.2.2 Sediment Controls

Sediment controls are measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are typically temporary but permanent measures also exist. Sediment controls are designed to intercept, filter, and/or settle out soil particles that have been detached and are transported by the force of water.

This construction project will implement the following practices to provide effective sediment control during construction:

1. Establish and maintain effective perimeter controls.
2. Stabilize all construction entrances and exits and ensure that construction traffic to and from the project is limited to the entrances and exits.
3. Apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths in accordance with the table on the right.
4. Ensure that all storm drain inlets and perimeter controls, runoff controls, and pollutant controls are maintained and effective.

Slope Percentage	Sheet Flow Length Not to Exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

Table 5: Sediment Control BMPs

Fact Sheet	BMP Name	Project Specific Notes/Instructions
SE-1	Silt Fence	Install as shown on the WPCDs. Silt fence is suitable for perimeter control, placed below areas where sheet flows discharge from the site. The can be used as an interior control below disturbed areas where runoff may occur in the form of sheet and rill erosion. Temporary measures, such as silt fences or wattles intended to minimize erosion from temporarily disturbed areas, would remain in place until disturbed areas have stabilized. Silt fence should not be used in areas where flow is concentrated. Silt fence must be trenched and keyed in.
SE-4	Check Dams	Typically constructed of rock, gravel bags, sandbags, fiber rolls, or other products placed across a constructed swale or drainage ditch. Install along areas of concentrated flow, as needed.
SE-5	Fiber Rolls	May be used instead of compost sock where feasible as shown on WPCDs as a barrier to sediment. Only biodegradable fiber roll shall be used, no plastic monofilament. Temporary measures, such as silt fences or wattles intended to minimize erosion from temporarily disturbed areas, would remain in place until disturbed areas have stabilized. Install to intercept sheet flow, place perpendicular to the flow of runoff, allowing filtered runoff to pass through and retain sediment or other pollutants. Use to reduce runoff velocity in high flow areas along the perimeter of the project and disturbed areas.
SE-6	Gravel Bag Berm	Series of gravel-filled bags placed on a level contour to intercept sheet flows. Gravel bags will pond sheet flow runoff, allowing sediment to settle out, and release runoff slowly as sheet flow, preventing erosion. Can be placed parallel to a roadway to keep

		sediment off paved roadway. Can be placed around small stockpiles. Gravel bags can also be used as chevrons (small check dams) across mildly sloped construction roads (See SE-4). Often require maintenance.
SE-7	Street Sweeping and Vacuuming	All paved surface, as often as necessary to remove accumulated sediment associated with project work from paved surfaces.
SE-13	Compost Socks and Berms	Recommended linear sediment control for the project if fiber roll installation is not feasible. Temporary measures, such as compost sock intended to minimize erosion from temporarily disturbed areas, would remain in place until disturbed areas have stabilized. Install to intercept sheet flow, place perpendicular to the flow of runoff, allowing filtered runoff to pass through the compost and retain sediment or other pollutants. Use to reduce runoff velocity in high flow areas along the perimeter of the project and disturbed areas.
TC-1	Stabilized Construction Entrance/Exit	At laydown yard entrance/exits and where dirt access routes connect to public roadways.
TC-2	Stabilized Construction Roadway	Maintain a stable construction access route throughout construction. Additional BMPs will be needed during the wet season.

3.3 Non-Stormwater Controls and Waste and Materials Management

3.3.1 Non-Stormwater Controls

Non-stormwater discharges into storm drain systems or waterways, which are not authorized, are prohibited. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Appendix D.

This construction project will implement the following practices to provide effective non-stormwater management during construction:

1. Prevent oil, grease, or fuel to leak into the ground, storm drains, or surface waters. Clean leaks immediately and dispose of leaked materials properly.
2. Place all equipment or vehicles which are to be fueled, maintained, and stored in a designated area, fitted with appropriate BMPs.
3. Clean streets in such a manner as to prevent unauthorized non-storm water discharges.
4. Wash vehicles (if necessary) in such a manner as to prevent non-stormwater discharges.

Table 6: Non-Stormwater BMPs

Fact Sheet	BMP Name	Project Specific Notes/Instructions
NS-1	Water Conservation Practices	Entire project at all times.
NS-2	Dewatering Operations	Not expected for the project; however, if groundwater is encountered coordination for dewatering per permit conditions with the KP and LSPGC PMs is required.
NS-3	Paving and Grinding Operations	Whenever any pavement activities occur.
NS-6	Illicit Connection/Discharge	Entire project at all times.
NS-8	Vehicle and Equipment Cleaning	Only in approved areas, at least 100 feet from any waterways, drainages, culvert or drain inlets.
NS-9	Vehicle and Equipment Fueling	Entire project at all times.
NS-10	Vehicle and Equipment Maintenance	Entire project at all times.
NS-12	Concrete Curing	Whenever any concrete activities occur.
NS-13	Concrete Finishing	Whenever any concrete activities occur.

3.3.2 Material Management and Waste Management

Material management control practices consist of implementing procedural and structural BMPs for handling, storing, and using construction materials to prevent the release of those materials into stormwater discharges.

Waste management consists of implementing procedural and structural BMPs for handling, storing, and ensuring proper disposal of waste to prevent the release of those wastes into stormwater discharges. If applicable to the project site, waste management should be conducted in accordance with the Project's Construction Waste Management Plan.

Material and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction material, waste, and service areas; and to prevent materials and wastes from being discharged off-site. This construction project will implement the following practices to provide effective waste and materials management during construction:

1. Inventory products.
2. Cover and berm loose stockpiled construction materials that are not actively being used. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used. Contain stockpiled landscape materials such as mulches and topsoil when they are not actively being used.
3. Store chemicals in watertight containers in appropriate secondary containment to prevent any spillage or leakage or in a completely enclosed storage shed.
4. Minimize exposure of construction material to precipitation.

5. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so that there is no discharge into the underlying soil and onto surrounding areas.
6. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surface or into the storm drain system.
7. Ensure the containment of sanitation facilities, clean or replace regularly, and inspect for leaks and spills.
8. Cover waste disposal containers at the end of every business day and during a rain event. Prevent discharges from waste disposal containers.
9. Contain fertilizer and other landscape materials when they are not actively being used.
10. Discontinue the application of any erodible landscape material within 2 days before a forecast rain event or during periods of precipitation.
11. Stack erodible landscape material on pallets and cover or store such materials when not being used or applied.
12. Control the air deposition of site materials and from site operations.

Table 7: Waste and Material Management BMPs

Fact Sheet	BMP Name	Project Specific Notes/Instructions
WM-1	Material Delivery and Storage	Entire project at all times.
WM-2	Material Use	Entire project at all times.
WM-3	Stockpile Management	All stockpiles at all times. Stockpiles must be at least 100 feet from any drainages.
WM-4	Spill Prevention and Control	Entire project at all times. Spill kits must be located in project vehicles onsite and easily accessible.
WM-5	Solid Waste Management	Entire project at all times.
WM-6	Hazardous Waste Management	Entire project at all times.
WM-8	Concrete Waste Management	When performing any work that includes concrete-based material. Must ensure that concrete waste is covered during rain events and removed regularly from the site.
WM-9	Sanitary-Septic Waste Management	Entire project, at all times, in the staging area or work areas. Must be located a minimum of 100 feet from any drainages. Should be tied down to prevent tipping in wind events. Should be placed in trays.
WM-10	Liquid Waste Management	Entire project at all times.

3.3.3 Spill Response and Implementation

Prevention and control of spills minimizes or eliminates the discharge of hazardous and non-hazardous material and waste to the storm drain system or surface waters. All material storage and handling should be located away from natural water courses and storm drains, and should be stored in areas not susceptible to rain if possible.

Employees, contractors, subcontractors, and any other site personnel shall use Good Housekeeping practices at all times and implement other containment controls as a secondary line of defense. Personnel handling any hazardous materials shall be knowledgeable about such materials and shall take proper steps in notifying the QSP and QSD immediately if a spill occurs.

This construction project will implement the following practices to provide effective spill prevention and management during construction:

1. Equipment and materials for cleanup of spills shall be available on site.
2. Spills and leaks shall be cleaned up immediately and disposed properly.
3. Appropriate spill response personnel are to be assigned and trained.
4. If a spill occurs, document all steps taken and submit a written report to the QSP and QSD within 7 days.

3.4 Post Construction Stormwater Management Measures

Post construction BMPs are permanent measures designed to reduce or eliminate pollutant discharges from the site after construction is complete and installed during construction. Seeded areas are expected to be maintained until final stabilization is achieved.

This site is not located in an area subject to a Phase I or Phase II MS4 permit approved Stormwater Management Program (SWMP).

The following post construction BMPs to comply with General Permit and local requirements have been identified for this site:

Table 8: Post Construction BMP Instructions/Notes

BMP Name	Project Specific Notes/Instructions
Preservation of Permanent Vegetation	Care will be taken to ensure that preservation of permanent vegetation is maintained throughout construction. Vegetation that must be removed will be clearly marked. Consult with Project Biologist as necessary.
Fiber Rolls (if utilized)	Fiber roll may be left onsite post-construction to protect internal conveyances and culverts and must be maintained by onsite personnel. Fiber roll must be biodegradable, not photodegradable.
Wood Mulch	Removed vegetation can be chipped on-site to be used as mulch during restoration. Mulching or other suitable stabilization measures would be used to protect exposed areas during and after construction activities

The plan for the post construction funding and maintenance of these BMPs is as follows for a minimum of five years following construction:

- Post construction BMPs will be installed by the Contractor and will be complete and effective when the project is complete and prior to filing the NOT.
- The contractor will fund and maintain the post construction BMPs during the warranty period if applicable.

- LSPGC will fund and maintain the post construction BMPs for the remainder of the five years following the warranty period.
- LSPGC is responsible for implementation of the post construction maintenance plan.

Procedures to ensure that the post-construction storm water management measures are adequately maintained include:

- On site personnel periodic inspections.

3.5 BMP Installation Schedule

BMPs shall be installed and maintained during specific phases and timing. A-ESCPs shall also be followed as described. The tables below illustrate the schedule for the installation and maintenance schedule for specific BMPs and A-ESCPs. BMP's shall be installed, maintained, repaired, and/or replaced as necessary during the phase in which they are to be used. Unless BMPs are used for multiple phases or post construction, BMPs shall be removed and properly discarded following the intended phase(s).

Table 9: Erosion Control BMPs Matrix

Erosion Control BMPs							
BMP No.	**BMP**	**Prior to Land Disturbance**	**Grading and Land Development**	**Streets and Utilities**	**Vertical Construction**	**Landscaping and Site Stabilization**	**Post Construction**
EC-1	Scheduling	✳	✳	✳	✳	✳	
EC-2	Preservation of Existing Vegetation	✳	✳	✳	✳		
EC-3	Hydraulic Mulch		✳	✳	✳	✳	✳
EC-4	Hydroseeding (only if required by project)					✳	✳
EC-5	Soil Binders		✳	✳	✳	✳	
EC-6	Straw Mulch		✳	✳	✳	✳	
EC-7	Geotextiles and Mats	✳	✳	✳	✳		
EC-8	Wood Mulching				✳	✳	✳
EC-15	Soil Preparation and Roughening	✳	✳	✳			
EC-16	Non-Vegetation Stabilization		✳	✳	✳	✳	✳

Table 10: Wind Erosion Control BMPs Matrix

Wind Erosion Control BMPs							
BMP No.	**BMP**	**Prior to Land Disturbance**	**Grading and Land Development**	**Streets and Utilities**	**Vertical Construction**	**Landscaping and Site Stabilization**	**Post Construction**
WE-1	Wind Erosion Control		✳	✳	✳	✳	

Table 11: Sediment Control BMPs Matrix

Sediment Control BMPs							
BMP No.	**BMP**	**Prior to Land Disturbance**	**Grading and Land Development**	**Streets and Utilities**	**Vertical Construction**	**Landscaping and Site Stabilization**	**Post Construction**
SE-1	Silt Fence	✳	✳	✳	✳	✳	
SE-4	Check Dam		✳	✳	✳	✳	
SE-5	Fiber Rolls	✳	✳	✳	✳	✳	✳
SE-6	Gravel Bag Berm		✳	✳	✳		
SE-7	Street Sweeping and Vacuuming		✳	✳	✳	✳	✳
SE-13	Compost Sock	✳	✳	✳	✳	✳	

Table 12: Tracking Control BMPs Matrix

Tracking Control BMPs							
BMP No.	**BMP**	**Prior to Land Disturbance**	**Grading and Land Development**	**Streets and Utilities**	**Vertical Construction**	**Landscaping and Site Stabilization**	**Post Construction**
TC-1	Stabilized Construction Entrance/Exit	✳	✳	✳	✳	✳	
TC-2	Stabilized Construction Roadway	✳	✳	✳	✳	✳	✳

Table 13: Non-Stormwater Management BMPs Matrix

Non-Stormwater Management BMPs							
BMP No.	**BMP**	**Prior to Land Disturbance**	**Grading and Land Development**	**Streets and Utilities**	**Vertical Construction**	**Landscaping and Site Stabilization**	**Post Construction**
NS-1	Water Conservation Practices		✳	✳	✳	✳	
NS-2	Dewatering Operations (if required and after notification to PMs)		✳	✳			
NS-3	Paving and Grinding Operations		✳	✳	✳	✳	
NS-6	Illicit Connection/Discharge		✳	✳	✳	✳	
NS-9	Vehicle and Equipment Fueling		✳	✳	✳	✳	
NS-10	Vehicle and Equipment Maintenance		✳	✳	✳	✳	
NS-12	Concrete Curing		✳	✳	✳	✳	
NS-13	Concrete Finishing		✳	✳	✳	✳	

Table 14: Waste Management and Materials Pollution Control BMPs Matrix

Waste Management and Materials Pollution Control BMPs							
BMP No.	**BMP**	**Prior to Land Disturbance**	**Grading and Land Development**	**Streets and Utilities**	**Vertical Construction**	**Landscaping and Site Stabilization**	**Post Construction**
WM-1	Material Delivery and Storage	✳	✳	✳	✳	✳	
WM-2	Material Use		✳	✳	✳	✳	
WM-3	Stockpile Management		✳	✳	✳	✳	
WM-4	Spill Prevention and Control	✳	✳	✳	✳	✳	
WM-5	Solid Waste Management		✳	✳	✳	✳	
WM-6	Hazardous Waste Management		✳	✳	✳	✳	
WM-8	Concrete Waste Management		✳	✳	✳	✳	
WM-9	Sanitary/Septic Waste Management	✳	✳	✳	✳	✳	
WM-10	Liquid Waste Management		✳	✳	✳	✳	

Section 4 BMP Inspection and Maintenance

4.1 BMP Inspection and Maintenance

Routine weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events are required on this project. A BMP inspection form must be completed for each inspection and maintained on-site with the SWPPP. A blank inspection checklist can be found in Appendix E. Completed checklists shall be kept in Appendix J or in an accompanying binder.

BMPs shall be maintained regularly to ensure proper and effective functionality. Work to address corrective actions shall begin within 72 hours of identified deficiencies, and be completed as soon as possible. Any associated amendments to the SWPPP shall be prepared by a QSD.

Details for maintenance, inspection, and repair of construction site BMPs are located in the BMP Fact Sheets in Appendix H.

4.2 Rain Event Action Plans

The Rain Event Action Plan (REAP) is a written document designed to be used as a planning tool by the QSP to protect exposed portions of the project site and to ensure that the site has adequate materials, staff, and time to implement erosion and sediment control measures. These measures are intended to reduce the amount of sediment and other pollutants that could be generated during the rain event. It is the responsibility of the QSP to be aware of precipitation forecasts and to obtain and print copies of forecasted precipitation from NOAA's National Weather Service Forecast Office.

A REAP template is included in Appendix E and the QSP will need to customize the REAP for each forecast rain event. Completed REAPs shall be maintained in Appendix J or in an accompanying binder.

The QSP will develop an event specific REAP within 48 hours of a precipitation event forecast to have a 50 percent or greater chance of producing precipitation in the project area. The REAP will be onsite and implementation shall begin no later than 24 hours in advance of the likely precipitation event.

At a minimum, the REAP will include the following site and phase-specific information:

- Site Address;
- Calculated Risk Level;
- Site Stormwater Manager information including the name, company, and 24-hour emergency telephone number;
- Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number;
- Stormwater Sampling Agent information including the name, company, and 24-hour emergency telephone number;
- Activities associated with each construction phase;
- Trades active on the construction site during each construction phase;

- Trade contractor information;
- Suggested actions for each project phase;
- A printed copy of the NOAA precipitation forecast; and
- QSP signature.

Section 5 Training

All persons responsible for implementing requirements of the General Permit shall be appropriately trained. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. To promote stormwater management awareness specific for this project, periodic training of job-site personnel should be included as part of routine project meetings (e.g. daily/weekly tailgate safety meetings), or task specific trainings as needed. The QSP and Contractor can provide stormwater training information at the meetings, and subsequently complete a training log as provided in Appendix E.

Stormwater training expectations include the following:

- The QSP provides a SWPPP training session to site personnel at the start of the project.
- All site personnel attend a site orientation that includes storm water pollution prevention topics specific to the site.
- Annual onsite classroom or formal training prior to the rainy season for all personnel who are on-site regularly.
- The QSD, QSP, Designated Inspector(s), and Site Manager attend a formal classroom training provided by a governmental agency or professional organization annually.

The QSP may delegate activities to personnel trained to do the task(s) appropriately but shall ensure adequate performance. The QSP is responsible for ensuring that all persons working on construction related activities on-site have SWPPP training. A copy of the training record sign in sheet is filed with the on-site SWPPP immediately after the training. In cases where the initial training does not reach all members of the crew, the QSP must ensure additional training is provided. Additional training may be delegated; however, the initial training must be conducted by the QSP. The QSP is also expected to be available to train and assist those individuals conducting daily inspections.

Retain formal and informal training documentation, including copies of QSD and QSP certificates for designated personnel, in Appendix I.

Section 6 Responsible Parties and Operators

6.1 Responsible Parties

6.1.1 Legally Responsible Person

The Legally Responsible Person (LRP) is the person, company, agency, or other entity that possess a real property interest in the land upon which the construction or land disturbance activities will occur for the regulated site. The LRP's information is listed below.

LRP Name:	LS Power Grid California, LLC (LSPGC)
Title:	Owner
Company:	LS Power Grid California, LLC
Address:	16150 Main Circle Drive, Suite 310, Chesterfield, MO 63017
Phone:	(636) 532-2200

6.1.2 Qualified SWPPP Practitioner

The QSP is the individual assigned responsibility for non-stormwater and stormwater visual observations, sampling and analysis, and responsibility to ensure compliance with the General Permit, implementation of all elements of the SWPPP, including the preparation of the Annual Report, and elimination of unauthorized discharges. The QSP has primary responsibility and significant authority for General Permit compliance and may delegate activities to appropriately trained personnel for whom he/she ensures adequate performance. The QSP is expected to regularly communicate with their delegated Inspector(s) and all documented inspections performed by a delegate must be reviewed by the QSP. The QSP and Designated Inspector's (if applicable) information is listed below.

QSP Name:	Cassandra Durkin
Title:	Environmental Compliance Specialist
Company:	S2S
Address:	2246 Camino Ramon, San Ramon, CA 94583
Phone:	(925) 786-7691

Designated Inspector:	Pending
Title:	Senior Environmental Compliance Specialist
Company:	S2S
Address:	2246 Camino Ramon, San Ramon, CA 94583
Phone:	TBD

6.1.3 Qualified SWPPP Developer

The QSD is the individual who is authorized to develop and revise the SWPPP. The QSD should be contacted regarding questions or concerns with this document. The QSD's information is listed below.

QSD Name:	Josh Thomas
Title:	Environmental Compliance
Company:	S2S
Address:	2246 Camino Ramon, San Ramon, CA 94583
Phone:	(661) 343-3611

6.1.4 Other Significant Responsible Parties

Table 15: Other Significant Responsible Parties

Project Role	Name	Company	Phone
LSPGC Construction Manager	Jeremy Robards	LSPGC	(314) 624-4877
LSPGC Permitting Director	Dustin Joseph	LSPGC	(925) 808-0291
KP Project Manager	Emily Critchfield	KP Environmental Inc	(909) 957-0680
Responsible for Implementing BMPs	TBD	TBD	TBD
Site Foreman	TBD	TBD	TBD
Sampling Agent	Josh Thomas	S2S	(661) 343-3611
Backup Sampling Agent	Cassandra Durkin	S2S	(925) 786-7691

6.2 Contractor and Subcontractors

All contractors, subcontractors, and individuals who will be directed by the QSP shall be listed in Appendix F. Contractor and Subcontractor information shall include telephone numbers, work addresses, areas of responsibility, and emergency contact numbers. The list shall be updated as contractors, subcontractors, and individuals change.

Section 7 Monitoring and Reporting Program

7.1 Purpose

This Construction Site Monitoring Program (CSMP) was developed to address the following objectives:

- Demonstrate that the site is in compliance with Discharge Prohibitions (and Numeric Action Levels (NALs)) of the General Permit;
- Determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
- Determine whether immediate corrective actions, additional BMP implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
- Determine whether BMPs included in the SWPPP (and REAPs) are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 Weather and Storm Event Tracking

Visual monitoring and inspection requirements are triggered by a qualifying rain event which is defined as any event that produces ½ inch of precipitation. A minimum of 48 hours of dry weather will be used to distinguish between separate qualifying rain events.

7.2.1 Weather Tracking

The QSP should consult the National Oceanographic and Atmospheric Administration (NOAA) for the weather forecasts. NOAA forecasts can be obtained at https://www.noaa.gov/weather. NOAA weather reports are expected to be checked daily, preferably between the hours of 7 and 9am.

7.2.2 Rain Gauges

The QSP should install a rain gauge on the project site if the closest NOAA weather station is in a location that is uncharacteristic of the project site. Locate the gauge in an open area away from obstructions such as trees, tall grass, or overhangs, around the currently open segment or staging area. Ensure that the top of the gauge is level and the gauge is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc. If the rain gauge is vandalized, the event must be documented and corrected as soon as feasible.

If an on-site rain gauge is utilized, the gauge must have the ability to operate remotely and is shown on the Site Maps in Appendix A.

7.3 Safety and Monitoring Exemptions

Safety practices will be in accordance with the Contractor's Health and Safety Plan for the project. A summary of the safety concerns that apply to the project are provided below.

- Trip and Fall Hazards
- Active Construction Equipment
- Wet or Muddy Surfaces
- Open Trenches

- Hazardous Material and Waste
- Traffic
- Wild Animals, Domestic Dogs, Snakes, Bees, Ticks, etc.
- Energized structures/equipment

This project is not required to collect samples or conduct visual observations (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

If monitoring of the site is unsafe because of the dangerous conditions noted above or other dangerous situations that may arise, the QSP or designated inspector shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation shall be filed in Appendix J.

7.4 Visual Monitoring

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. The frequency of visual observations and inspections is identified in the table below.

Table 16: Summary of Visual Monitoring and Inspections

Type of Inspection	Frequency
Routine Inspections	
Routine Visual Inspection	Weekly (recorded)
QSP Inspection	Monthly
Non-Stormwater Discharge Observations	Quarterly
Storm Event Triggered Inspections	
During Storm Inspection	
Prior to a Qualified Storm Event	Within 48 hours prior to any event that is forecast at 50 percent or greater probability of precipitation
During an Extended Storm Event	Once each 24-hour period during extended storm events
Following a Qualified Storm Event	Within 48 hours after 0.5 inch or more rainfall

7.4.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to ensure that the project is in compliance with the requirements of the General Permit and are conducted regardless of time of year or storm events. Regardless of who installs BMPs, the QSP or their delegate is expected to verify and correct installation through routine inspections. When a delegated inspector is

assigned, the QSP is expected to conduct at least one inspection per month (every 30 days). This monthly inspection may not be delegated.

BMP inspections are conducted to identify and/or record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that failed; or
- BMPs that could fail to operate as intended.

A BMP is defined as deficient when it is not doing what it was designed to do or when it is not performing to the manufacturer's specifications.

Non-Stormwater Discharge Observations are conducted to inspect each drainage area for the presence of or indications of prior or current unauthorized and authorized non-stormwater discharges.

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of the discharge(s).

Inspections are expected to continue until final stabilization has been achieved and the NOT has been certified.

7.4.2 Storm Event Triggered Observations and Inspections

Prior to Rain Events

Within two business days (48 hours) prior to any event that is forecast at 50% or greater probability or precipitation, a stormwater visual monitoring site inspection will include observations of the following:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly implemented;
- Any stormwater storage or containment areas to detect leaks and ensure maintenance of adequate freeboard.

A pre-storm inspection is expected to occur when the NOAA forecast indicates a 50 percent or greater probability of precipitation, regardless of the forecast amount of precipitation.

During Storm Events

During an extended storm event, BMP inspections will be conducted to identify and/or record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

If the construction site, or portions of the site, is not accessible during the storm event, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations,

and any project maintenance activities. Post rain event inspections are not required for non-qualifying rain events.

After Storm Events

Within two business days (48 hours) following a qualifying rain event (0.5 inch of rainfall or more), a stormwater visual monitoring site inspection is required to observe:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutants sources;
- BMPs to identify if they have been properly designed, implemented, and effective;
- The need for additional BMPs, contact QSD if the SWPPP needs to be revised;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard; and
- Discharge of stored or contained rain water.

7.4.3 Visual Monitoring Procedures, Locations, Following-Up, and Reporting

Visual monitoring shall be conducted by the QSP or delegated personnel as identified in Section 6. Stormwater observations and BMP inspections shall be documented on the Inspection Form/Checklist provided in Appendix E. Any photographs used to document observations will be referenced on the inspection report and maintained with the Completed Forms in Appendix J.

Inspections and observations will be conducted at the following locations:

- BMP locations;
- Drainage area(s);
- Discharge location(s);
- Stormwater storage or containment area(s);

If failures or shortcomings are identified during visual monitoring, repairs or design changes to BMPs shall begin within 72 hours of identification and be completed as soon as possible. If a BMP deficiency is observed during a documented inspection, it must be noted on the inspection form and include the inspection date, repair start date, corrective action, individual assigned to the action, and action complete date. This shall occur even if the deficiency is remedied immediately. The QSP is expected to use the inspection form to verify that corrective actions are being implemented. If the QSP identifies that no action has occurred to remedy a deficiency, it must be escalated to the project team and QSD. It is the QSP's responsibility to initial and date the "date addressed" column provided in the Deficiency/Corrective Action table of the Inspection Form.

7.5 Non-Visible Pollutant Sampling and Analysis

The construction materials, existing contamination, wastes, and/or activities identified in Appendix D and Section 2.6 are potential sources of non-visible pollutants to stormwater discharges from the project. Storage, use, and operation locations are shown on the Site Maps in Appendix A, are described in the other sections of the SWPPP, or can be assumed given the nature of the project.

Sampling for non-visible pollutants will be conducted when the following occur:

- A breach, leakage, malfunction, or spill is observed;
- The leak or spill has not been cleaned up prior to the storm event; and

- There is potential for discharge of non-visible pollutants to a surface water or storm drain system.

Non-visible pollutant samples will typically be collected and delivered to the laboratory by the QSP or delegated inspector. If a different entity, such as a Sampling Agent, is responsible for non-visible pollutant sampling, the Sampling Agent's contact information shall be included in Section 6 and the QSP or the delegated inspector should contact the Sampling Agent 24 hours prior to a predicted sampling event or a soon as possible to ensure samples are collected in accordance with the sampling schedule.

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site or available by phone call prior to a sampling event. Monitoring supplies and equipment should be stored in a cool temperature environment that should not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the site or readily available by phone call may include, but are not limited, clean powder-free nitrile gloves, sample collection equipment, sample analysis equipment, cooler(s), appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, and Effluent Sampling Field Log Sheets and Chain of Custody (CoC) forms which are provided in Appendix E.

7.5.1 Non-Visible Pollutant Sampling Schedule

If necessary, samples for non-visible pollutant(s) and an unaffected background sample shall be collected during the first two hours of discharge from storm events which general runoff. Samples shall be collected during the scheduled site business hours, regardless of the time of year and phase of construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during site inspections and have potential to discharge non-visible pollutants to surface waters or a storm drain system:

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but a breach, malfunction, leakage, or spill is observed and the leak or spill is not cleaned up prior to the storm event.
- A construction activity with the potential to contribute non-visible pollutants was occurring during or within 24 hours prior to the storm event and BMP was observed to be breached, malfunctioning, or improperly implemented.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site.

7.5.2 Non-Visible Pollutant Sampling Locations

Non-visible pollutant sampling locations will be determined in the field at the time of sampling. The sample with potential non-visible pollutants shall be taken at the location of the discharge, at the project boundary, or closest accessible point. The background sample should be taken upstream of all site related potential pollution impacts or where run-on enters the site. Non-visible pollutant sampling locations shall be added to the Site Map(s) in Appendix A when/if non-visible pollutant sampling is required.

Non-visible pollutant sampling locations should be identified by the QSP or designated inspector on the pre-storm inspection form and REAP prior to a storm event.

7.5.3 Non-Visible Pollutant Sample Collection and Analysis

Non-visible pollutant samples shall be collected, preserved, stored, transported, and analyzed in accordance with the methods provided by the designated laboratory, Surface Water Ambient Monitoring Program (SWAMP) field methods, Standard Methods for the Examination of Water and Wastewater (American Public Health Association), and/or analytical methods for each constituent. Appendix D lists the specific sources and types of potential non-visible pollutants on the project site and water quality indicator constituent(s) for each pollutant.

7.5.4 Non-Visible Pollutant Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results. Runoff/down-gradient results shall be compared with the associated up-gradient/unaffected sample results and any run-on results. Should the runoff/down-gradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. The QSD shall be notified regarding any revisions to the BMPs which should be recorded as an amendment to the SWPPP.

Discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R § 117.3 and 302.4 are prohibited. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately report to the appropriate agencies as required by 40 C.F.R § 117.3 and 302.4.

Results of non-visible pollutant monitoring shall be uploaded to SMARTS as an AdHoc Report, included in the Annual Report, and recorded on the Discharge Reporting Form in Appendix E.

7.6 pH and Turbidity Sampling and Analysis

Sampling and analysis of runoff for pH and turbidity is required for this project. This sampling and analysis plan describes the strategy for monitoring turbidity and pH levels of stormwater runoff discharges from the project site and run-on that may contribute to an

exceedance of NALs (or the exceedance of a Receiving Water Monitoring Trigger (RWMT)). Samples for pH and turbidity will be collected from all discharge points where storm water is discharged off-site and shall characterize discharges associated with construction activity from the entire project disturbed area.

pH and turbidity samples are typically collected and analyzed by the QSP or delegated inspector who has water quality sampling and field measurement training and experience. If a different entity, such as a Sampling Agent, is responsible for pH and turbidity sampling, the Sampling Agent's contact information shall be included in Section 6 and the QSP or the delegated inspector should contact the Sampling Agent 24 hours prior to a predicted sampling event or a soon as possible to ensure samples are collected in accordance with the sampling schedule.

An adequate stock of monitoring supplies and equipment for monitoring turbidity and pH will be available prior to sampling events. Monitoring supplies and equipment should be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site may include, but are not limited to, field meters, extra batteries, clean powder-free nitrile gloves, sample collection equipment, appropriate sample containers, paper towels, personal rain gear, and Effluent Sampling Field Log Sheets provided in Appendix E.

7.6.1 pH and Turbidity Sampling Schedule

Stormwater runoff samples shall be collected and analyzed for pH and turbidity from each day of a qualifying rain event that results in a discharge from the project site. A minimum of three samples will be collected per day of discharge during a qualifying event. The QSP or trained sampling personnel shall use their best professional judgment to determine time intervals between samples. Samples should be representative of the total discharge from the project each day of discharge during the qualifying event.

When discharged, stored or collected water from a qualifying storm event shall be tested for turbidity and pH. Stored or collected water from a qualifying event may be sampled at the point it is released from the storage or containment area or at the site discharge location.

Run-on samples should be collected whenever the QSP identifies that run-on has the potential to contribute to an exceedance of an NAL.

7.6.2 pH and Turbidity Sampling Locations

Sampling locations are based on the site runoff discharge locations; accessibility for sampling; and personnel safety. Planned pH and turbidity sampling locations are shown on the Site Map(s) in Appendix A and include the locations identified in the table below.

Three (3) potential sampling location(s) on the project site have been identified for the collection of pH and turbidity runoff samples. The table below provides information for each sampling location. These locations are estimated and will be updated as needed.

Sampling locations will be updated based on field conditions and will be located wherever discharges are occurring during rain events. The field SWPPP will be hand marked to show these updated locations as necessary or as they occur.

Table 17: Sampling Locations

Location Number	Description	Latitude and Longitude
1	Near staging area, southeast corner outside silt fence	Latitude: (40.644953) Longitude: (-121.936317)
2	Near future substation, southwest corner outside silt fence	Latitude: (40.642583) Longitude: (-121.935608)
3	Near future substation, south fence line outside silt fence	Latitude: (40.641933) Longitude: (-121.936989)

Run-on sampling locations will be identified and noted on the Site Map(s) when run-on has the potential to contribute to an exceedance of an NAL. If an NAL exceedance occurs, personnel collecting the samples shall collect and analyze samples at the location(s) where run-on occurs. The location should be at the project boundary or other location that is up gradient of the construction activity and potential pollutants. The sample collection location(s) shall be denoted on the Site Map(s) in Appendix A.

7.6.3 pH and Turbidity Sample Collection and Analysis

Samples shall be collected and analyzed for the constituents indicated in the table below.

Table 18: Test Methods for pH and Turbidity

Parameter	Test Method	Detection Limit
Turbidity	EPA 0180.1 or Field Test with Calibrated Portable Instrument	1 NTU
pH	Field Test with Calibrated Portable Instrument	0.2 pH Units

pH and Turbidity sample collection, field analysis, and equipment calibration shall be performed in accordance with the field instrument manufacturer's specifications and/or instructions and results recorded on the Sampling Log sheet. Field sampling staff should periodically review the field instrument instructions. Maintenance and calibration records shall be maintained and available upon request. Personnel shall collect, maintain, and analyze samples in accordance with SWAMP field methods and/or Standard Methods for the Examination of Water and Wastewater (American Public Health Association).

7.6.4 pH and Turbidity Data Evaluation and Reporting

Numeric Action Levels

This project is subject to NALs for pH and turbidity. Compliance with the NALs for pH and turbidity is based on daily site average. The QSP or designated inspector shall calculate the arithmetic average of the turbidity samples and the logarithmic average of the pH samples to determine if the daily average NALs shown in the table below has been exceeded.

Table 19: Numeric Action Levels (NALs)

Parameter	Unit	Daily Average
pH	pH Units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	NTU	NAL = 250 NTU

In the event that the pH or turbidity NAL is exceeded the QSP or designated inspector shall immediately investigate the cause of the exceedance and identify corrective actions. The QSP shall notify the EFS and the Water Quality Group within 48 hours of NAL exceedances. Exceedances of NALs shall be electronically reported to the State Water Board through the SMARTS system within 10 days of the conclusion of the storm event. If requested by the Regional Water Board, an NAL Exceedance report will be submitted. An NAL Exceedance Report Form is provided in Appendix E to record the required information. The NAL Exceedance Report must contain the following information:

- Analytical method(s), method reporting unit(s), and method detection limit(s) (MDLs) of each parameter;
- Date, place, time of sampling, visual observation, and/or measurements, including precipitation; and
- Description of the current BMPs associated with the sample that exceeded the NAL and the proposed corrective actions.

Receiving Water Monitoring Triggers

This project is not subject to RWMTs because the project is not Risk Level 3 and the project does not have direct discharge to the receiving water.

7.7 Receiving Water Sampling and Analysis

This project is not subject to Receiving Water Monitoring

7.8 Non-Stormwater Sampling and Analysis

This sampling and analysis plan for non-stormwater discharges describes the sampling and analysis strategy and schedule for monitoring pollutants in authorized and unauthorized non-stormwater discharges from the project site.

Non-stormwater sampling will be conducted when a non-stormwater discharge is observed exiting the project site. In the event that non-stormwater discharges run-on to the project from offsite locations, and the run-on has potential to contribute to a violation of an NAL, the run-on

should also be sampled. Potential authorized non-stormwater discharges have potential to be discharged from the project site. In addition to the authorized non-stormwater discharges, some construction activities have the potential to result in unplanned, unauthorized discharges. Potential authorized and unauthorized non-stormwater discharges are identified in Section 2.6.

Prepare, collect, maintain, preserve, and transport non-stormwater samples as described in Section 7.5 and 7.6.

7.8.1 Non-Stormwater Sampling Schedule

Samples of non-stormwater discharges shall be collected when they are observed.

7.8.2 Non-Stormwater Sampling Locations

Non-stormwater samples shall be collected at all effluent discharge points where non-stormwater and/or authorized non-stormwater is discharged off-site or closest accessible point. Sampling locations will be determined in the field at the time of sampling. If applicable, a background sample should be taken upstream of all site related potential pollution impacts or where run-on enters the site. Non-stormwater sampling locations shall be added to the Site Map(s) in Appendix A when/if non-stormwater sampling is required.

7.8.3 Non-Stormwater Sample Collection and Analysis

All non-stormwater samples shall be sent to a laboratory certified for such analyses by the State Department of Public Health. Personnel shall collect, maintain, and analyze samples in accordance with SWAMP field methods and Standard Methods for the Examination of Water and Wastewater (American Public Health Association).

7.8.4 Non-Stormwater Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results. Turbidity and pH results shall be evaluated for compliance with NALs and all other results shall be evaluated for the constituents suspected in the non-stormwater discharge. Should the results indicate the discharge of a pollutant that cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharge of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

Non-stormwater discharge results shall be submitted with the Annual Report and data should be recorded on the Discharge Reporting Form in Appendix E.

Discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R § 117.3 and 302.4 are prohibited. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately report to the appropriate agencies as required by 40 C.F.R § 117.3 and 302.4

7.9 Sampling and Analysis for Other Pollutants Required by the Regional Water Board

Regional Water Board has not specified monitoring for additional pollutants for this project.

7.10 Training of Sampling Personnel

All sampling personnel shall be trained to collect, maintain, and ship samples in accordance with the SWAMP 2022 Quality Assurance Program Plan (QAPrP) and Standard Methods for the Examination of Water and Wastewater (American Public Health Association). Training documentation shall be located in Appendix I.

7.11 Sample Collection and Handling

Samples shall be collected, maintained, preserved, and shipped in accordance with the SWAMP 2008 Quality Assurance Program Plan (QAPrP) and Standard Methods for the Examination of Water and Wastewater (American Public Health Association), analytical constituent specific methods, and/or methods as directed by the laboratory.

To maintain sample integrity and prevent cross-contamination, sample collection personnel should follow the protocols below when applicable.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers;
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever contamination may have occurred;
- Change gloves between sites;
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water. Do not decontaminate laboratory provided sample containers;
- Do not eat, drink, or smoke while collecting samples;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The Sampler should collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow path or stream as noted below.

- For small streams and flow paths, simply dip the bottle facing upstream until full.
- For larger streams that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle, facing upstream to avoid any contamination by the sampler.
- Avoid collection samples from ponded, sluggish, or stagnant water.
- Avoid collecting samples directly downstream from a bridge or other structures that may affect the sample.
- Use the capture and transfer method to collect samples in very shallow or sheet flow.

Depending upon the specific analytical test, some containers may contain preservatives. These containers should not be dipped into the stream, but filled indirectly from a collection container.

7.12 Sample Handling

pH measurements must be conducted immediately, do not store pH samples for later measurement. Turbidity measurements may be conducted immediately or in a laboratory. Samples for laboratory analysis should be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Prepare sample container labels;
- Seal containers in re-sealable storage bags;
- Place sample containers into an ice-chilled cooler;
- Document sample information on a Sample Log sheet; and
- Complete the CoC.

Samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from the time of sample collection through delivery to the laboratory. Ensure sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the laboratory within 48 hours of the sampling (unless required sooner by the laboratory).

This project anticipates sending any required laboratory samples to the location listed below.

Laboratory Name:	Basic Laboratory
Address:	2218 Railroad Ave
City, State, Zip:	Redding, CA 96001
Telephone Number:	(530) 243-7234
Point of Contact:	Penny Oilar

7.13 Sample Documentation Procedures

Data documented on sample bottle identification labels, field log sheets, and CoCs should be recorded using waterproof ink. Sample documentation shall be considered accountable documents and therefore if an error is made on an accountable document, corrections should be made by lining through the error and entering the correct information. Erroneous information should not be obliterated and corrections should be initialed and dated.

Sample documentation procedures include the following:

- Sample Bottle Identification Labels: Attach an identification label to each sample bottle and uniquely identify each location. Duplicate samples shall be identified

consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified on the field log sheets.

- Field Log Sheets: Complete a field log sheet for each sampling event.
- Chain of Custody (CoC): Complete for each sampling event for which samples are collected for laboratory analysis. Sign the CoC when the sample(s) is(are) turned over to the testing laboratory or courier.

7.14 Active Treatment System Monitoring

This project does not require a project specific sampling and analysis plan for an ATS because deployment of an ATS is not anticipated for this project.

7.15 Bioassessment Monitoring

This project is not subject to bioassessment monitoring.

7.16 Watershed Monitoring Option

This project is not participating in a watershed monitoring program.

7.17 Quality Assurance and Quality Control

An effective Quality Assurance and Quality Control (QA/QC) plan shall be implemented as part of the CSMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field Logs;
- Clean Sampling Techniques;
- CoCs;
- QA/QC Samples; and
- Data Verification.

Each of these procedures is discussed in more detail in the following sections.

7.17.1 Field Logs

The purpose of field logs is to recording sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log includes the date and time of water quality sample collections, sampling personnel, sample identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. An example Sampling Log is included in Appendix E.

7.17.2 Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. A clean sampling approach will minimize the chance of field contamination and questionable data results.

7.17.3 Chain of Custody

The CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Analytical laboratories usually provide CoC forms to be completed for sample containers. An example CoC is included in Appendix E.

7.17.4 QA/QC Samples

QA/QC Samples provide an indication of the accuracy and precision of the sample collection, sample handling, field measurements, and analytical laboratory methods. QA/QC samples include field duplicates, equipment blanks, field blanks, and travel blanks.

Field Duplicates

Field duplicates provide verification of laboratory or field analysis and sample collection. Duplicate samples shall be collected, handled, and analyzed using the same protocols as primary samples. The sample location where field duplicates are collected shall be randomly selected from the discharge locations. Duplicate samples shall be collected immediately after the primary sample, must be collected in the same manner. Duplicate samples shall not influence any evaluations or conclusion. Field Duplicates are required at a frequency of 5 percent (1 of 20) or 1 duplicate minimum per sampling event.

Equipment Blanks

Equipment blanks provide verification that equipment has not introduced a pollutant into the sample. Equipment blanks are typically collected when:

- New equipment is used;
- Equipment that has been cleaned after use at a contaminated site;
- Equipment that is not dedicated for surface water sampling is used; or
- Whenever a new lot of filters is used when sampling metals.

Field Blanks

Field blanks assess potential sample contamination levels that occur during field sampling activities. De-ionized water filled blanks are taken to the field, transferred to the appropriate container, and treated the same as the corresponding sample type during the course of a sampling event. Field Blanks are required at a frequency as required by the laboratory for the test method as required.

Travel Blanks

Travel blanks assess the potential for cross-contamination of volatile constituents between sample containers during shipment from the field to the laboratory. De-ionized water blanks are taken along for the trip and held unopened in the same cooler with the VOC samples. Travel Blanks, at a frequency determined by that laboratory, are required for sampling plans that include VOC laboratory analysis.

7.18 Data Verification

After results are received from the analytical laboratory, the QSP shall verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification shall include:

- Check the CoC and laboratory reports. Ensure all requested analyses were performed and all samples are accounted for in the reports.
- Check Laboratory reports to make sure hold times were met.
- Check Laboratory report to make sure analysis meets or is lower than reporting levels.
- Check data for outlier values and follow up with the laboratory. Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. The QSP should note data that is an order of magnitude or more different than similar locations, or is inconsistent with previous data from the same location. Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.
- Check the laboratory QA/QC results. Evaluate the reported data to check for contamination, precision, and accuracy. When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provide an explanation of the potential impact to the sample results.

Field data, including inspections and observations should be verified as soon as the field logs are received; typically at the end of the sampling event. Field data verification should include:

- Checking field logs to make sure all required measurements were completed and appropriately documented;
- Checking reported values that appear out of the typical range or inconsistent and follow up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment;
- Verifying equipment calibrations;
- Reviewing observations noted on the field logs; and
- Reviewing notations of any errors and actions taken to correct the equipment or recording errors.

7.19 Records Retention

All records of stormwater monitoring information and copies of reports, including annual reports, must be retained for a period of at least three years from the date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or field measurements, including precipitation;

- Names of the individual(s) who performed the inspections, sampling, visual observations, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The names of the individual(s) who performed the analyses;
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Non-stormwater discharge inspections and visual observations and stormwater discharge visual observation records;
- Visual observation and sample collection exemption records;
- Records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections; and
- NAL Exceedance Reports, if requested by the Regional Board.

Section 8 References

The following plans, specifications, permits, and/or other documents are included in this SWPPP by reference.

- CASQA 2023, Stormwater BMP Handbook Portal: Construction, December 2019

- California Regional Water Quality Control Board Central Valley Region; Water Quality Control Plan for the Tulare Lake Basin, Third Edition, Revised May 2018.

- Proponent's Environmental Assessment for LS Power Grid California, LLC's, Round Mountain 500 kV Area Dynamic Reactive Support Project, April 2022. LS Power Grid California, LLC.

- Standard Methods for the Examination of Water and Wastewater, American Public Health Association.

- State Water Resources Control Board (2013). Order No. 2012-0006-DWQ (amends 2009-0009-DWQ As amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

- State Water Resources Control Board (2022). Order No. 2022-0057-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities. https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo_2022-0057-dwq.pdf

- Surface Water Ambient Monitoring Program (SWAMP), Quality Assurance Program Plan (QAPP) (2022). California State Water Resources Control Board, January 2022. https://www.waterboards.ca.gov/water_issues/programs/swamp/docs/swamp-qaprp-2022.pdf