STORMWATER POLLUTION PREVENTION PLAN

for

Flood Control District: Rancho Cucamonga New Yard Construction

Project Location:

WDID: [Number]
RISK LEVEL: 1

Legally Responsible Person (LRP):
County of San Bernardino Project & Facilities Management
385 N Arrowhead Avenue, 3rd Floor, San Bernardino, CA 92415
Donald Day
909-387-5224

Duly Authorized Representative (DAR):
Ryan Johnson C/O County of San Bernardino
909-387-5000

Project Address:
12158 Baseline Road
Rancho Cucamonga, CA 91739
Site Operating Hours:
8:00 AM – 5:00 PM

Estimated Project Dates:
Start of Construction: August 2024
Completion of Construction: December 2024

SWPPP Prepared by:
Engineering Resources of Southern California, Inc.
1861 West Redlands Blvd.
Redlands, CA 92373
SWPPP Preparation Date:
October 2023

QSD Name and Signature:

[QSD Sign Here]
John M. Brudin, P.E., QSD

Contact Information

Role	Name	Phone Number	License or Certification Number, if Applicable
Qualified SWPPP Developer (QSD)	John M. Brudin	909-890-1255	00707
Qualified SWPPP Practitioner (QSP)			
Qualified SWPPP Practitioner (QSP)			
QSP Delegate			
QSP Delegate			
QSP Delegate			
QSP Delegate			

Index of Appendices

Appendix	Title	Page
A	Site Maps and Drawings	A-1
B	Permit Registration Documents	B-1
C	SWPPP Amendment QSD Certifications	C-1
D	Submitted Changes of Information	D-1
E	Construction Schedule	E-1
F	Construction Activities, Materials Used, and Associated Pollutants	F-1
G	CASQA Stormwater BMP Handbook: Construction Fact Sheets	G-1
H	BMP Inspection Forms	H-1
I	Training Forms	I-1
J	Responsible Parties	J-1
K	Contractors and Subcontractors	K-1
L	Calculations	L-1
M	Weather Reports	M-1
N	Monitoring Records	N-1
O	Example Storm Event Monitoring Forms	O-1
P	Field Meter Instructions	P-1
Q	Supplemental Information	Q-1
R	Active Treatment System and Passive Treatment Plans	R-1

S	Construction General Permit	S-1

Table of Contents

Table of Contents iv
Qualified SWPPP Developer vii
Amendment Log viii
Section 1 SWPPP Requirements 1-1
1.1 Introduction 1-1
1.2 Permit Registration Documents 1-1
1.3 SWPPP Availability and Implementation 1-2
1.4 SWPPP Amendments 1-2
1.5 Retention of Records 1-4
1.6 Reporting 1-4
1.7 Changes to Permit Coverage 1-5
1.8 Notice of Termination 1-5
Section 2 Project Information 2-1
2.1 Project and Site Description 2-1
2.1.1 Site Description 2-1
2.1.2 Existing Conditions 2-1
2.1.3 Existing Drainage 2-1
2.1.4 Geology and Groundwater 2-1
2.1.5 Project Description 2-2
2.1.6 Developed Condition 2-2
2.2 Permits and Governing Documents 2-2
2.3 Stormwater Run-On from Offsite Areas 2-3
2.4 Findings of the Construction Site Sediment and Receiving Water Risk Determination 2-3
2.5 Construction Schedule 2-4
2.6 Potential Construction Activity and Pollutant Sources 2-5
2.7 TMDL Requirements 2-5
2.8 Identification of Non-Stormwater Discharges 2-5
2.9 Required Site Map Information 2-6
Section 3 Best Management Practices 3-1
3.1 Schedule for BMP Implementation 3-1
3.2 Erosion and Sediment Control 3-2
3.2.1 Erosion Control 3-2
3.2.2 Sediment Controls 3-4

3.3 Non-Stormwater Controls and Waste and Materials Management 3-6
3.3.1 Non-Stormwater Controls 3-6
3.3.2 Materials Management and Waste Management 3-8
3.4 TMDL-Related BMPs 3-10
3.5 Post Construction Stormwater Management Measures 3-11
Section 4 BMP Inspection and Maintenance 4-1
4.1 BMP Inspection and Maintenance 4-1
Section 5 Training 5-1
Section 6 Responsible Parties and Operators 6-1
6.1 Responsible Parties 6-1
6.2 Contractor List 6-3
Section 7 Construction Site Monitoring Program 7-1
7.1 Purpose 7-1
7.2 Applicability of Permit Requirements 7-1
7.3. Weather and Precipitation Event Tracking 7-1
7.4 Monitoring Locations 7-2
7.5 Safety and Monitoring Exemptions 7-2
7.6 Visual Monitoring 7-3
7.7 Water Quality Sampling and Analysis 7-7
7.8 Active Treatment System Monitoring 7-16
7.9 Passive Treatment Monitoring 7-16
7.10 Watershed Monitoring Option 7-16
7.11 Quality Assurance and Quality Control 7-16
7.12 Records Retention 7-19
Section 8 References 8-1

Appendices

Appendix A:	Site Maps and Drawings
Appendix B:	Permit Registration Documents
Appendix C:	SWPPP Amendment QSD Certifications
Appendix D:	Submitted Changes of Information
Appendix E:	Construction Schedule
Appendix F:	Construction Activities, Materials Used, and Associated Pollutants
Appendix G:	CASQA Stormwater BMP Handbook: Construction Fact Sheets
Appendix H:	BMP Inspection Form
Appendix I:	Training Forms
Appendix J:	Responsible Parties
Appendix K:	Contractors and Subcontractors
Appendix L:	Calculations
Appendix M:	Weather Reports
Appendix N:	Monitoring Records
Appendix O:	Example Storm Event Monitoring Forms
Appendix P:	Field Meter Instructions
Appendix Q:	Supplemental Information
Appendix R:	Active Treatment System and Passive Treatment Plans
Appendix S:	Construction General Permit

Qualified SWPPP Developer

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: *Flood Control District: Rancho Cucamonga New Yard Construction*

Project Number/ID: *09003041*

"This Stormwater Pollution Prevention Plan and its appendices were prepared under my direction to meet the requirements of the California Construction Stormwater General Permit (*Order No. 2022-0057-DWQ*). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below and will maintain up to date credentials for the duration of the project."

QSD Signature	*Date*
John M. Brudin P.E., QSD	00707
QSD Name	*QSD Certificate Number*
Principal Engineer/ERSC, Inc.	909-890-1255
Title and Affiliation	*Telephone Number*
mbrudin@erscinc.com	
Email	

Amendment Log

Project Name: *Flood Control District: Rancho Cucamonga New Yard Construction*

Project Number/ID: [if applicable] 09003041

Amendment No.	Date	Brief Description of Amendment (include section and page number)	Prepared and Approved By
			Name: QSD#
			Name: QSD#
			Name: QSD#

The SWPPP will be revised when:

- There is a 2022 CGP violation (2022 CGP Section VI.Q.1);
- There is a reduction or increase in total disturbed acreage (2022 CGP Section III.F.2. and F.4);
- BMPs are not effective and are not resulting in a reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges (2022 CGP Section VI.Q.1 and Attachment E Section III.C.5);
- There is a change in the project duration that changes the project Risk Type (2022 CGP Section III.F.1);
- Dischargers with projects where all construction activities (including passive treatment, active treatment systems, and/or active equipment) will be suspended for 30 days or more (2022 CGP Section III.G);
- There is a change in construction or operations that may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4) (2022 CGP Sections IV.O. and VI.Q.1); or

When deemed necessary by the QSD. The QSD has determined that the changes listed in Table 1-1 can be field determined by the QSP. All other changes will be made by the QSD as formal amendments to the SWPPP. Note that the 2022 CGP requires that the QSD "revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations (2022 CGP Section V.C.2.).

SWPPP Amendment QSD Certifications are located in Appendix C.

Section 1 SWPPP Requirements

1.1 INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (2022 CGP),* State Water Resources Control Board (State Water Board) *Order No. 2022-0057-DWQ (NPDES No. CAS000002)* (Appendix S). This SWPPP has been prepared following the 2022 CGP SWPPP Template for Traditional Projects provided in the California Stormwater Quality Association (CASQA) Stormwater *Best Management Practice (BMP) Handbook: Construction* (CASQA 2023).

This project is considered a traditional construction project.

In accordance with the 2022 CGP, Section IV.O, this SWPPP is designed to address the following:

- Identification of all pollutants, their sources, and control mechanisms, including sources of sediment associated with all construction activities (e.g., sediment, paint, cement, stucco, cleaners, site erosion);
- Pollutant source assessments, including a list of potential pollutant sources and identification of site areas where additional BMPs are necessary to reduce or prevent pollutants in stormwater and authorized non-stormwater discharges, per the minimum requirements when developing the pollutant source assessment;
- Description of site-specific BMPs implemented to reduce or eliminate stormwater pollution;
- Where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- 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/Best Control Technology (BAT/BCT) standard; and;
- Stabilization BMPs are installed to reduce or eliminate pollutants after construction is completed are effective and maintained; and
- Calculations and design details, as well as BMP controls, are complete and correct.

The Rancho Cucamonga Yard project comprises approximately 2.66, of which 1.82 will be disturbed. The Project is located at 12158 Baseline Road in Rancho Cucamonga, California. The property is owned by The County of San Bernardino and is being developed by San Bernardino County/Real Estate Services. The project's location is shown on the Site Maps in Appendix B.

1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) shall be submitted to the State Water Board via the Stormwater Multi Application and Report Tracking System (SMARTS) by the LRP or DAR. The project-specific PRDs include (2022 CGP Section III.A):

1. Notice of Intent (NOI);

2. Risk Level Determination (Construction Site Sediment and Receiving Water Risk Determination);
3. Site Drawings and Map;
4. SWPPP;
5. Annual Fee per the current 23 California Code of Regulations Chapter 9 fee schedule for National Pollutant Discharge Elimination System (NPDES) stormwater permits; and
6. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal).

Site Maps can be found in Appendix A. A copy of the submitted PRDs shall also be kept in Appendix B along with the Waste Discharge Identification (WDID) confirmation.

1.3 SWPPP AVAILABILITY AND IMPLEMENTATION

The SWPPP will be available at the construction site during working hours list on the title sheet and Section 7.5, while construction is occurring and shall be made available upon request by a federal, state, or municipal inspector. A current copy of the site-specific SWPPP and any site inspection reports required by the 2022 CGP may be kept in electronic format at the site so long as the information requested by a federal, state, or municipal inspector can be made available during an inspection. Legible maps in hard copy must be available at the site (2022 CGP Section IV.O.1.).

The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The SWPPP must remain on the site during construction activities, commencing with the initial mobilization and ending with the termination of coverage under the 2022 CGP.

1.4 SWPPP AMENDMENTS

SWPPP changes or amendments will be uploaded through SMARTS within 30 calendar days. The SWPPP will be revised when:

- If there is a 2022 CGP violation (2022 CGP Section VI.Q.1);
- There is a reduction or increase in total disturbed acreage (2022 CGP Section III.F.2 and F.4.);
- BMPs are not effective and are not resulting in a reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges (2022 CGP Section VI.Q.1 and Attachment D Section III.C.5);
- There is a change in the project duration that changes the project's risk level (2022 CGP Section III.F.1); or
- Dischargers with projects where all construction activities (including passive treatment, active treatment systems, and/or active equipment) will be suspended for 30 days or more (2022 CGP Section III.G.).

Additionally, the SWPPP will be amended when:

- There is a change in construction or operations that may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4) (2022 CGP Sections IV.O. and VI.Q.1); or

When deemed necessary by the QSD. The QSD has determined that the changes listed in Table 1-1 can be field determined by the QSP. All other changes will be made by the QSD as formal amendments to the SWPPP. Note that the 2022 CGP requires that the QSD revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations (2022 CGP Section V.C.2.).

The following items shall be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP(s) proposed, if any;
- The new BMP(s) proposed; and
- QSD certification.

SWPPP amendments will be logged at the front of the SWPPP and SWPPP Amendment QSD certifications will be located in Appendix C. The SWPPP text will be revised, replaced and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be made by a QSD. The following changes have been designated by the QSD as "to be field determined" and constitute minor changes that the QSP may implement based on field conditions.

Table 1-1 List of Changes to be Field Determined

Candidate changes for field location or determination by QSP (1)	Check changes that can be field located or field determined by QSP
Increase quantity of an Erosion or Sediment Control Measure	*X*
Relocate/add stockpiles or stored materials	*X*
Relocate or add toilets	*X*
Relocate vehicle storage and/or fueling locations	*X*
Relocate areas for waste storage	*X*
Relocate water storage and/or water transfer location	*X*
Changes to access points (entrance/exits)	*X*
Change type or location of Erosion or Sediment Control Measure	*X*
Minor changes to schedule or phases	*X*
Changes in construction materials	*X*
(1) Any field changes not identified for field location or field determination by the QSP must be made as an amendment by the QSD.	

1.5 RETENTION OF RECORDS

Paper or electronic records of documents required by this SWPPP will be retained for a minimum of three years from the date generated or date submitted, whichever is later, for the following items:

- SWPPP;
- Visual monitoring reports;
- Sampling equipment calibration records;
- pH and turbidity sampling field sheets;
- Analytical laboratory reports; and
- Erosion Control Plans

These records will be available at the Site until construction is complete. Records assisting in the determination of compliance with the 2022 CGP will be made available within a reasonable time to the Regional Water Board, State Water Board, or U.S. Environmental Protection Agency (EPA) upon request. Requests by the Regional Water Board for retention of records for a period longer than three years will be adhered to.

1.6 REPORTING

Completed inspection checklists are not required to be submitted to the Regional Water Board. However, completed inspection checklists will be kept with the SWPPP on-site or electronically. The 2022 CGP requires that permittees prepare, certify, and electronically submit an Annual Report no later than September 1 of each year. Reporting requirements are identified in 2022 CGP Section VI.P. Annual reports will be filed in SMARTS and in accordance with information required by the online forms.

Planned changes in site construction activities that may result in non-compliance with the 2022 CGP are required to be provided in writing to the Regional Water Board and local stormwater agency in advance of the changes.

If a 2022 CGP discharge violation occurs, the QSP will immediately notify the LRP. The LRP will include information on the violation with the Annual Report. Corrective measures will be implemented immediately following identification of the discharge or written notice of non-compliance from the Regional Board. Discharges and corrective actions must be documented and include the following items:

- The date, time, location, nature of operation, and type of unauthorized discharge;
- The cause or nature of the notice or order;
- The BMPs deployed before the discharge event, or prior to receiving notice or order; and
- The date of deployment and type of 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.

Results of (pH and turbidity, etc.) monitoring will be electronically submitted through SMARTS for all field sampling results within 30 days of the completion of the precipitation event or within 10 days if the field sampling results demonstrate the exceedance of the pH and/or turbidity NALs. See Section 7.7.2.7 for additional discussion of the reporting requirements.

Reporting requirements for pH and turbidity Receiving Water Monitoring Triggers are discussed in Section 7.7.2.7.

Results of non-visible pollutant monitoring and corrective actions will be electronically submitted within 30 days after obtaining analytical results or within 10 days if the analytical results demonstrate the exceedance of an applicable TMDL-related NAL or NEL or Basin Plan parameter. See Section 7.7.1.7 for additional discussion of the reporting requirements.

A NAL exceedance report will be prepared when requested, in writing, by the Regional Water Board.

In the event of a TMDL NEL exceedance, by the end of each reporting year the project will submit and certify, in SMARTS, documentation of the site assessment, SWPPP evaluation, and implementation of the corrective actions.

Results of monitoring (pH, turbidity, flowrate, volume discharged, and freeboard storage) will be electronically submitted monthly during the project. See the ATS Plan for additional discussion of the reporting requirements.

In the event of an ATS NEL exceedance results will be electronically certified and submitted to SMARTS within 24-hours of obtaining the results.

The Regional Water Board will be notified via email 24 hours prior to the beginning of a planned dewatering discharge.

In the event of an emergency dewatering, the Regional Water Board and applicable MS4 are to be notified within 24 hours of a discharge occurring. An emergency is defined as the need to protect human life and health or prevent severe property damage.

Results of (pH and turbidity, etc.) monitoring will be electronically submitted through SMARTS for all field sampling results within 30 days of the completion of the precipitation event or within 10 days if the field sampling results demonstrate the exceedance of the pH and/or turbidity NALs.

See Section 7.7.4.5 for additional discussion of the reporting requirements including contacts for Regional Water Board and MS4 notifications.

A Passive Treatment Plan will be submitted electronically 14 days before passive treatment chemicals are used on site. See the Passive Treatment Plan for additional discussion of the reporting requirements.

1.7 CHANGES TO PERMIT COVERAGE

The 2022 CGP allows for the reduction or increase of the total acreage covered under the 2022 CGP when: a portion of the project is complete and/or conditions for termination of coverage have been met, when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs will be filed electronically through a Change of Information (COI) within 30 days of a reduction or increase in total disturbed area if a change in permit-covered acreage is to be sought. The SWPPP will be modified appropriately and will be logged at the front of the SWPPP. SWPPP Amendments QSD Certifications will be located in Appendix C . COIs submitted electronically via SMARTS can be found in Appendix D.

1.8 NOTICE OF TERMINATION

A Notice of Termination (NOT) must be submitted electronically by the LRP or DAR via SMARTS to terminate coverage under the 2022 CGP.

According to the requirements of 2022 CGP Section III.H.4., the following final stabilization method will be used to satisfy final stabilization condition requirements:

70 percent final cover method supported by pre- and post-project photographs demonstrating stabilization.

RUSLE or RUSLE2 method with computation proof supported by pre- and post-project photographs demonstrating stabilization.

Custom method for which Regional Water Board approval has been obtained, supported by documentation required by the Regional Water Board and pre- and pos- project photographs demonstrating stabilization.

The Regional Water Board will consider a construction site complete when the conditions of the 2022 CGP Section III.H., have been met.

The discharger is required to submit the following in SMARTS:

- NOT SMARTS Form;
- QSP-prepared final NOT inspection which includes the QSP name and valid QSP certificate number;
- Final site map with photo orientation references;
- Photos demonstrating final stabilization and the applicable post-construction BMPs and/or low impact development; and
- A long-term maintenance plan for the post-construction stormwater runoff BMPs and/or low impact development features being implemented.

According to the 2022 CGP, the NOT will be automatically approved within 30 calendar days after the date the NOT was submitted, unless, within the 30 calendar days the Regional Water Board notifies the discharger through SMARTS that the Notice of Termination has been denied, returned, or accepted for review (2022 CGP Section III.H.7).

Note: If an Annual Report has not been filed in the current reporting year, an Annual Report will need to be submitted prior to the NOT.

Section 2 Project Information

2.1 PROJECT AND SITE DESCRIPTION

2.1.1 Site Description

The Rancho Cucamonga Yard project site is Risk Level 1 that comprises approximately 2.66 acres and is located at 12158 Baseline Road, in Rancho Cucamonga, California. The project site is located approximately 1.5 miles West of Interstate-15 Ontario Freeway. The project site is located approximately 450 feet East of Day Creek. The project is located at Lat 34°7'25" N / Long 117°32'22" W and is identified on the Construction Plans in Appendix B.

2.1.2 Existing Conditions

As of the initial date of this SWPPP, the project site is site is undeveloped. Currently, the county of San Bernardino operates a corporate yard located at the south side of the project and is proposing a new building and the extension of the existing access road until the project area.

2.1.3 Existing Drainage

The project site is relatively flat, with slopes of 2.2 percent. The elevation of the project site ranges from 1347 to 1336 feet above mean sea level (msl). Surface drainage at the site currently flows to the southeast corner, toward Baseline Road and then is collected and discharged into Day Creek which flows to the Santa Ana River Basin which drains to the Prado Reservoir. Stormwater is conveyed through surface runoff, storm drain systems, etc. Existing site topography, drainage patterns, and stormwater conveyance systems are shown on Site Maps in Appendix A.

The project discharges to Day Creek, which is not listed for water quality impairment on the most recent 303(d)-list. The water quality impairments (303 (d) list and TMDLs identified in the 2022 CGP Table H-1 for the receiving waters are identified in the Table 2-1.

Table 2-1 Applicable 303(d) List Impairments and TMDLs

Receiving Water	Water Quality Impairment	
	303(d) list	TMDL (2022 CGP Table H-1)

[Additional compliance actions applicable to the project are discussed in more detail in Section 7.7.]

2.1.4 Geology and Groundwater

A revised Geotechnical Engineering Report dated March 8,2019, was prepared by Geocon West, Inc. for the project. The site is underlain by previously placed fill and Holocene age alluvial fan deposits consisting predominantly of sand and gravel. Groundwater was not encountered during the boring test drilled to a maximum depth of 25.5 feet beneath the existing ground surface. Based on the lack of water found in the bores, groundwater is neither expected to be encountered during construction, nor have a detrimental effect on the project.

2.1.5 Project Description

Project grading will occur on approximately 1.82 of the project, which comprises approximately 68 percent of the total area. The limits of grading are shown on the Grading Plans in Appendix B. Grading will include both cut and fill activities, with the total graded material estimated to be 2,051 cubic yards. Approximately 1,510 cubic yards of fill material will be imported during grading activities. Graded materials are expected to be balanced onsite. Soil will be stockpiled as needed as shown on The Erosion Control Plans Appendix A. Construction activities will not be phased.

2.1.6 Developed Condition

Post-construction surface drainage will be directed from the Northwest Corner of the project area as surface flow through stormwater conveyance systems. Any overflow conditions will discharge from the south side of the proposed Trench to Baseline Road, then it is collected and discharged into Day Creek which flows to Santa Ana River Basin.

Post-construction drainage patterns and conveyance systems are presented on Construction Plans in Appendix A.

Table 2-2 Construction Site Estimates

Construction site area	2.66	acres
Total area of disturbance	1.82	acres
Percent impervious before construction	0	%
Runoff coefficient before construction	0.04	
Percent impervious after construction	38	%
Runoff coefficient after construction	0.27	

2.2 PERMITS AND GOVERNING DOCUMENTS

In addition to the 2022 CGP, the following documents have been taken into account while preparing this SWPPP:

- Regional Water Board requirements
- Basin Plan requirements
- Contract Documents
- Air Quality regulations and permits
- Federal Endangered Species Act
- National Historic Preservation Act/Requirements of the State Historic Preservation Office
- State of California Endangered Species Act

- Clean Water Act Section 401 Water Quality Certifications and 404 Permits
- CA Department of Fish and Game 1600 Streambed Alteration Agreement
- California Ocean Plan
- State Water Board GeoTracker database (GeoTracker)

2.3 STORMWATER RUN-ON FROM OFFSITE AREAS

There is no anticipated offsite run-on to this construction site because the project area is surrounded by paved streets on the north and south.

2.4 FINDINGS OF THE 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 Risk Level 1.

The risk level was determined through the use of the Risk Determination Worksheet (General Permit Appendix 1). The risk level is based on project duration, location, proximity to impaired receiving waters and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in Appendix A.

The risk level was determined through the use of the [describe method (e.g., R-value determined from EPA's *Rainfall Erosivity Factor Calculator for Small Construction Sites* at: https://lew.epa.gov/ in accordance with the State Water Board Guidance for multi-year projects at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/smarts/construction/docs/rfactor_guide.pdf, and [K and LS provided in SMARTS, a site-specific analysis, etc.)]. The risk level is based on project duration, location, proximity to impaired receiving waters, and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in Appendix B.

Table 2-3 and Table 2-4 summarize the sediment and receiving water risk factors and document the sources of information used to derive the factors.

Table 2-3 Summary of Sediment Risk

RUSLE Factor	Value	Method for Establishing Value
R	30.38	RUSLE – See Appendix A
K	0.24	RUSLE – See Appendix A
LS	0.94	RUSLE – See Appendix A
Total Predicted Sediment Loss (tons/acre)		**6.85**
Overall Sediment Risk Low Sediment Risk < 15 tons/ acre Medium Sediment Risk >= 15 and < 75 tons/acre High Sediment Risk >= 75 tons/acre		☒ **Low** ☐ **Medium** ☐ **High**

Runoff from the project site discharges into Baseline Road that discharges into Day Creek which flows to Santa Ana River Basin which drains to the Prado Reservoir.

Table 2-4 Summary of Receiving Water Risk

Receiving Water Name	303(d) Listed for Sediment Related Pollutant (1)	TMDL for Sediment Related Pollutant (1)	Beneficial Uses of COLD, SPAWN, and MIGRATORY (1)
None	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No
Overall Receiving Water Risk			☒ **Low** ☐ **High**
(1) If yes is selected for any option the Receiving Water Risk is High			

Risk Level 1 sites are subject to the narrative effluent limitations specified in the 2022 CGP, and may be subject to numeric effluent limits for applicable TMDLs, dewatering activities, active treatment systems and passive treatment systems used on site. The narrative effluent limitations require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures, and best management practices (BMPs). This SWPPP has been prepared to address Risk Level 1 requirements (2022 CGP Attachment D).

2.5 CONSTRUCTION SCHEDULE

The site sediment risk was determined based on construction taking place between March 2024 and December 2024. Modification or extension of the schedule (start and end dates) may affect risk determination and permit requirements. The LRP shall contact the QSD if the schedule changes during construction to address potential impact to the SWPPP. The estimated schedule for planned work can be found in Appendix E.

2.6 POTENTIAL CONSTRUCTION ACTIVITY AND POLLUTANT SOURCES

Appendix F includes a list of construction activities and associated materials that are anticipated to be used onsite as well as the pollutant source assessment form that was completed for the project. These 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. Locations of anticipated pollutants and associated BMPs are shown on the Site Map in Appendix A.

Additionally, proper measures will be taken to ensure that trench spoils or any other soils disturbed during construction activities that are contaminated are not discharged with stormwater or non-stormwater discharges into storm drains or water bodies (except pursuant to a separate NPDES Permit). If contaminated soils are found on site, and the responsible party cannot be identified or fails to take action, soils will be sampled to determine proper handling and protect public safety. The appropriate local, State, and federal agencies along with the appropriate Regional Water Board will be notified when contaminated soils are observed.

For sampling requirements for non-visible pollutants associated with construction activity, please refer to Section 7.7.1. For a full and complete list of onsite pollutants, refer to the Safety Data Sheets (SDS), which are retained onsite at the construction trailer or are available electronically at the site.

2.7 TMDL REQUIREMENTS

Based on the project's receiving water and the pollutant source assessment, the following TMDLs are applicable to the project (See 2022 CGP Attachment H).

Table 2-8 Project TMDLs

TMDL	Applicable Water Body/ Watershed	Pollutants	Additional TMDL-Related NAL or NEL	Compliance Actions

These TMDLs are also identified in Section 2.1.3. The applicable NALs and NELs are also identified in Section 2.4. BMP requirements related to TMDLs are discussed in Section 3.4. Monitoring requirements related to TMDLs are discussed further in Section 7.7.

2.8 IDENTIFICATION OF NON-STORMWATER DISCHARGES

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the 2022 CGP and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Non-stormwater discharges that are authorized from this project site include the following:

- Irrigation Runoff
- Street Sweeping Runoff
- Fire Hydrant Testing
- Fire Sprinkler Testing
- Emergency Firefighting Activities

These authorized non-stormwater discharges will be managed with the stormwater and non-stormwater BMPs described in Section 3 of this SWPPP and will be minimized under the direction of the QSP. Additionally, the non-stormwater discharges not applicable to this project are still allowable granted they do not contact potential pollutant sources.

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

- Dust Control Water
- Grading Water
- Wash Water (Vehicles, Equipment, Tools, Building, etc)
- Dewatering Discharge
- Utility Line Testing & Flushing
- Vehicle & Equipment Use

Steps will be taken, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site.

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.

The following discharge(s) have been authorized by (a) regional NPDES permit(s):

- None

2.9 REQUIRED SITE MAP INFORMATION

The construction project's Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography, locations of storm drain inlets that receive runoff from the project, and other requirements identified in 2022 CGP Sections IV.O.2. k and l are located in Appendix A. Table 2-9 identifies Maps or Sheet Nos. where required elements are illustrated.

Table 2-9 Required Map Information

Included on Map/Plan Sheet No. (1)	Required Element
Pre-Earthwork Drawings	

Table 2-9 Required Map Information

Included on Map/Plan Sheet No. [1]	Required Element
Cover Sheet	Site and project boundaries
N/A	Areas disturbed during geotechnical or other preconstruction investigation work
Grading Plans	Existing roads and trails
Grading Plans/WQMP	Drainage areas
Grading Plans	Discharge locations
N/A	Existing storm drain system if applicable
Erosion Control Plan	Proposed locations of storage areas for waste
Erosion Control Plan	Proposed locations of construction materials
Erosion Control Plan	Proposed locations of project staging areas
Erosion Control Plan	Proposed locations of stockpiles
Erosion Control Plan	Proposed locations of vehicles, equipment staging and vehicle maintenance
Erosion Control Plan	Proposed locations of loading/unloading materials
Erosion Control Plan	Proposed locations of site access (entrance/exits)
Erosion Control Plan	Proposed locations of fueling, water storage, water transfer for dust control
Erosion Control Plan	Proposed locations of demolition
Erosion Control Plan	Proposed locations of other construction support activities
Construction and Earthwork Drawing(s)	
Grading Plans	Site layout (grading plans) including roads
Grading Plans	Site and project boundaries
Grading Plans/WQMP	Drainage areas
Grading Plans	Discharge locations

Table 2-9 Required Map Information

Included on Map/Plan Sheet No. (1)	Required Element
N/A	Sampling locations
N/A	Areas of soil disturbance (temporary or permanent)
Grading Plans	Proposed active areas of soil disturbance (cut or fill)
Erosion Control Plan	Proposed locations of erosion control BMPs
Erosion Control Plan	Proposed locations of sediment control BMPs
Erosion Control Plan	Proposed locations of run-off BMPs
N/A	Temporary and/or permanent run-on conveyance (if applicable)
N/A	Proposed locations of active treatment systems(s) (if applicable)
Erosion Control Plan	Proposed locations of storage areas for waste
Erosion Control Plan	Proposed locations of construction materials
Erosion Control Plan	Proposed locations of project staging areas
Erosion Control Plan	Proposed locations of stockpiles
Erosion Control Plan	Proposed locations of vehicles, equipment and vehicle maintenance
Erosion Control Plan	Proposed locations of loading/unloading materials
Erosion Control Plan	Proposed locations of site access (entrance/exits)
Erosion Control Plan	Proposed locations of fueling, water storage, water transfer for dust control
Erosion Control Plan	Proposed locations of demolition
Erosion Control Plan	Proposed locations of other construction support activities
Erosion Control Plan	Site-specific procedures to implement final stabilization BMPs as soon as reasonably practicable

Notes: (1) Indicate maps or drawings that information is included on (e.g., Vicinity Map, Site Map, Drainage Plans, Grading Plans, Progress Maps.)

Section 3 Best Management Practices

3.1 SCHEDULE FOR BMP IMPLEMENTATION

BMPs will be implemented as per the schedule indicated in Table 3-1. [Include additional descriptions of significant land disturbing activities and work near drainages or receiving water.]

Table 3-1 BMP Implementation Schedule

	BMP	Location	Implementation	Duration
Erosion Control BMPs	EC-1, Scheduling		Prior to Construction	Entirety of Project
	EC-5, Soil Binder		As Needed	Until NOT filed
	EC-8, Wood Mulching		As Needed	Entirety of Project
	EC-14, Compost Blanket		As Needed	Entirety of Project
	EC-16, Non-Vegetative Stabilization		As Needed	Entirety of Project
Sediment Control BMPs	SE-1, Slit Fence		Daily Construction Activity	Entirety Project
	SE-5, Fiber Rolls		Prior to Construction	Until NOT filed
	SE-7, Street Sweeping		Prior to Construction	Until NOT filed
	SE-8, Sandbag Barrier		Prior to Construction	Until NOT filed
Wind Erosion Control BMPs	WE-1, Wind Erosion Control		After ground breaking	Until NOT filed
Tracking Control BMPs	TC-1, Stabilized Construction Entrance/Exit		Prior to Construction	Until track out can be controlled without

3.2 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are required by the 2022 CGP 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 control, 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 and/or binding soil particles.

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

1. Preserve existing vegetation where required and when feasible.
2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding, or alternate methods.
5. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP.

The following erosion control BMP selection table, Table 3-2 indicates the BMPs that will be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in Appendix G.

These temporary erosion control BMPs shall be implemented in conformance with the following guidelines and as outlined in the BMP Factsheets provided in Appendix G. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-2 Erosion Control BMPs

CASQA Fact Sheet	BMP Name	Considered for the Project[1]	BMP Used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
EC-1	Scheduling	✓	✓		
EC-2	Preservation of Existing Vegetation	✓		✓	No existing vegetation
EC-3	Hydraulic Mulch	✓[2]		✓	No slopes, stockpiles, burn areas
EC-4	Hydroseed	✓[2]		✓	Project size
EC-5	Soil Binders	✓[2]			
EC-6	Straw Mulch	✓[2]		✓	Project size
EC-7	Geotextiles and Mats	✓[2]		✓	No slopes
EC-8	Wood Mulching	✓[2]	✓		
EC-9	Earth Dike and Drainage Swales	✓[3]		✓	Project size
EC-10	Velocity Dissipation Devices	✓[3]		✓	Project size
EC-11	Slope Drains	✓[3]		✓	No slopes
EC-12	Stream Bank Stabilization			✓	No Streams
EC-14	Compost Blankets	✓[2]	✓		
EC-15	Soil Preparation-Roughening	✓	✓		
EC-16	Non-Vegetated Stabilization	✓[2]	✓		
WE-1	Wind Erosion Control	✓	✓		

[1] The 2022 CGP Fact Sheet Section I.R.1.d.through I.R.1.i.describes various BMPs that should be considered for use on the construction site.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] All run-on and runoff from the construction site shall be managed for Risk Level 2 and 3 and Risk Level 1 if the evaluation of quantity and quality of run-on and runoff deems them necessary or visual inspections show that the site requires these controls. Run-on from offsite shall be directed away from all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer and/or additional environmental permitting.

These temporary erosion control BMPs shall be implemented in conformance with the following guidelines and as outlined in the BMP Factsheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

3.2.2 Sediment Controls

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

The following sediment control BMP selection table indicates the BMPs that will be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in Appendix G.

These temporary sediment control BMPs will be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix G. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-3 Temporary Sediment Control BMPs

CASQA Fact Sheet	BMP Name	Considered for the Project[1]	BMP used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
SE-1	Silt Fence	✓[2] [3]	✓		
SE-2	Sediment Basin			✓	Project size
SE-3	Sediment Trap			✓	Project size
SE-4	Check Dams			✓	No existing swales
SE-5	Fiber Rolls	✓[2][3]	✓		
SE-6	Gravel Bag Berm	✓[3]		✓	Other methods available
SE-7	Street Sweeping	✓			
SE-8	Sandbag Barrier		✓		
SE-9	Straw Bale Barrier			✓	No slopes
SE-10	Storm Drain Inlet Protection	✓ RL2		✓	No inlets
SE-11	ATS			✓	Project size
SE-12	Manufactured Linear Sediment Controls			✓	Other methods available
SE-13	Compost Sock and Berm	[3]		✓	Other methods available
SE-14	Biofilter Bags	✓[3]		✓	Other methods available
NA	Passive Treatment System			✓	Other methods available
TC-1	Stabilized Construction Entrance and Exit	✓	✓		
TC-2	Stabilized Construction Roadway			✓	Project size
TC-3	Entrance Outlet Tire Wash			✓	Project size

[1] The 2022 CGPs Fact Sheet Section I.R.1.d through I.R.1.i describes various BMPs that should be considered for use on the construction site.
[2] The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements.
[3] All run-on and runoff from the construction site shall be managed. Risk Level 2 and 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope.

These temporary sediment control BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Street Sweeping

As needed where track out is observed.

Stabilized Construction Entrance and Exit

Add plates and rock, or scarify rock, as needed to clean tires if track out is observed.

3.3 NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT

3.3.1 Non-Stormwater Controls

Non-stormwater discharges into storm drainage systems or waterways which are not authorized under the 2022 CGP are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Section 2.7 of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that will be implemented to control sediment on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in Appendix G.

Non-stormwater BMPs will be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix G. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-4 Temporary Non-Stormwater BMPs

CASQA Fact Sheet	BMP Name	Considered for the Project [1]	BMP used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
NS-1	Water Conservation Practices	✓	✓		
NS-2	Dewatering Operation	✓		✓	N/A
NS-3	Paving and Grinding Operation		✓		
NS-4	Temporary Stream Crossing			✓	N/A
NS-5	Clear Water Diversion			✓	N/A
NS-6	Illicit Connection/Discharge	✓	✓		
NS-7	Potable Water/Irrigation	✓		✓	N/A
NS-8	Vehicle and Equipment Cleaning	✓	✓		
NS-9	Vehicle and Equipment Fueling	✓	✓		
NS-10	Vehicle and Equipment Maintenance	✓	✓		
NS-11	Pile Driving Operation			✓	N/A
NS-12	Concrete Curing		✓		
NS-13	Concrete Finishing			✓	N/A
NS-14	Material and Equipment Use Over Water			✓	N/A
NS-15	Demolition Removal Adjacent to Water			✓	N/A
NS-16	Temporary Batch Plants			✓	N/A

[1] The 2022 CGP Fact Sheet Section I.R.1.d through I.R.1.i describes various BMPs that should be considered for use on the construction site.

Non-stormwater BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

3.3.2 Materials Management and Waste Management

Materials 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. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing, and ensuring proper disposal of wastes 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.]

Materials and waste management pollution control BMPs will be implemented to minimize stormwater contact with construction materials, wastes, and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in Section 2.6. The following Materials and Waste Management BMP selection table, Table 3-5, indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in Appendix G.

Material management BMPs will be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix G. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

Table 3-5 Temporary Materials Management BMPs

CASQA Fact Sheet	BMP Name	Considered for Project [1]	BMP used		If not used, state reason and alternate BMP, if applicable
			YES	NO	
WM-01	Material Delivery and Storage	✓	✓		
WM-02	Material Use	✓	✓		
WM-03	Stockpile Management	✓	✓		
WM-04	Spill Prevention and Control	✓	✓		
WM-05	Solid Waste Management	✓	✓		
WM-06	Hazardous Waste Management	✓	✓		
WM-07	Contaminated Soil Management			✓	N/A
WM-08	Concrete Waste Management	✓	✓		
WM-09	Sanitary-Septic Waste Management		✓		
WM-10	Liquid Waste Management	✓		✓	N/A

[1] The 2022 CGP Fact Sheet Sections I.R.1.d through I.R.1.i describes various BMPs that should be considered for use on the construction site.

Material management BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

3.4 TMDL-RELATED BMPS

Bacteria TMDL BMPs:

- The QSP shall conduct training for construction site staff on routine housekeeping and sanitary waste management of identified sources of bacteria.
- Structural BMPs designed for retention, infiltration, or diversion of stormwater shall be evaluated and implemented when the implemented minimum source control BMPs are inadequate to reduce bacteria loading to receiving waters.

Chloride and Salts TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Diazinon TMDL BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Nutrient TMDL BMPs:

- [RUSLE2 modeling was used to demonstrate that the erosion and sediment control BMP design will yield less sediment delivery during construction than pre-constructions conditions. RUSLE2 computational proof is included in Appendix B of this SWPPP.]
- [No additional BMPs are identified for this pollutant category in the 2022 CGP.]

Sediment TMDL BMPs:

- [RUSLE2 modeling was used to demonstrate that the erosion and sediment control BMP design will yield less sediment delivery during construction than pre-constructions conditions. RUSLE2 computational proof is included in Appendix B of this SWPPP.]
- [No additional BMPs are identified for this pollutant category in the 2022 CGP.]

Temperature BMPs:

- No additional BMPs are identified for this pollutant category in the 2022 CGP.

Metals and Toxics TMDL BMPs:

- [RUSLE2 modeling was used to demonstrate that the erosion and sediment control BMP design will yield less sediment delivery during construction than pre-constructions conditions. RUSLE2 computational proof is included in Appendix B of this SWPPP.]
- [No additional BMPs are identified for this pollutant category in the 2022 CGP.]

3.5 POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is subject to the post-construction requirements of an existing NPDES Phase I or Phase II MS4. ☒ Yes ☐ No

The post construction runoff reduction requirements have been satisfied through the MS4 program, this project is exempt from 2022 CGP Provision IV.N.3. The MS4's post construction requirements and the post-construction plans and calculations [submitted to or approved by] the MS4 were uploaded as part of the PRDs as required by 2022 CGP Provision IV.N.2. The approved Long-Term Maintenance Plan will be uploaded with the NOT.

The post construction runoff reduction requirements have been satisfied through compliance with 2022 CGP Provision IV.N.3 and use of the SMARTS water balance calculator. The post construction requirements were uploaded as part of the PRDs as required by 2022 CGP Provision IV.N.2.

- Local requirements: City of Rancho Cucamonga Storm Water and Urban Runoff Management and Discharge Control Ordinance

Section 4 BMP Inspection and Maintenance

4.1 BMP INSPECTION AND MAINTENANCE

The 2022 CGP requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying precipitation events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist must include the necessary information covered in Section 7.6. A blank BMP Inspection Form can be found in Appendix H. Completed forms will be kept in Appendix N.

Maintenance, repair, or design and implementation of new BMPs alternatives will be begin within 72 hours of the identification of failures or other shortcomings. Corrections will be completed as soon as possible, prior to the next forecasted precipitation event (2022 CGP Appendix D Section II.J).

The QSP will verify that all BMP maintenance and repairs were appropriately implemented during the next visual inspection following completion.

The QSP may delegate BMP maintenance and repair verification to an appropriately trained QSP Delegate.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix G.

Section 5 Training

Appendix J identifies the QSPs and QSP Delegates for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel will be included as part of routine project meetings (e.g., daily/weekly tailgate safety meetings), or task specific training as needed. Refresher training will be provided as necessary.

The QSP will be responsible for providing this information at the meetings, and subsequently completing the Training Reporting Form shown in Appendix I, which identify the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting.

The QSP may delegate specific tasks to trained QSP Delegates who have received the following training based on the guidelines developed by the Construction General Permit Training Team:

1. **Foundational training** for all QSP Delegate(s) regarding stormwater compliance roles and responsibilities, forecast information, and documentation and reporting procedures; and
2. **Site-specific training** regarding visual inspections, sampling procedures, and/or SWPPP and BMP implementation activities relevant to the responsibilities assigned to the QSP Delegate(s).

The delegate cannot perform the QSD and QSP inspections required in Section V.C.4 or Section V.D.2, respectively.

Documentation of training activities will be retained in Appendix I.

Section 6 Responsible Parties and Operators

6.1 RESPONSIBLE PARTIES

DAR(s) who are responsible for SWPPP implementation and have authority to sign permit-related documents [is/are] listed below. The DAR(s) assigned to this project [is/are]:

Name	Title	Phone Number
Donald Day	Project and Facilities Management	909-387-5224
San Bernardino County Project & Facilities Management Department		

QSD(s) identified for the project are identified in Appendix J. The QSD will have primary responsibility for assessing how construction activities will affect sediment transport, erosion, and other discharges of pollutants in stormwater runoff throughout the project. The QSD is required to revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations. The QSD is required to perform the following on-site visual inspections:

- Within 30 days of construction activities commencing on site;
- Within 30 days when a new QSD is assigned to the project;
- Twice annually, once August through October and once January through March;
- Within 14 calendar days after a numeric action level exceedance; and
- Within the time period requested in writing from Regional Water Board staff.

QSPs and QSP Delegates identified for the project are identified in Appendix J. The QSP will have primary responsibility and significant authority for the implementation, maintenance, and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project.

Duties of the QSP include but are not limited to:

- Implementing all elements of the 2022 CGP and SWPPP, including, but not limited to:
  - Performing the following on-site visual inspections:
    - One inspection per calendar month; other weekly inspections in the month can be delegated to a trained QSP Delegate under the specific direction of the QSP.
    - Within 72 hours prior to a forecasted qualifying precipitation event, to inspect any areas of concern and to verify the status of any deficient BMPs, or other identified issues at the site. If extended forecast precipitation data (greater than 72 hours) is available from the *National Weather Service*, then the Pre-Precipitation Event inspection may be done up to 120 hours in advance.
    - Within 14 days after a NAL exceedance, the QSP shall visually inspect the drainage area for exceedance and document any areas of concern.

- Ensuring that all BMPs are implemented, inspected, and properly maintained;
- Ensure that the SMARTS generated WDID Number Notification form is posted on-site, in a location viewable by the public or readily available upon request, and the dates are correct and match the dates listed in SMARTS.

- Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems, etc.;
- Ensuring elimination of unauthorized discharges.
- The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
- Coordinate with the Contractor(s) to assure the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the 2022 CGP, and approved plans at all times.
- Notifying the LRP or Duly Authorized Representative immediately of off-site discharges or other non-compliance events.
- Providing foundation and site-specific training to QSP Delegates and overseeing QSP Delegate work. Tasks that may be delegated to appropriately trained QSP-delegates include:
  - Performing non-stormwater and stormwater visual observations and inspections;
  - Performing stormwater sampling and analysis as required; and
  - Performing routine inspections and observations.

Table 6-1. QSP and QSP Delegate Authorized Inspections

	Weekly BMP and NSW	Pre-QPE	Daily-QPE Visual Inspections	Post-QPE Visual Inspections	Post NAL Exceedances	Monthly BMP and NSW	NOT
QSP	X	X	X	X	X	X	X
QSP Delegate	X		X	X			

6.2 CONTRACTOR LIST

(Contractor to fill out)

Contractor Name:	
Title:	
Contractor Company:	
Address	
Phone Number:	
Phone Number (24/7)	
[Add additional rows, if needed]	

Section 7 Construction Site Monitoring Program

7.1 Purpose

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

1. To demonstrate that the site is in compliance with the Discharge Prohibitions [and Numeric Action Levels (NALs)];
2. To demonstrate that the site is in compliance with TMDL NALs and Numeric Effluent Limitations (NELs);
3. To determine whether non-visible pollutants discharged from the construction site and are causing or contributing to exceedances of water quality objectives;
4. To determine whether immediate corrective actions, additional BMP implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
5. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 Applicability of Permit Requirements

This project has been determined to be a Risk Level 1 project. The 2022 CGP identifies the following types of monitoring as being applicable for a Risk Level 1 project.

Risk Level 1

- Visual inspections of BMPs;
- Visual monitoring of the site related to qualifying precipitation events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for non-visible pollutants [including TMDL pollutants] identified during the pollutant source assessments when applicable; and
- Sampling and analysis of construction site runoff as required by the Regional Water Board when applicable.

7.3. Weather and Precipitation Event Tracking

Visual monitoring and inspections requirements of the 2022 CGP are triggered by a Qualifying Precipitation Event. The 2022 CGP defines a Qualifying Precipitation Event as any weather pattern that is forecast to have a 50 percent or greater Probability of Precipitation (PoP) and a Quantitative Precipitation Forecast (QPF) of 0.5 inches or more within a 24-hour period. The event begins with the 24-hour period when 0.5 inches has been forecast and continues on subsequent 24-hour periods when 0.25 inches of precipitation or more is forecast.

7.3.1 Weather Tracking

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the Forecast Weather Table Interface. These forecasts can be obtained at http://forecast.weather.gov. Weather reports should be printed and maintained with the SWPPP in Appendix M. Record the date and time the forecast was printed.

7.3.2 Rain Gauges

The QSP shall install 1 rain gauge(s) on the project site in a clearly visible location. Locate the gauge in an open area away from obstructions such as trees or overhangs. Mount the gauge on a post at a height of 3 to 5 feet with the gauge extending several inches beyond the post. Make sure that the top of the gauge is level. Make sure the post is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc.

The rain gauge(s) shall be read daily during normal site scheduled hours. The rain gauge should be read at approximately the same time every day and the date and time of each reading recorded. An example rain gauge log sheet is provided in Appendix O. Retain rain gauge readings in Appendix N. Follow the rain gauge instructions to obtain accurate measurements.

Once the rain gauge reading has been recorded, accumulated rain shall be emptied, and the gauge reset.

For comparison with the site rain gauge, the nearest appropriate governmental rain gauge(s) is located at Lytle Creek Colton (YTLC1) (Lat 34.08°N and Long 117.30°W)

7.4 Monitoring Locations

Monitoring locations are shown on the Site Maps in Appendix A. Monitoring locations are described in the Sections 7.6 and 7.7.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended. Temporary changes that result in a one-time additional sampling location do not require a SWPPP amendment.

7.5 Safety and Monitoring Exemptions

Safety practices for sample collection will be in accordance with the Contractor's Health and Safety Plan. A summary of the safety requirements that apply to sampling personnel is provided below.

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

This project is not required to collect samples or conduct visual observations (inspections) under the following conditions (see Section III.B of the 2022 CGP):

- During dangerous weather conditions such as electrical storms, flooding, and high winds above 40 miles per hour;
- Outside of scheduled site operating hours; or

When the site is not accessible to personnel. Scheduled site business hours are: Monday-Friday 8am-5pm

If monitoring (visual monitoring or sample collection) of the site is unsafe because of the dangerous conditions noted above, then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation will be filed in Appendix N and must be included in the Annual Report.

7.6 Visual Monitoring

Per Section III.B.2. of Attachment D in the 2022 CGP, "For inactive projects, dischargers may reduce the visual inspection frequency and suspend sampling per Section III.G of the 2022 CGP. Dischargers shall provide an explanation with supporting information for all missed visual inspections or sampling required by this Attachment, to be included in the Annual Report."

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.

Table 7-1 identifies the required frequency of visual observations and inspections. Inspections and observations will be conducted at the locations identified in Section 7.6.3.

Table 7-1 Summary of Visual Monitoring and Inspections

Type of Inspection	Frequency
Routine Inspections[1]	
BMP Inspections	Weekly[2]
BMP Inspections – Tracking Control	Daily
Slit Fence	Weekly
Fiber Roll	Weekly
Street Sweeping	Daily
Sandbag Barrier	Weekly
Wind Erosion Control	Daily
Non-Stormwater Discharge Observations	Quarterly during daylight hours
Qualifying Precipitation Event Triggered Inspections	
Site Inspections Prior to a Qualifying Precipitation Event	Within 72 hours of a qualifying precipitation event or up to 120 hours prior if supported with forecast [2]
BMP Inspections During an Extended Qualifying Precipitation Event	Once every 24-hour period of a qualifying precipitation event[3]
Site Inspections Following a Qualifying Precipitation Event	Within 96 hours of a qualifying precipitation event[2]

[1] Inspections are required during scheduled site operating hours.

[2] Most BMPs must be inspected weekly; those identified below must be inspected more frequently.

[3] Inspections are required during scheduled site operating hours on days that the forecast predicts at least 0.25 inches of precipitation once the qualifying precipitation event commences.

7.6.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to confirm that the project is in compliance with the requirements of the 2022 CGP.

7.6.1.1 Routine BMP Inspections

Inspections of BMPs are conducted to identify and 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.

7.6.1.2 Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

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

7.6.2 Qualifying Precipitation Event Triggered Observations and Inspections

Visual observations of the site and inspections of BMPs are required prior to a qualifying precipitation event; following a qualifying precipitation event, and every 24-hour period during a qualifying precipitation event. Pre-Qualifying Precipitation Event inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50 percent or greater PoP and a QPF of 0.5 inches or more precipitation within a 24-hour period has been predicted by the National Weather Service Forecast Office.

7.6.2.1 Visual Observations Prior to a Forecasted Qualifying Precipitation Event

Within 72 hours prior to a qualifying precipitation event or up to 120 hours prior if extended forecast precipitation data is available, a stormwater visual monitoring site inspection will include observations of the following locations:

- All stormwater drainage areas to identify leaks, spills, or uncontrolled pollutant sources and when necessary, implement appropriate corrective actions.
- All BMPs to identify whether they have been properly implemented per the SWPPP and implement appropriate corrective actions, as necessary.
- All stormwater storage and containment areas to detect leaks and check for available capacity to prevent overflow.

The QSP must conduct the inspection prior to the qualifying precipitation event. Consistent with the requirements for a qualifying precipitation event, pre-rain BMP inspections and visual monitoring will be triggered by a NOAA forecast that indicates a 50 percent or greater probability of 0.5 inches of precipitation or more in a 24-hour period in the project area.

7.6.2.2 BMP Inspections During a Qualifying Precipitation Event

During an extended qualifying precipitation event BMP inspections will be conducted at least once every 24 hours. Qualifying precipitation events are extended for each subsequent 24-hour period forecast to have at least 0.25 inches of precipitation. The BMP inspections are to identify and record:

- If BMPs were adequately designed, implemented and effective.
- BMPs that require repair or replacement due to damage.
- Additional BMPs that need to be implemented and revise the SWPPP accordingly.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspections should record any projected maintenance activities.

7.6.2.3 Visual Observations Following a Qualifying Precipitation Event

Within 96 hours following the end of a qualifying precipitation event a stormwater visual monitoring site inspection is required to observe:

- If BMPs were adequately designed, implemented and effective.
- BMPs that require repair or replacement due to damage.
- Additional BMPs that need to be implemented and revise the SWPPP accordingly.

7.6.3 Visual Monitoring Procedures

Visual monitoring shall be conducted by the QSP or QSP Delegate.

The name(s) and contact number(s) of the QSPs or QSP Delegates assigned to conduct visual observations are listed below and their training qualifications are provided in Appendix J.

Assigned QSP: Contact phone:

Assigned QSP Delegate: Contact phone:

Assigned QSP Delegate: Contact phone:

Stormwater observations shall be documented on the *Visual Inspection Field Log Sheet* (see Appendix O). BMP inspections shall be documented on the site-specific BMP inspection checklist and include photographs of areas of concern along with the QSP's description of the problem.

The QSP shall within 5 days of the inspection submit copies of the completed inspection report to the Site Superintended and LRP.

The completed reports will be kept in Appendix N. Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.4 Visual Monitoring Follow-Up and Reporting

Maintenance, repairs, and correction of deficiencies, including design changes to BMPs, identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated within 72 hours of identification and completed as soon as possible, prior to the next forecasted precipitation event.

When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the *Inspection Field Log Sheet* or *BMP Inspection Report* shall be kept in Appendix N. QSP Delegates shall report issues identified during inspections that require corrective action to the QSP within 24 hours of the observation.

The QSP shall within 5 days of the inspection submit copies of the completed *Inspection Field Log Sheet* or *BMP Inspection Report* with the corrective actions to the Site Superintended and LRP.

Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.5 Visual Monitoring Locations

The inspections and observations identified in Sections 7.6.1 and 7.6.2 will be conducted at the locations identified in this section.

BMP locations are shown on the Site Maps in Appendix A.

There is 1 drainage area(s) on the project site and the contractor's yard, staging areas, and storage areas. Drainage area(s) are shown on the Site Maps in Appendix A and Table 7-2 identifies each drainage area by location.

Table 7-2 Site Drainage Areas

Location No.	Location

There are [Enter Number] stormwater storage or containment area(s) are on the project site from which stormwater will be dewatered. Stormwater storage or containment area(s) are shown on the Site Maps in Appendix A and Table 7-3 identifies each stormwater storage or containment area by location.

Table 7-3 Stormwater Storage and Containment Areas (Dewatering Locations)

Location No.	Location

There are [Enter Number] discharge location(s) on the project site. Site stormwater discharge location(s) are shown on the Site Maps in Appendix A and Table 7-4 identifies each stormwater discharge location.

Table 7-4 Site Stormwater Discharge Locations

Location No.	Location

7.7 Water Quality Sampling and Analysis

7.7.1 Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants, including those associated with TMDLs will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

The following construction materials, wastes, or activities, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Storage, use, and operational locations are shown on the Site Maps in Appendix B.

- None

The following existing site features, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Locations of existing site features contaminated with non-visible pollutants are shown on the Site Maps in Appendix B.

- None

The following soil amendments have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil and will be used on the project site. Locations of soil amendment application are shown on the Site Maps in Appendix B.

- None

7.7.1.1 Sampling Schedule

Samples for the potential non-visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first eight hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered only when any of the following conditions are observed during site inspections conducted prior to or during a rain event:

1. 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 a 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 (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in Section 2.6, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

7.7.1.2 Sampling Locations

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use, accessibility for sampling, and personnel safety. Planned non-visible pollutant sampling locations are shown on the Site Maps in Appendix A and include the locations identified in Table 7-6.

0 (zero) sampling location(s) on the project site and the contractor's yard have been identified for the collection of samples of runoff from planned material and waste storage areas and areas where non-visible pollutant producing construction activities are planned.

Table 7-6 Non-Visible Pollutant Sample Locations

Sample Location Identifier	Sample Location Description	Sample Location Latitude and Longitude (Decimal Degrees)	Runoff or Run-on
[Enter Number]	[Enter location]	[Enter Latitude] [Enter Longitude]	
[Enter Number]	[Enter location]	[Enter Latitude] [Enter Longitude]	

If a stormwater visual monitoring site inspection conducted prior to or during a storm event identifies the presence of a material storage, waste storage, operations area with spills, or the potential for the discharge of non-visible pollutants to surface waters or a storm drain system that is at a location not listed above and has not been identified on the Site Maps, sampling locations will be selected by the QSP using the same rationale as that used to identify planned locations. Non-visible pollutant sampling locations shall be documented by the QSP on the pre-rain event inspection form prior to a forecasted qualifying precipitation event and the *Effluent Sampling Field Log Sheet*, which are provided in Appendix O.

7.7.1.3 Monitoring Preparation

Non-visible pollutant samples will be collected by: *(to be completed by the Contractor)*

QSP	☐ Yes	☐ No
QSP Delegate	☐ Yes	☐ No

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. The QSP or QSP Delegates responsible for sampling will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, coolers, 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 O.

7.7.1.4 Analytical Constituents

Table 7-7 lists the specific sources and types of potential non-visible pollutants based on the project pollutant source assessment and the water quality indicator constituent(s) for that pollutant. Table 7-7 provides the specific analytical methods and reporting limits for the potential non-visible pollutants. Analytical methods were selected in compliance with U.S. EPA sufficiently sensitive method requirements in 40 Code of Federal Regulations Part 136, as evidenced by the method detection limit and minimum level.

7.7.1.5 Sample Collection

Samples of discharge shall be collected at the designated non-visible pollutant sampling locations identified in Table 7-6 and shown on the Site Maps in Appendix A or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the Table 7-7, "Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants" provided in Section 7.7.1.6. Only the QSP, or QSP Delegates trained on sample collection identified in Section 7.7.1.3 shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

Table 7-7 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Minimum Level	Method Detection Limit	Maximum Holding Time

Notes: Analytical laboratories may use the term Reporting Level in lieu of Minimum Level

7.7.1.6 Sample Analysis

Samples shall be analyzed using the analytical methods identified in the Table 7-7.

Samples will be analyzed by: *(to be completed by the Contractor)*

Laboratory Name:

Street Address:

City, State Zip:

Telephone Number:

Point of Contact:

ELAP Certification Number:

Samples will be delivered to the laboratory by:

Driven by QSP/QSP Delegate/Contractor	☒ Yes	☐ No
Picked up by Laboratory Courier	☒ Yes	☐ No
Shipped	☐ Yes	☒ No

7.7.1.7 Data Evaluation and Reporting

The QSP shall complete an evaluation of the water quality sample analytical results based on a comparison of the results to the unaffected sample [and to the TMDL NALs or NELs].

Runoff/downgradient results shall be compared with the associated upgradient/unaffected results and any associated run-on results. Should the runoff/downgradient 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. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

Analytical results of non-visible pollutant monitoring shall be submitted to SMARTS within 30 days of obtaining the analytical results. [Results demonstrating an exceedance of an applicable TMDL-related NAL or NEL or Basin Plan parameter shall be submitted to SMARTS within 30 days of obtaining the analytical results.]

The 2022 CGP prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. 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 reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

The QSP shall compare the runoff sample results to the applicable TMDL [NALs and NELs] to determine whether the TMDL [NALs and NELs] have been exceeded, see Table 7-8.

Table 7-8 TMDL NAL and NEL Exceedances

Standard	Exceedance Evaluation
TMDL NAL	An exceedance occurs on the second, and each subsequent, analytical result for samples taken from any and all discharge location(s) within the same drainage area, during the same reporting year and taken in accordance with Attachment D Section III.D.3, that is above the concentration set forth in an applicable NAL.
TMDL NEL	An exceedance occurs on the second, and each subsequent, analytical result for samples taken from any and all discharge location(s) within the same drainage area, during the same reporting year and taken in accordance with Attachment D Section III.D.3, that is above the concentration set forth in an applicable NEL.

In the event that the TMDL NAL or NEL is exceeded, the QSP shall immediately notify [Name of Owners Representative] and investigate the cause of the exceedance and identify corrective actions.

The LRP or DAR shall electronically report all analytical results to the State Water Board by the through SMARTS within 30 days of receiving the results. Exceedances of TMDL [NALs and NELs] shall be electronically reported to the State Water Board by the LRP or DAR through SMARTS within 10 days of receiving the results.

If requested by the Regional Water Board in writing, a TMDL NAL Exceedance report will be submitted within 30 days of the request. The TMDL NAL Exceedance Report must contain the following information:

- Analytical method(s), method reporting unit(s), and Method Detection Limit(s) 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 TMDL NAL, a description of each corrective action taken including photographs, and date of implementation.

In the event of a TMDL NEL exceedance, by the end of each reporting year, project shall implement the following water quality based corrective actions:

- Conducting a site assessment to identify pollutant source(s) within the site that are associated with construction activity and whether the BMPs described in the SWPPP have been properly implemented;
- Evaluating the SWPPP and its implementation to determine whether additional BMPs or SWPPP implementation measures are necessary to reduce or prevent pollutants in all regulated discharges to comply applicable NELs, and
- Certifying and submitting through SMARTS a report of the above site assessment and SWPPP evaluation that:
    - Additional BMPs or SWPPP implementation measures have been identified and included in the SWPPP, or
    - No additional BMPs or SWPPP implementation measures are required to reduce or prevent pollutants in all regulated discharges to comply with applicable NELs.

7.7.2 *Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges*

Sampling and analysis of runoff for pH and turbidity is not required for Risk Level 1 projects.

7.7.3 *Sampling and Analysis Plan for pH and Turbidity in Receiving Water*

This project is not subject to Receiving Water Monitoring.

a Receiving Water Monitoring Trigger

7.7.4 *Sampling and Analysis Plan for Dewatering Discharges*

This project is not subject to the non-stormwater sampling and analysis requirements of the General Permit because it is a Risk Level 1 project.

7.7.5 *Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board*

The Regional Water Board has not specified monitoring for additional pollutants.

7.7.6 *Training of Sampling Personnel*

QSP Delegates assigned to conduct sampling shall be trained by the QSP to collect, maintain, and ship samples in accordance with the 2022 CGP Sample Collection and Handling Instructions and supplemental information as needed. Training records of QSP Delegates assigned to sample are provided in Appendix I.

The QSP and QSP Delegates have received the following stormwater sampling training: *(to be updated by Contractor or QSP as needed)*

Name	Training

The QSP and QSP Delegates have the following stormwater sampling experience: *(to be updated by Contractor or QSP as needed)*

Name	Experience

7.7.7 Sample Collection and Handling

7.7.7.1 Sample Collection

Samples shall be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples shall be collected, maintained and shipped in accordance with the 2022 CGP Sample Collection and Handling Instructions.

Grab samples shall be collected and preserved in accordance with the methods identified in preceding sections.

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

- Collect samples (for laboratory analysis) in analytical laboratory-provided or specified sample containers;
  - Use of any other type of containers could cause sample contamination and may result in NAL or NEL exceedances.
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between sampling locations;
- Decontaminate all equipment (e.g., bucket, tubing) prior to sample collection;
  - using a 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 smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams as noted below.

i. For small streams and flow paths, simply dip the bottle facing upstream until full.
ii. For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.
iii. For larger streams that cannot be safely waded, pole-samplers may be needed to safely access the representative flow.
iv. Avoid collecting samples from ponded, sluggish or stagnant water.
v. Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should **never** be dipped into the stream but filled indirectly from the collection container.

7.7.7.2 Sample Handling

Turbidity and pH measurements must be conducted immediately. Do not store turbidity or pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Complete sample container labels;
- Place sealed containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;
- Document sample information on the *Effluent Sampling Field Log Sheet* (Appendix O); and
- Complete the CoC.

All 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 sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The 2022 CGP requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory to meet all hold times).

Laboratory Name:

Address:

City, State Zip:

Telephone Number:

Point of Contact:

7.7.7.3 Sample Documentation Procedures

All original data documented on sample container identification labels, *Effluent Sampling Field Log Sheet* (Appendix O), and CoCs shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated.

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 in the Effluent Sampling Field Log Sheet.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel shall attach an identification label to each sample bottle. Sample identification shall uniquely identify each sample location. (These location identifiers should be listed in the tables in the SWPPP.)

Field Log Sheets: Sampling personnel shall complete the *Effluent Sampling Field Log Sheet* and *Receiving Water Sampling Field Log Sheet* (Appendix O) for each sampling event, as appropriate.

Chain of Custody: Sampling personnel shall complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC (Appendix O) when the sample(s) is turned over to the testing laboratory or courier.

7.8 Active Treatment System Monitoring

Will an Active Treatment System (ATS) be deployed on the site?

☐ Yes ☒ No

This project does not require a project specific Sampling and Analysis Plan for an ATS because deployment of an ATS is not planned.

7.9 Passive Treatment Monitoring

Will passive treatment technologies be deployed on the site?

☐ Yes ☒ No

This project does not require a project specific Sampling and Analysis Plan for passive treatment because deployment of passive treatment is not planned.

7.10 Watershed Monitoring Option

This project is not participating in a watershed monitoring option.

This project is participating in a watershed monitoring option.

[Insert summary of the watershed monitoring and Regional Water Board approval of the program]

7.11 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.

7.11.1 Field Logs

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be

included in the field log include the date and time of water quality sample collection, sampling personnel, sample container 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. A Visual Inspection Field Log, an Effluent Sampling Field Log Sheet are included in Appendix O.

7.11.2 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. As discussed in Section 7.7.7, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

7.11.3 Chain of Custody

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples;
- Use of CoC forms for all samples; and
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in Appendix O.

7.11.4 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. The following types of QA/QC will be conducted for this project:

☒ Field Duplicates at a frequency of 5 percent or 1 duplicate minimum per sampling event (Required for all sampling plans with field measurements or laboratory analysis)

☐ Equipment Blanks at a frequency of 1 duplicate per sampling event
(Only needed if the equipment used to collect samples could add the pollutants to sample)

☐ Field Blanks at a frequency of 1 blank per sampling event
(Only required if sampling method calls for field blanks)

☐ Travel Blanks at a frequency of 1 duplicate per sampling event
(Required for sampling plans that include VOC laboratory analysis)

7.11.4.1 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 has been collected. Duplicate samples must be collected in the same manner and as close in time as possible to the original sample. Duplicate samples shall not influence any evaluations or conclusion.

7.11.4.2 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.

7.11.4.3 Field Blanks

Field blanks assess potential sample contamination levels that occur during field sampling activities. De-ionized water field 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.

7.11.4.4 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.

7.11.5 Data Verification

After results are received from the analytical laboratory, the QSP or QSP Delegates 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.
  Make sure all requested analyses were performed and all samples are accounted for in the reports.
- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- 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 or QSP Delegates should especially note data that is an order of magnitude or more different than similar locations or is inconsistent with previous data from the same location.
- Check laboratory QA/QC results.
  EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. The QSP or QSP Delegates shall evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.
- Check the data set for outlier values and, accordingly, confirm results and re-analyze samples where appropriate.
  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.

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

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

7.12 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 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 measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory 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;
- Calibration records;
- Visual observation and sample collection exception records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections;

Section 8 References

Project Plans and Specifications

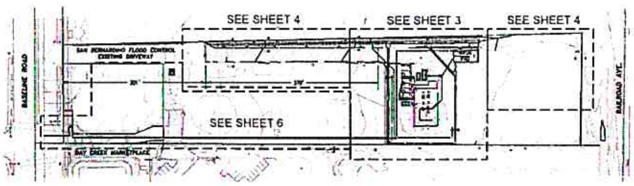
SWRCB (State Water Resources Control Board). (2022). Order 2022-0057-DWQ, NPDES General Permit No. CAS000002: Stormwater Discharges Associated with Construction and Land Disturbing Activities. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/general_permit_reissuance.html.

CASQA 2023. *Stormwater BMP Handbook: Construction.* Available online at: www.casqa.org

[Include additional references as needed]

Appendix A: Site Maps and Drawings

PRECISE GRADING PLAN
SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT
APN 1089-031-13 & 39



INDEX MAP

VICINITY MAP

NOT TO SCALE

GRADING NOTES

1. ALL GRADING SHALL CONFORM TO THE LATEST CALIFORNIA BUILDING CODE (CBC) CHAPTERS 17, 18, APPENDIX-J AND ALL APPLICABLE SECTIONS.
2. A GRADING PERMIT SHALL BE OBTAINED PRIOR TO COMMENCEMENT OF ANY WORK ON THE SITE.
3. ISSUANCE OF A GRADING PERMIT DOES NOT ELIMINATE THE NEED FOR PERMITS FROM OTHER REGULATORY AGENCIES WITH REGULATORY RESPONSIBILITIES FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE WORK AUTHORIZED IN THIS PLAN.
4. ALL WORK UNDER THIS PERMIT SHALL BE LIMITED TO WORK WITHIN THE PROPERTY LINES. A SEPARATE CONSTRUCTION, EXCAVATION OR ENCROACHMENT PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS MAY BE REQUIRED FOR ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
5. APPROVAL OF THESE PLANS DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE EFFECTIVE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND VALID GRADING PERMIT HAS BEEN ISSUED.
6. THIS PLAN IS FOR GRADING PURPOSES ONLY AND IS NOT TO BE USED FOR THE PURPOSE OF CONSTRUCTING ONSITE OR OFFSITE IMPROVEMENTS. ISSUANCE OF A PERMIT BASED ON THIS PLAN DOES NOT CONSTITUTE APPROVAL OF DRIVEWAY LOCATIONS OR SIZES, PARKING LOT STRUCTURAL SECTIONS OR LAYOUT, ADA-RELATED REQUIREMENTS, BUILDING LOCATIONS OR FOUNDATIONS, WALLS, CURBING, OFFSITE DRAINAGE FACILITIES OR OTHER ITEMS NOT RELATED DIRECTLY TO THE BASIC GRADING OPERATION. ONSITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE APPROVED BUILDING PERMIT PLANS. OFFSITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE TO PLANS APPROVED FOR THIS PURPOSE BY THE PUBLIC WORKS DEPARTMENT.
7. MAXIMUM CUT AND FILL SLOPE = 2:1 (HORIZONTAL TO VERTICAL) AND MAXIMUM VERTICAL HEIGHT = 30 FEET, UNLESS AN APPROVED GEOTECHNICAL REPORT CAN JUSTIFY A STEEPER AND TALLER SLOPE.
8. NO FILL SHALL BE PLACED ON EXISTING GROUND UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL AND OTHER DELETERIOUS MATERIAL.
9. FILL SLOPES SHALL NOT HAVE LESS THAN 90% RELATIVE COMPACTION, OR AS RECOMMENDED IN THE APPROVED GEOTECHNICAL REPORT.
10. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ADEQUATE COMPACTION HAS BEEN ATTAINED ON THE ENTIRE GRADING SITE, INCLUDING FILL AREAS OUTSIDE THE BUILDING PADS AND ON ALL FILLSLOPES.
11. UNLESS OTHERWISE RECOMMENDED IN AN APPROVED GEOTECHNICAL REPORT, OVER-EXCAVATION SHALL BE AT LEAST 24 INCHES MINIMUM BELOW THE BOTTOM OF FOOTINGS OR TO COMPETENT NATIVE SOIL OR BEDROCK MATERIALS, WHICHEVER IS DEEPER, AS APPROVED BY THE PROJECT'S GEOTECHNICAL ENGINEER OR GEOLOGIST.
12. EARTHWORK VOLUMES:

 CUT 545 (CY), FILL 1,182 (CY), TOTAL DISTURBED AREA 66,308 (SF)

13. EARTHWORK QUANTITIES ARE SHOWN FOR GRADING PERMIT PURPOSES ONLY, AND SAN BERNARDINO COUNTY IS NOT RESPONSIBLE FOR THEIR ACCURACY.
14. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
15. ANY ONSITE RETAINING WALLS SHOWN ON THE GRADING PLANS THAT ARE OVER 4' IN HEIGHT, MEASURED FROM TOP OF WALL TO BOTTOM OF FOOTING, ARE FOR REFERENCE ONLY. RETAINING WALLS OVER 4' IN HEIGHT ARE NOT CHECKED, PERMITTED, OR INSPECTED FOR THE GRADING PERMIT. A SEPARATE RETAINING WALL PERMIT IS REQUIRED FOR ALL RETAINING WALLS OVER 4' IN HEIGHT.
16. ANY WALLS, FENCES, STRUCTURES AND/OR APPURTENANCES ADJACENT TO THIS PROJECT ARE TO BE PROTECTED IN PLACE. IF GRADING OPERATIONS DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR AND/OR DEVELOPER IS RESPONSIBLE FOR WORKING OUT AN ACCEPTABLE SOLUTION TO THE SATISFACTION OF THE AFFECTED PROPERTY OWNER(S).
17. FOR SITES WITH PROTECTED SPECIES OR TREES, THE PROPOSED GRADING MAY BE SUBJECT TO A SEPARATE PERMIT.
18. ADEQUATE FIRE ACCESS AROUND BUILDINGS (INCLUDING GARAGES) SHOULD BE PROVIDED AS APPROVED BY COUNTY FIRE.
19. EXISTING DRAINAGE COURSES SHALL NOT BE OBSTRUCTED, ALTERED, OR DIVERTED WITHOUT PRIOR APPROVAL FROM THE COUNTY OF SAN BERNARDINO, LAND DEVELOPMENT DIVISION. A STREAMBED ALTERATION AGREEMENT MAY ALSO BE REQUIRED FROM THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE.
20. DRAINAGE EASEMENTS SHALL NOT BE OBSTRUCTED, ALTERED OR DIVERTED WITHOUT PRIOR APPROVAL OF THE COUNTY OF SAN BERNARDINO, LAND DEVELOPMENT DIVISION.
21. SETBACKS AND BUILDING LOCATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MUST BE REVIEWED AND APPROVED UNDER A SEPARATE BUILDING PERMIT.
22. UTILITY AND SEPTIC IMPROVEMENTS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND MUST BE REVIEWED AND APPROVED UNDER A SEPARATE BUILDING PERMIT.
23. ON PROJECTS DISTURBING ONE ACRE OR MORE, THE FOLLOWING NOTE MUST BE ADDED: A NOTICE OF INTENT (NOI) HAS BEEN, OR WILL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) AND A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN OR WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE PERMITTEE SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW BY COUNTY.
24. IN CONJUNCTION WITH THE CALIFORNIA GENERAL PERMIT FOR PROPOSED DISTURBANCE OVER ONE ACRE, AN ACTIVE WASTEWATER DISCHARGE ID # (WDID) MUST BE INCLUDED ON THE FINAL GRADING PLAN.
25. FOR ENGINEERED GRADING, A FINAL GRADING CERTIFICATION WILL BE COLLECTED BY THE BUILDING INSPECTOR AT THE FINAL BUILDING INSPECTION OR PRIOR A GRADING FINAL STATUS ON THE PERMIT. THE FINAL GRADING CERTIFICATION IS TO BE COMPLETED BY THE ENGINEER OF RECORD ON THE APPROVED GRADING PLANS.
26. ALL FLOOD ZONE REQUIREMENTS MUST BE REFLECTED OR ACCOUNTED FOR ON THE GRADING PLANS. ELEVATIONS OR CONSTRUCTION NOTES MUST BE INCLUDED IN THE PLANS TO ENSURE COMPLIANCE WITH ALL APPLICABLE FIRST FLOOR ELEVATION REQUIREMENTS PER FEMA AND SAN BERNARDINO COUNTY DEVELOPMENT CODE GUIDELINES.

EROSION NOTES

1. IN CASE OF EMERGENCY, CALL [illegible] AT 909-387-3000.
2. POLLUTION AND EROSION PREVENTION MEASURES, ALSO KNOWN AS BEST MANAGEMENT PRACTICES (BMPS), MUST BE INSTALLED PRIOR TO GRADING. THESE MEASURES, INCLUDING THE PREVENTION OF SEDIMENTATION OR FLOOD DAMAGE TO OFFSITE PROPERTY SHALL BE ADEQUATE WHETHER OR NOT AN EROSION CONTROL PERMIT IS REQUIRED.
3. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ONSITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
4. EROSION CONTROL DEVICES SHALL BE FUNCTIONING AT ALL TIMES. IN CASE OF FAILURE, RAPID CONSTRUCTION OF EMERGENCY DEVICES SHALL BE IMPLEMENTED.
5. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
6. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
7. EXCESS OR WASTE CONCRETE MUST BE CONTAINED ONSITE. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ONSITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
8. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO ENSURE ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY PER PLAN. PROPER PRECAUTION SHALL BE CONSIDERED WHEN 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.
9. TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
10. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
11. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
12. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
13. ALL STORM WATER CAPTURE DEVICES SHALL BE PROTECTED AT ALL TIMES.

Underground Service Alert

Call TOLL FREE

1-800-422-4133

TWO WORKING DAYS BEFORE YOU DIG

SURVEYOR

JD COLE & ASSOCIATES, INC.
LAND SURVEYING
11894 RAMONA ST.
YUCAIPA, CA 92399
PHONE: (909) 797-2971

OWNER/DEVELOPER

SAN BERNARDINO COUNTY
FLOOD CONTROL DISTRICT
825 E. 3rd STREET
SAN BERNARDINO, CA 92415
CONTACT ERWIN FOGERSON
PHONE: (909) 387-7943

SITE DATA

GROSS ACREAGE
±250,257 S.F (5.7 ACRES)
AREA OF DISTURBANCE
±43,576 S.F (1.00 ACRES)

COUNTY PROJECT NUMBERS

[illegible]
RELATED DOCUMENTS:
[illegible]

ARCHITECT

STK ARCHITECTS, INC.
42095 ZEVO DR., A-15
TEMECULA, CA 92590
CONTACT: J. SAENG NAIVONG
PHONE: (951) 296-6119

ENGINEER OF RECORD

ENGINEERING RESOURCES OF SOUTHERN CALIFORNIA, INC.
1861 W. REDLANDS BLVD.
REDLANDS, CA 92373
CONTACT MATT BRUDIN
PHONE: (909) 890-1255

SOILS ENGINEER

GEOCON WEST INC.
3818 W. PARK AVE., SUITE 1
REDLANDS, CA 92373
CONTACT: JOHN STAPLETON
PHONE: (909) [illegible]
REFERENCE REPORT:
[illegible]
PREPARED MARCH 8, 2019

GAS

SEMPRA ENERGY
[illegible] 12TH STREET
CHINO, CA 91710
PHONE: (909) 613-1511

WATER/ SEWER

CUCAMONGA VALLEY WATER DISTRICT
10440 ASHFORD ST.
RANCHO CUCAMONGA, CA 91730
CONTACT ED HILLS
PHONE: (909) 987-2591

FIBER OPTICS

SPRINT TRANSMISSION DEPARTMENT
302 SYCAMORE AVENUE
RIALTO, CA 92376
CONTACT MATT BRUDIN
PHONE: (909) 873-8822

TELEPHONE

AT&T
979 MOUNTAIN AVENUE
UPLAND, CA 91786
PHONE: (909) 946-1204

ELECTRIC

SO. CALIFORNIA EDISON
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA 91770
PHONE: (800) 655-4555

CABLE

CHARTER CABLEVISION
8680 VIEW PARK COURT
RIVERSIDE, CA 92503
CONTACT: JOHN SIMPSON
PHONE: (909) 343-8145

BASIS OF BEARINGS

WEST LINE - SECTION 12
[illegible]

BENCH MARK

BENCHMARK NUMBER: [illegible]
ELEV: 1128.979

LEGAL DESCRIPTION

APN: 1089-031-13

LOT 39 OF ORANGE EMPIRE ACRES, ACCORDING TO MAP FILED IN BOOK 20, PAGE 1 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAN BERNARDINO COUNTY, IN THE CITY OF RANCHO CUCAMONGA, COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, EXCEPT THE SOUTH 230.18 FEET

APN: 1089-031-39

ORANGE EMPIRE ACRES PTN LOT 13 LYING ELY OF A LI WHICH COM ON N LI OF SD LOT 13 [illegible] FT ELY MEAS AT R/A FROM W LI OF LOT 18 TH SLY IN A DIRECT LI TO PT ON S LI OF SD LOT 13 WHICH IS 360 FT ELY MEAS AT R/A FROM SD W LI LOT 18 EX THEREFROM THE SLY 20 FT THEREOF

ESTIMATED GRADING CONSTRUCTION DATES

START: APRIL, 2025
FINISH: JUNE, 2025

RAW CUT / FILL QUANTITIES

CUT: 545 C.Y.
FILL: 1183 C.Y.
TOTAL IMPORT: 648 C.Y.

NOTE

SEE ARCHITECTURAL AND LANDSCAPE ARCHITECTS PLANS FOR FENCE AND GATE DETAILS.

CERTIFICATES

1. I HEREBY CERTIFY THAT I HAVE REVIEWED THIS PLAN AND THAT IT SUBSTANTIALLY CONFORMS TO THE SOILS REPORT NO. [illegible] DATED MARCH 8, 2019, PREPARED BY GEOCON WEST INC.

JOHN STAPLETON
PRINTED NAME ______ SIGNATURE ______
REGISTRATION NUMBER ______

2. IN REFERENCE TO NPDES REQUIREMENTS THE UNDERSIGNED CERTIFIES ONE OF THE FOLLOWING:
 - ☐ A NOTICE OF INTENT (NOI) IS NOT REQUIRED OF THIS DEVELOPMENT.
 - ☐ A NOTICE OF INTENT (NOI) HAS BEEN FILED AND THE WDID NUMBER IS ______

JOHN M. BRUDIN
PRINTED NAME ______ SIGNATURE ______
CIVIL ENGINEER

DECLARATION OF ENGINEER OF RECORD

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS SHOWN ON THESE PLANS COMPLIES WITH ALL PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER OF RECORD FOR THE PLANS I ASSUME FULL RESPONSIBILITY FOR THE DESIGN OF THE IMPROVEMENTS. WITH RESPECT TO THE PLAN CHECK PERFORMED BY THE COUNTY OF SAN BERNARDINO I UNDERSTAND AND ACKNOWLEDGE THE FOLLOWING: (1) THE PLAN CHECK IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THE PLANS COMPLY WITH THE COUNTY'S STANDARDS, PROCEDURES, POLICIES AND ORDINANCES (2) THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS, AND (3) THE PLAN CHECK DOES NOT RELIEVE ME OF MY LEGAL AND PROFESSIONAL RESPONSIBILITY FOR THE DESIGN OF THE IMPROVEMENTS. AS THE ENGINEER OF RECORD, I AGREE TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE COUNTY, ITS ELECTED OFFICIALS, EMPLOYEES, AND AGENTS FROM ANY AND ALL ACTUAL OR ALLEGED CLAIMS, DEMANDS, CAUSES OF ACTION, LIABILITY, LOSS, DAMAGE, OR INJURY TO PROPERTY OR PERSON, INCLUDING WRONGFUL DEATH, WHETHER IMPOSED BY A COURT OF LAW OR BY ADMINISTRATIVE ACTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENTAL AGENCY, ARISING OUT OF OR INCIDENT TO ANY NEGLIGENT ACTS, OMISSIONS, OR ERRORS BY THE ENGINEER OF RECORD, ITS EMPLOYEES, CONSULTANTS, OR AGENTS.

JOHN M. BRUDIN, RCE 41936 ______ DATE ______

PRIVATE ENGINEER'S NOTE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE DRAWINGS.

CONTRACTOR AGREES THAT HE/SHE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COUNTY OF SAN BERNARDINO, THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

INDEX OF SHEETS

SHEET 1 TITLE SHEET
SHEET 2 SECTIONS AND DETAILS
SHEET 3 GRADING PLAN
SHEET 4 GRADING PLAN
SHEET 5 EROSION CONTROL
SHEET 6 UTILITY PLAN

FEMA FLOOD ZONE

FIRM PANELS: 06071C8635J
MAP EFFECTIVE: 9/26/2014
FLOOD HAZARD ZONES: X / AREA OF 0.2% ANNUAL CHANCE FLOODPLAIN

NOT FOR BID

CONSTRUCTION NOTES

1. CONSTRUCT PCC 8" CURB ONLY PER APWA STD. NO. C-1 OR EQUIV.
2. CONSTRUCT 6" AC BERM PER APWA STD. DC OR EQUIV. WITH CURB CUTS PER DETAIL SHEET 2.
3. CONSTRUCT 3' WIDE CROSS GUTTER PER DETAIL SHEET 2.
4. CONSTRUCT 4" THK. MIN. AC OVER 7" AB PER SOILS REPORT
5. CONSTRUCT 5" THK. CONC. 4" AB W/ #3'S @ 18" O.C.
6. CONSTRUCT SIDEWALK PER SBC STD. 109
7. INSTALL 6' H. BLOCK WALL PER SAN BERNARDINO COUNTY TRANS. DEPT. STD. 301 ALONG REAR PROPERTY LINE PER DETAIL ON SHEET 2, PER SEPARATE SUBMITTAL AND PERMIT BY CONTRACTOR.
8. REMOVE EXISTING PAVEMENT, CURB, GUTTER OR FENCING
9. INSTALL 12" X 20' L. ZURN # Z882 TRENCH DRAIN WITH TRAFFIC RATED GRATE OR EQUAL
10. SAWCUT & GRIND AND OVERLAY 2" PER DETAIL ON SHEET 2.
11. 4" DIA. PVC - SDR 35 PIPE - SEWER DESIGN PER SEPARATE PLAN
12. 1" DIA PVC - WATER DESIGN PER UTILITY PLAN
13. 2" DIA PVC - WATER DESIGN PER UTILITY PLAN
14. 6" DIA. FIRE HYDRANT PROTECTED WITH BOLLARDS PER PRIVATE FIRE UNDERGROUND PLAN.
15. 8" DIA. PVC OR APPROVED EQUAL FIRE SERVICE LINE PER PRIVATE FIRE UNDERGROUND PLAN.
16. INSTALL BOLLARD PER DETAIL - SHEET 2
17. [illegible] TON RIP-RAP 2' THK.
18. 8" HOT TAP TO EXISTING 12" WATER MAIN PER CVWD STD. DWG. NO 133, PER REVISED OFF-SITE CVWD PLAN NO. AB11493.
19. 8" CML&C STEEL WATERLINE PER CVWD STD. DWG. NO. 123, PER REVISED OFF-SITE CVWD PLAN.
20. REMOVE EXISTING 4" DCDA AND REPLACE WITH 8" DCDA PER REVISED OFF-SITE CVWD PLAN AND PRIVATE FIRE UNDERGROUND PLAN.
21. INSTALL ELBOW.
22. 1" DIA HOSE BIBB
23. INSTALL 2x1-INCH TEE
24. INSTALL 2-INCH TEE
25. INSTALL 2x1-INCH PVC REDUCER
26. CONSTRUCT 6" THK. CONCRETE PAD FOR PROPOSED TRANSFORMER
27. CONSTRUCT 24"x24" JENSEN CATCH BASIN MODEL 2424 CB W/ FLOGARD+PLUS FILTER INSERT.
28. INSTALL 10-INCH HDPE.
29. INSTALL 10-INCH CLEAN OUT PER DETAIL - SHEET 2.

[1] INSTALL ACCESSIBLE PARKING SIGN PER DETAIL - SHEET 2.
[2] PARKING STALLS - SEE DETAIL - SHEET 2.
[3] TRUNCATED DOMES - SEE DETAIL - SHEET 2.
[4] ACCESSIBLE PARKING EMBLEM - SEE DETAIL - SHEET 2.
[5] CONCRETE WHEEL STOP - SEE DETAIL - SHEET 2.

NOTES TO CONTRACTOR

1. USE OF HEAVY EQUIPMENT SHOULD BE LIMITED OR PROHIBITED TO PREVENT COMPACTION OF THE UNDERLYING SOILS INTENDED FOR INFILTRATION.
2. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ADEQUATE PROVISIONS FOR MONUMENT PRESERVATION HAVE BEEN ADDRESSED CONTRACTUALLY AND IN THE FIELD.

STK

CONSULTANT:

ERSC
Engineering Resources of Southern California
1861 W. Redlands Blvd. Bldg 7B
Redlands, Ca. 92373
P: (909) 890-1255
F: (909) 890-0995

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT AND FACILITIES MANAGEMENT DEPARTMENT - PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY
RANCHO CUCAMONGA NEW YARD CONSTRUCTION

PROJECT # 10.10.1313
GP # 23-042
CAFM # E7005

APN: 1089031390000, 1089031300000

12158 BASE LINE ROAD
RANCHO CUCAMONGA, CA 91739

ISSUE INFORMATION:

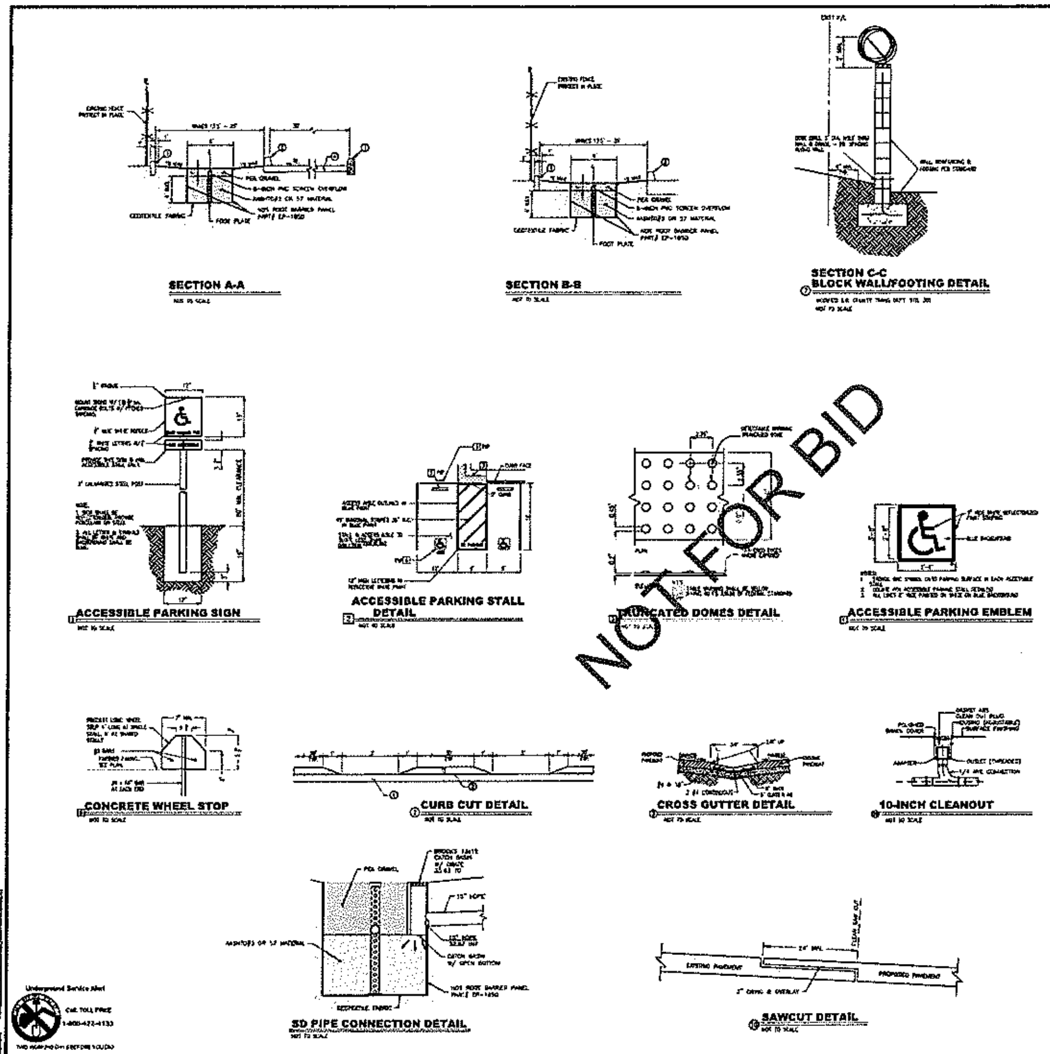
DATE:	INFORMATION:
04-29-21	1st Plan Check
05-25-23	2nd Plan Check

SHEET INFORMATION:
STK PROJECT NO.: 374-134-20
SCALE: AS NOTED
DATE: NOVEMBER 2022
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PRECISE GRADING PLAN
COUNTY YARD
INDEX SHEET

SHEET NO.:
SHEET 1 OF 6



CONSTRUCTION NOTES

1. CONSTRUCT PCC 6" CURB ONLY PER APWA STD. NO. C-1 OR EQUAL
2. CONSTRUCT 6" AC BERM PER APWA STD. DC OR EQUAL WITH CURB CUTS PER DETAIL SHEET 2.
3. CONSTRUCT 3' WIDE CROSS GUTTER PER DETAIL SHEET 2.
4. CONSTRUCT 4" THK. MIN. AC OVER 3" AB PER SOILS REPORT
5. CONSTRUCT 5" THK. CONC. 4" AB W/ #3'S @ 18" O.C.
6. CONSTRUCT SIDEWALK PER SBC STD. 109.
7. INSTALL 6' H. BLOCK WALL PER SAN BERNARDINO COUNTY TRANS. DEPT. STD. 301 ALONG REAR PROPERTY LINE PER DETAIL ON SHEET 2, PER SEPARATE SUBMITTAL AND PERMIT BY CONTRACTOR.
8. REMOVE EXISTING PAVEMENT, CURB, GUTTER OR FENCING
9. INSTALL 12" X 20' L. ZURN [illegible] TRENCH DRAIN WITH TRAFFIC RATED GRATE OR EQUAL
10. SAWCUT & GRIND AND OVERLAY 2" PER DETAIL ON SHEET 2
11. 4" DIA. PVC – SDR 35 PIPE – SEWER DESIGN PER SEPARATE PLAN
12. 1" DIA PVC – WATER DESIGN PER UTILITY PLAN
13. 2" DIA PVC – WATER DESIGN PER UTILITY PLAN
14. 6" DIA. FIRE HYDRANT PROTECTED WITH BOLLARDS PER PRIVATE FIRE UNDERGROUND PLAN.
15. 8" DIA. PVC OR APPROVED EQUAL FIRE SERVICE LINE PER PRIVATE FIRE UNDERGROUND PLAN.
16. INSTALL BOLLARD PER DETAIL – SHEET 2
17. ¼ TON RIP-RAP 2' THK.
18. 8" HOT TAP TO EXISTING 12" WATER MAIN PER CVWD STD. DWG. NO 123, PER REVISED OFF-SITE CVWD PLAN NO. A811893.
19. 8" CML&C STEEL WATERLINE PER CVWD STD. DWG. NO. 123, PER REVISED OFF-SITE CVWD PLAN.
20. REMOVE EXISTING 4" DCDA AND REPLACE WITH 6" DCDA PER REVISED OFF-SITE CVWD PLAN AND PRIVATE FIRE UNDERGROUND PLAN.
21. INSTALL ELBOW.
22. 1" DIA HOSE BIBB
23. INSTALL 2x1-INCH TEE
24. INSTALL 2-INCH TEE
25. INSTALL 2x1-INCH PVC REDUCER
26. CONSTRUCT 8" THK. CONCRETE PAD FOR PROPOSED TRANSFORMER
27. CONSTRUCT 24"x24" JENSEN CATCH BASIN MODEL 2424 CB w/ FLOGARD+PLUS FILTER INSERT.
28. INSTALL 10-INCH HDPE.
29. INSTALL 10-INCH CLEAN OUT PER DETAIL – SHEET 2.
30. CONSTRUCT 12"x12" JENSEN CATCH BASIN MODEL 2424 CB w/ FLOGARD+PLUS FILTER INSERT AND OPEN BOTTOM.
31. INSTALL ACCESSIBLE PARKING SIGN PER DETAIL – SHEET 2.
32. PARKING STALLS – SEE DETAIL – SHEET 2
33. TRUNCATED DOMES – SEE DETAIL – SHEET 2.
34. ACCESSIBLE PARKING EMBLEM – SEE DETAIL – SHEET 2.
35. CONCRETE WHEEL STOP – SEE DETAIL – SHEET 2.

LEGEND

	PROPERTY LINE	FL	FLOW LINE
	PROPOSED CURB	FS	FINISH SURFACE
	PROPOSED CROSS GUTTER	HP	HIGH POINT
	SIDEWALK	LP	LOW POINT
	ASPHALT CONCRETE PAVING	TC	TOP OF CURB
	CONCRETE PAVING	TS	TOP OF SLOPE
	DRAINAGE SLOPE & DIRECTION		ELEVATION
	ADA PATH OF TRAVEL	(ELEV)	EXISTING ELEVATION

CONSULTANT:

ERSG

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT AND FACILITIES MANAGEMENT DEPARTMENT - PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY
RANCHO CUCAMONGA
NEW YARD
CONSTRUCTION

PROJECT # 10.10.1333?
CIP # 21-042
CAFM # [illegible]

APN: [illegible]

12158? BASE LINE ROAD
RANCHO CUCAMONGA, CA 91739?

ISSUE INFORMATION:

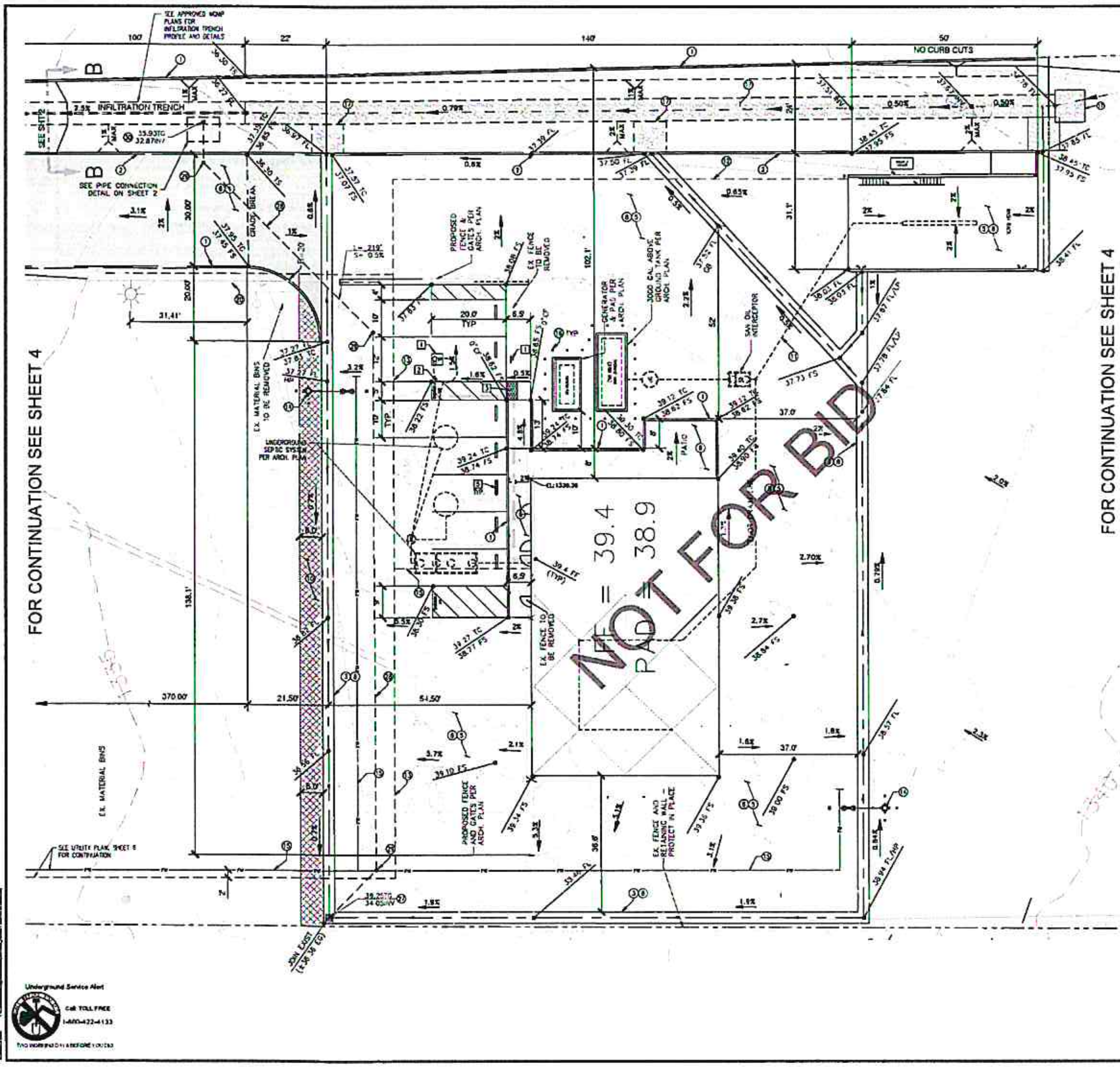
DATE:	INFORMATION:
04-29-21?	1st Plan Check
05-25-23?	2nd Plan Check

SHEET INFORMATION:
STK? PROJECT NO.: [illegible]
SCALE: AS NOTED
DATE: NOVEMBER 2022?
PLOT DATE: –
DRAWING NAME:

SEAL:

SHEET TITLE:
PRECISE GRADING PLAN
COUNTY YARD
SECTIONS AND DETAILS

SHEET NO.:
SHEET 2 OF 6



CONSTRUCTION NOTES

1. CONSTRUCT PCC 6" CURB ONLY PER APWA STD. NO. C-1 OR EQUIV.
2. CONSTRUCT 6" AC BERM PER APWA STD. DC OR EQUIV. WITH CURB CUTS PER DETAIL SHEET 2.
3. CONSTRUCT 3' WIDE CROSS GUTTER PER DETAIL SHEET 2.
4. CONSTRUCT 4" THK. MIN. AC OVER 7" AB PER SOILS REPORT
5. CONSTRUCT 5" THK. CONC. 4" AB W/ #3'S @ 18" O.C.
6. CONSTRUCT SIDEWALK PER SBC STD. 109.
7. INSTALL 6' H. BLOCK WALL PER SAN BERNARDINO COUNTY TRANS. DEPT. STD. 301 ALONG REAR PROPERTY LINE PER DETAIL ON SHEET 2, PER SEPARATE SUBMITTAL AND PERMIT BY CONTRACTOR.
8. REMOVE EXISTING PAVEMENT, CURB, GUTTER OR FENCING

- SAWCUT & GRIND AND OVERLAY 2" PER DETAIL ON SHEET 2.
- 4" DIA. PVC - SDR 35 PIPE - SEWER DESIGN PER SEPARATE PLAN
- 1" DIA PVC - WATER DESIGN PER UTILITY PLAN
- 2" DIA PVC - WATER DESIGN PER UTILITY PLAN
- 6" DIA. FIRE HYDRANT PROTECTED WITH BOLLARDS PER PRIVATE FIRE UNDERGROUND PLAN.
- 8" DIA. PVC OR APPROVED EQUAL FIRE SERVICE LINE PER PRIVATE FIRE UNDERGROUND PLAN.
- INSTALL BOLLARD PER DETAIL - SHEET 2
- 1 TON RIP-RAP 2' THK.
- CONSTRUCT 24"x24" JENSEN CATCH BASIN MODEL 2424 CB W/ FLOGARD+PLUS FILTER INSERT.
- INSTALL 10-INCH HDPE PIPE.
- INSTALL 10-INCH CLEAN OUT PER DETAIL - SHEET 2.
- CONSTRUCT 12"x12" JENSEN CATCH BASIN MODEL 2424 CB W/ FLOGARD+PLUS FILTER INSERT AND OPEN BOTTOM.
- INSTALL ACCESSIBLE PARKING SIGN PER DETAIL - SHEET 2.
- PARKING STALLS - SEE DETAIL - SHEET 2.
- TRUNCATED DOMES - SEE DETAIL - SHEET 2.
- ACCESSIBLE PARKING EMBLEM - SEE DETAIL - SHEET 2.
- CONCRETE WHEEL STOP - SEE DETAIL - SHEET 2.

NOTES TO CONTRACTOR

1. USE OF HEAVY EQUIPMENT SHOULD BE LIMITED OR PROHIBITED TO PREVENT COMPACTION OF THE UNDERLYING SOILS INTENDED FOR INFILTRATION.
2. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ADEQUATE PROVISIONS FOR MONUMENT PRESERVATION HAVE BEEN ADDRESSED CONTRACTUALLY AND IN THE FIELD.

STK

CONSULTANT:

ERSG
Engineering Resources of Southern California

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT AND FACILITIES MANAGEMENT DEPARTMENT - PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY
RANCHO CUCAMONGA
NEW YARD
CONSTRUCTION

PROJECT # 10.10.1333
CIP # 23-042
CAFM # E1005

APN: 1089031390000,
1089031130000

12158 BASE LINE ROAD
RANCHO CUCAMONGA, CA 91739

ISSUE INFORMATION:

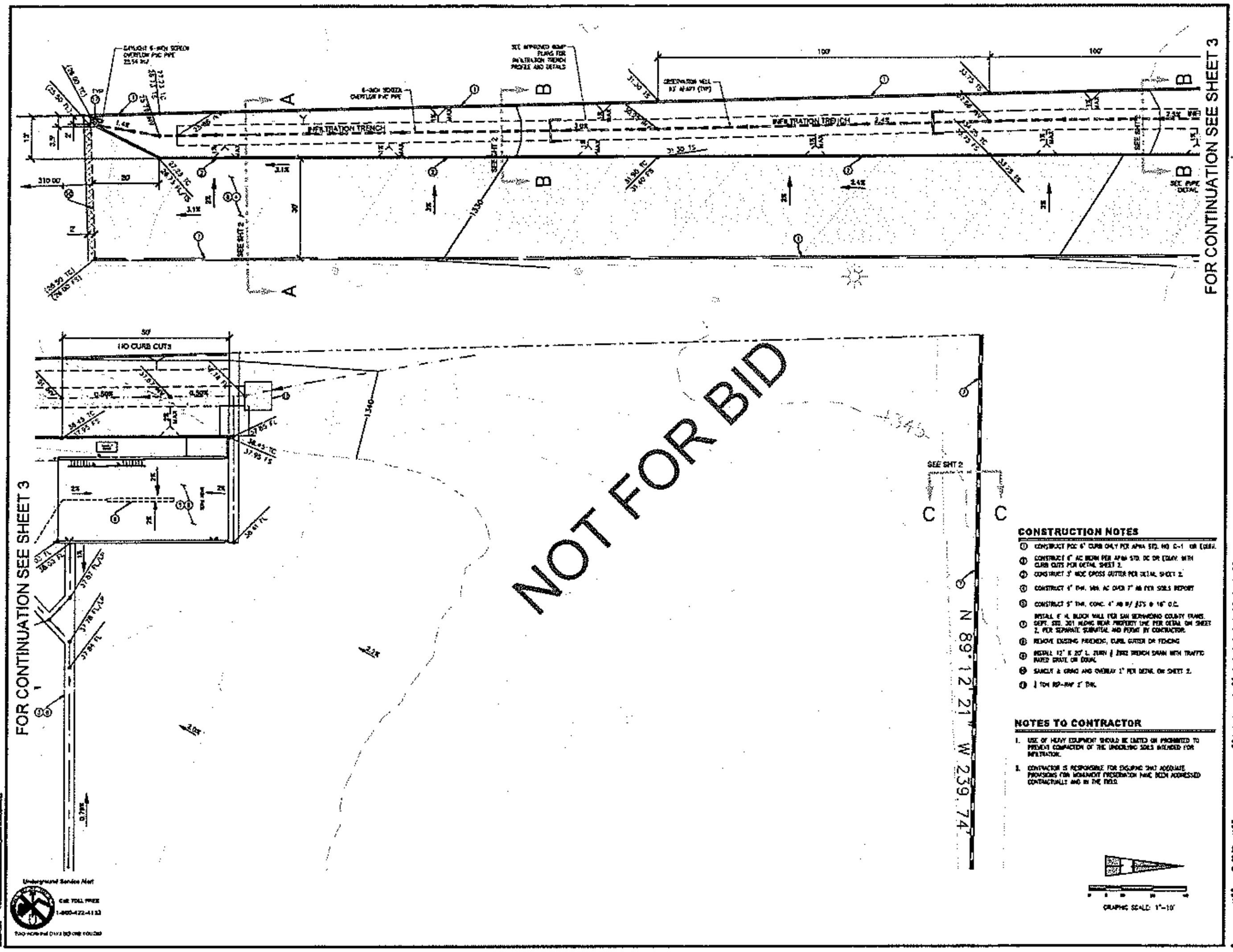
DATE:	INFORMATION:
04-29-21	1st Plan Check
05-25-23	2nd Plan Check

SHEET INFORMATION:
STK PROJECT NO.: 374-131-20
SCALE: AS NOTED
DATE: NOVEMBER 2022
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PRECISE GRADING PLAN
COUNTY YARD

SHEET NO.:
SHEET 3 OF 6



CONSTRUCTION NOTES

1. CONSTRUCT PCC 6" CURB ONLY PER APWA STD. NO. C-1 OR EQUIV.
2. CONSTRUCT 6" AC BERM PER APWA STD. DC OR EQUIV. WITH CURB CUTS PER DETAIL SHEET 2.
3. CONSTRUCT 3' WIDE CROSS GUTTER PER DETAIL SHEET 2.
4. CONSTRUCT 4" THK. MIN. AC OVER 7" AB PER SOILS REPORT
5. CONSTRUCT 5" THK. CONC. 4" AB W/ #3'S @ 16" O.C.
7. INSTALL 6' H. BLOCK WALL PER SAN BERNARDINO COUNTY TRANS. DEPT. STD. 301 ALONG REAR PROPERTY LINE PER DETAIL ON SHEET 2. PER SEPARATE SUBMITTAL AND PERMIT BY CONTRACTOR.
8. REMOVE EXISTING PAVEMENT, CURB, GUTTER OR FENCING
9. INSTALL 12" X 20' L. ZURN # Z882 TRENCH DRAIN WITH TRAFFIC RATED GRATE OR EQUAL
10. SAWCUT & GRIND AND OVERLAY 2" PER DETAIL ON SHEET 2.
11. ½ TON RIP-RAP 2' THK.

NOTES TO CONTRACTOR

1. USE OF HEAVY EQUIPMENT SHOULD BE LIMITED OR PROHIBITED TO PREVENT COMPACTION OF THE UNDERLYING SOILS INTENDED FOR INFILTRATION.
2. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ADEQUATE PROVISIONS FOR MONUMENT PRESERVATION HAVE BEEN ADDRESSED CONTRACTUALLY AND IN THE FIELD.

CONSULTANT:

ERSC
1461 W. Redlands Blvd, Bldg 70
Redlands, Ca. 92373

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY PROJECT AND FACILITIES MANAGEMENT DEPARTMENT - PROJECT MANAGEMENT DIVISION
385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY RANCHO CUCAMONGA NEW YARD CONSTRUCTION

PROJECT # 10.10.1313
OP # 23-042
CAFM # E11005
APN: 108903139000, 108903113000
12158 BASE LINE ROAD RANCHO CUCAMONGA, CA 91739

ISSUE INFORMATION:

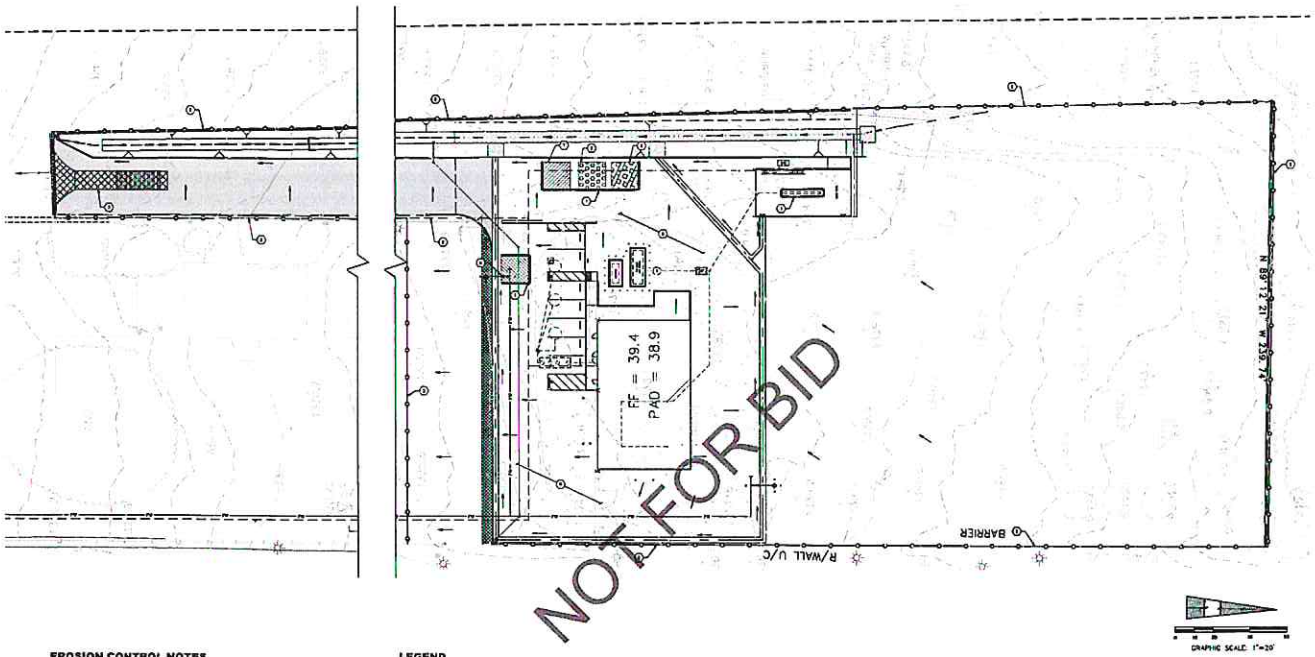
DATE:	INFORMATION:
04-29-21	1st Plan Check
05-25-23	2nd Plan Check

SHEET INFORMATION:
ETK PROJECT NO.: 374-131-20
SCALE: AS NOTED
DATE: NOVEMBER 2022
PLOT DATE: -
DRAWING NAME:

SEAL:

SHEET TITLE:
PRECISE GRADING PLAN COUNTY YARD

SHEET NO.:
SHEET 4 OF 8



NOT FOR BID

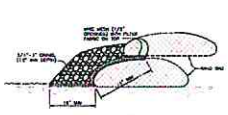
GRAPHIC SCALE: 1"=20'

EROSION CONTROL NOTES

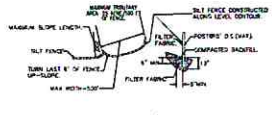
1. SAND BAG BARRIER (SC-6) PER DETAIL "A" HEREON.
2. SILT FENCE (EC-1) PER DETAIL "B" HEREON.
3. STABILIZED CONSTRUCTION ENTRANCE/EXIT (EC-1) PER DETAIL "C" HEREON.
4. MATERIAL DELIVERY AND STORAGE PER NM-1.
5. VEHICLE STORAGE.
6. WASTE STORAGE AREA PER NM-5.
7. VEHICLE WASHING AND MAINTENANCE AREA PER NS-8, NS-9 & NS-10.
8. IMPLEMENT WIND EROSION CONTROL PER WE-1.

LEGEND

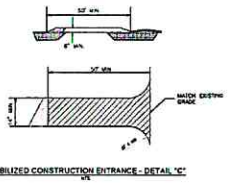
- SAND BAGS
- SILT FENCE
- FLOW PATH
- GRADING LIMITS
- PROP. CMU WALL
- STABILIZED CONSTRUCTION ENTRANCE
- MATERIAL DELIVERY/STORAGE AREA
- VEHICLE STORAGE AND MAINTENANCE AREA
- VEHICLE WASHING AREA
- WASTE STORAGE AREA



① SAND BAG - DETAIL "A"
NTS



② SILT FENCE - DETAIL "B"
NTS



③ STABILIZED CONSTRUCTION ENTRANCE - DETAIL "C"
NTS

Underground Service Alert
Call TOLL FREE
1-800-422-4133
TWO WORKING DAYS BEFORE YOU DIG

CONSULTANT:

ENSC
Engineering Solutions for Southern California
1441 W. Redlands Blvd., Bldg 79
Redlands, Ca. 92373
P: (909) 890-1333
F: (909) 890-0883

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT AND FACILITIES MANAGEMENT DEPARTMENT -
PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY
RANCHO CUCAMONGA NEW YARD CONSTRUCTION

PROJECT # 10.10.1333
CIP # 23-042
CAFM # 15005

APN: 1089031390000, 1089031300000

12158 BASE LINE ROAD
RANCHO CUCAMONGA, CA 91739

ISSUE INFORMATION:

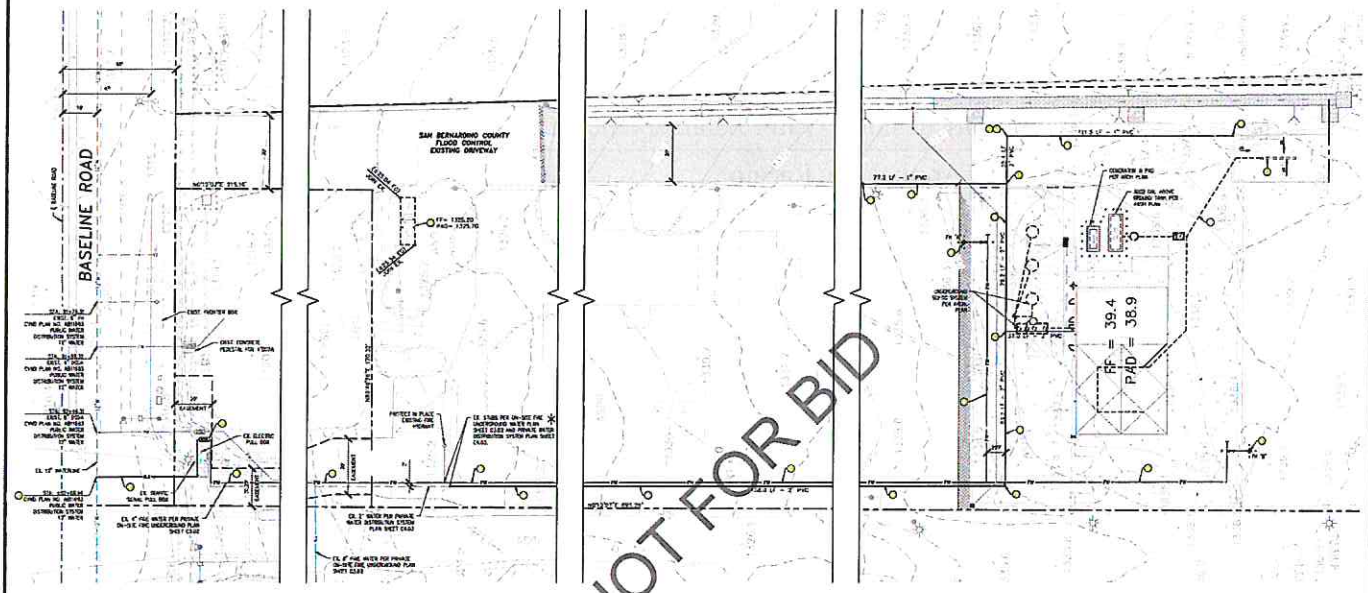
DATE:	INFORMATION:
04-29-21	1st Plan Check
05-25-23	2nd Plan Check

SHEET INFORMATION:
STK PROJECT NO.: 374-134-20
SCALE: AS NOTED
DATE: NOVEMBER 2022
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
PRECISE GRADING PLAN
COUNTY YARD
EROSION CONTROL PLAN

SHEET NO.:
SHEET 5 OF 6



UTILITY NOTES

- INSTALL 12" X 23" L. ZURN / Z882 TRENCH DRAIN WITH TRAFFIC RATED GRATE OR EQUAL
- 4" DIA. PVC - SDR 35 SEWER PIPE PER SEPARATE PLAN
- 1" DIA PVC OR APPROVED EQUAL WATERLINE
- 2" DIA PVC OR APPROVED EQUAL WATERLINE
- 8" DIA. FIRE HYDRANT PROTECTED WITH BOLLARDS PER PRIVATE FIRE UNDERGROUND PLAN
- 6" DIA. PVC OR APPROVED EQUAL FIRE SERVICE LINE PER PRIVATE FIRE UNDERGROUND PLAN
- 8" HOT TAP TO EXISTING 12" WATER MAIN PER CVWD STD. DWG. NO 133, PER REVISED OFF-SITE CVWD PLAN NO. A811683
- 8" CMLAC STEEL WATERLINE PER CVWD STD DWG NO. 123, PER REVISED OFF-SITE CVWD PLAN
- REMOVE EXISTING 4" DCDA AND REPLACE WITH 8" DCDA PER REVISED OFF-SITE CVWD PLAN AND PRIVATE FIRE UNDERGROUND PLAN
- INSTALL ELBOW
- 1" DIA HOSE BIBB
- INSTALL 2x1-INCH TEE
- INSTALL 2-INCH TEE
- INSTALL 2x1-INCH PVC REDUCER
- CONSTRUCT 6" THK. CONCRETE PAD FOR PROPOSED TRANSFORMER

NOTES TO CONTRACTOR

1. CONTRACTOR SHALL POTHOLE AND VERIFY THE LOCATION AND ELEVATION OF THE UTILITIES WITHIN CONSTRUCTION AREA. ANY UTILITIES NOT SHOWN OR THAT HAS DISCREPANCY TO THE PLANS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR SHALL ACQUIRE ENCROACHMENT PERMITS FOR ALL WORK DONE WITHIN THE PUBLIC RIGHT OF WAY.
3. CONTRACTOR SHALL ACQUIRE ALL NECESSARY PERMITS FROM ALL PUBLIC UTILITY PURVEYORS FOR CONNECTIONS.

GRAPHIC SCALE: 1"=20'

Underground Service Alert
Call TOLL FREE
1-800-422-4133
TWO WORKING DAYS BEFORE YOU DIG

CONSULTANT:

ESC Engineering Services of Southern California
1661 W. Redlands Blvd., Bldg 7B
Redlands, Ca. 92373
P: (909) 890-1255
F: (909) 890-0955

PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT AND FACILITIES
MANAGEMENT DEPARTMENT -
PROJECT MANAGEMENT
DIVISION

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:
SAN BERNARDINO COUNTY
RANCHO CUCAMONGA
NEW YARD
CONSTRUCTION

PROJECT # 10.10.1333
CIP # 23-042
CAFM # ET0005
APN: 1089031390000,
1089031300000

12158 BASE LINE ROAD
RANCHO CUCAMONGA,
CA 91739

ISSUE INFORMATION:

DATE:	INFORMATION:
04-29-21	1st Plan Check
05-25-22	2nd Plan Check

SHEET INFORMATION:
STK PROJECT NO.: 374-134-20
SCALE: AS NOTED
DATE: NOVEMBER 2022
PLOT DATE: -
DRAWING NAME: -

SEAL:

SHEET TITLE:
UTILITY PLAN
COUNTY YARD
INDEX SHEET

SHEET NO.:
SHEET 6 OF 6

Appendix B: Permit Registration Documents

Permit Registration Documents included in this Appendix:

Location in SWPPP	**Permit Registration Document** (in addition to a copy of the SWPPP)
	Notice of Intent
	Risk Level Determination
	Certification
	Post-Construction Requirements, if applicable
	Post-Construction Water Balance Calculator, if applicable
	Copy of Annual Fee Receipt
	ATS Design Documents, if applicable
	Passive Treatment Design Documents, if applicable
	Site Maps and Drawings, see Appendix A

State Water Resources Control Board

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE
GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ ORDER No. 99-08-DWQ)

I. NOI STATUS (SEE INSTRUCTIONS)

MARK ONLY ONE ITEM 1. ☒ New Construction 2. ☐ Change of Information for WDID#

II. PROPERTY OWNER

Name	Contact Person		
San Bernardino County Yard	Ryan Johnson		
Mailing Address	Title		
385 N Arrowhead Avenue	Project Manager III		
City	State	Zip	Phone
San Bernardino	CA	92415	(909) 387-5000

Owner Type (*check one*) 1.[ ] Private Individual 2.[ ]Business 3.[X]Municipal 4.[ ]State 5.[ ]Federal 6.[ ]Other

III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor	Contact Person		
County of San Bernardino / Real Estate Services	Ryan Johnson		
Mailing Address	Title		
385 N Arrowhead Avenue	Project Manager III		
City	State	Zip	Phone
San Bernardino	CA	92415	(909) 387-5000

IV. CONSTRUCTION PROJECT INFORMATION

Site/Project Name	Site Contact Person		
San Bernardino County Yard	Ryan Johnson		
Physical Address/Location	Latitude	Longitude	County
12158 Baseline Road	34.12	117.54	San Bernardino
City (or nearest City)	Zip	Site Phone Number	Emergency Phone Number
Rancho Cucamonga	91739	(909) 387-5000	

A. Total size of construction site area: 2.66 Acres

B. Total area to be disturbed: _____ Acres (% of total _____)

C. Percent of (Imperviousness (including rooftops):
Before Construction: 0 %
After Construction: 38 %

D. Tract Number(s): _____, _____

E. Mile Post Marker: _____

F. Is the construction site part of a larger common plan of development or sale?
☐ YES ☒ NO

G. Name of plan or development: Rancho Yard New Building

H. Construction commencement date: ____/____/____

I. % of site to be mass graded: 0%

J. Projected construction dates:
Complete grading: ____/____/____ Complete project: ____/____/____

K. Type of Construction (Check all that apply):
1. ☐ Residential 2. ☐ Commercial 3. ☐ Industrial 4. ☐ Reconstruction 5. ☐ Transportation
6. ☒ Utility Description: _____ 7. ☐ Other (Please List): _____

V. BILLING INFORMATION

SEND BILL TO:	Name	Contact Person	
☒ OWNER (as in II. above)			
☒ DEVELOPER (as in III. above)	Mailing Address	Phone/Fax	
☐ OTHER (enter information at right)	City	State	Zip

VI. REGULATORY STATUS

A. Has a local agency approved a required erosion/sediment control plan? ☐ YES ☒ NO

Does the erosion/sediment control plan address construction activities such as infrastructure and structures? ☐ YES ☒ NO

Name of local agency: _____ Phone: _____

B. Is this project or any part thereof, subject to conditions imposed under a CWA Section 404 permit of 401 Water Quality Certification? ☐ YES ☒ No

If yes, provide details: _____

VII. RECEIVING WATER INFORMATION

A. Does the storm water runoff from the construction site discharge to (Check all that apply):

1. ☐ **Indirectly to waters of the U.S.**
2. ☐ **Storm drain system - Enter owner's name:** _____
3. ☐ **Directly to waters of U.S. (e.g. , river, lake, creek, stream, bay, ocean, etc.)**

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): NONE

VIII. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (check one)

☐ A SWPPP has been prepared for this facility and is available for review: Date Prepared: ____/____/____ Date Amended: ____/____/____

☒ A SWPPP will be prepared and ready for review by (enter date): 07 / 01 / 21

☐ A tentative schedule has been included in the SWPPP for activities such as grading, street construction, home construction, etc.

B. MONITORING PROGRAM

☐ A monitoring and maintenance schedule has been developed that includes inspection of the construction BMPs before anticipated storm events and after actual storm events and is available for review.

If checked above: A qualified person has been assigned responsibility for pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes. ☐ YES ☒ NO

Name: _____ Phone: _____

C. PERMIT COMPLIANCE RESPONSIBILITY

A qualified person has been assigned responsibility to ensure full compliance with the Permit, and to implement all elements of the Storm Water Pollution Prevention Plan including:

1. Preparing an annual compliance evaluation ☐ YES ☒ NO

Name: _____ Phone: _____

2. Eliminating all unauthorized discharges ☐ YES ☒ NO

IX. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)

Have you included a vicinity map with this submittal? ☒ YES ☐ NO

Have you included payment of the annual fee with this submittal? ☐ YES ☒ NO

X. CERTIFICATIONS

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that I have read the entire General Permit, including all attachments, and agree to comply with and be bound by all of the provisions, requirements, and prohibitions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: _____

Signature: _____ **Date:** _____

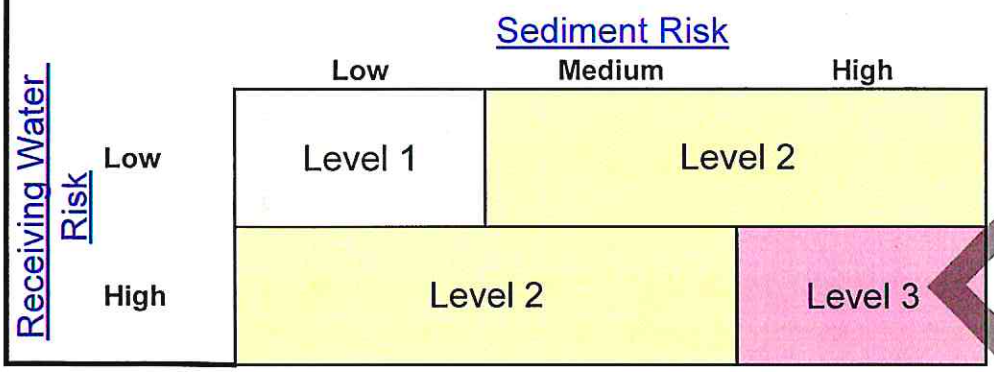
Title: _____

	A	B	C	D
1	Version 8/17/2011			
2		**Risk Determination Worksheet**		
3				
4			**Step 1**	Determine Sediment Risk via one of the options listed:
5				1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map
6				2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data
7			**Step 2**	Determine Receiving Water Risk via one of the options listed:
8				1. GIS map of Sediment Sensitive Watersheds provided
9				2. Site Specific Analysis (support documentation required)
10			**Step 3**	Determine Combined Risk Level
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		30.38
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.24
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.94
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		6.853728
16	**Site Sediment Risk Factor**		**Low**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			
21			
22			
23	**GIS Map Method:**		
24	1. The R factor for the project is calculated using the online calculator at:		
25	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
26			
27	2. The K and LS factors may be obtained by accessing the GIS maps located on the State Water Board FTP website at:		
28	ftp://swrcb2a.waterboards.ca.gov/pub/swrcb/dwq/cgp/Risk/		
29			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment?**:		
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml		
OR	**no**	**Low**
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		
Region 1 Basin Plan		
Region 2 Basin Plan		
Region 3 Basin Plan		
Region 4 Basin Plan		
Region 5 Basin Plan		
Region 6 Basin Plan		
Region 7 Basin Plan		
Region 8 Basin Plan		
Region 9 Basin Plan		

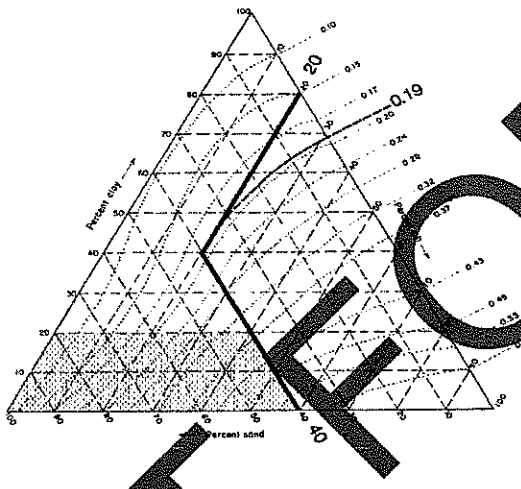
Combined Risk Level Matrix



Project Sediment Risk:	**Low**
Project RW Risk:	**Low**
Project Combined Risk:	**Level 1**

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.
The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability). *Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.*

Sheet Flow Length (ft)	Average Watershed Slope (%)																	
	0.2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0	30.0	40.0	50.0	60.0
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.35	0.36	0.38	0.39	[illegible]	[illegible]	0.48	0.53	0.58	0.63
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.49	0.56	[illegible]	0.72	[illegible]	0.97	1.07
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.38	0.45	0.51	0.56	0.67	[illegible]	[illegible]	[illegible]	1.31	1.47
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.39	0.47	0.55	0.62	0.76	[illegible]	[illegible]	1.37	1.62	1.84
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.40	0.49	0.58	0.67	[illegible]	1.04	[illegible]	1.59	1.91	2.19
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36	0.45	0.57	0.71	0.85	0.98	[illegible]	1.56	[illegible]	2.41	2.91	3.36
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54	0.70	0.91	1.15	1.40	1.64	2.10	2.67	[illegible]	4.24	5.16	5.97
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69	0.91	1.20	1.54	1.87	2.21	2.86	3.67	[illegible]	5.89	7.20	8.37
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82	1.10	1.46	1.88	[illegible]	2.73	3.57	[illegible]	5.58	7.44	9.13	10.63
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05	1.43	1.92	2.51	[illegible]	3.68	4.85	[illegible]	7.70	10.35	12.75	14.89
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25	1.72	2.34	3.07	3.81	4.56	6.04	7.88	9.67	13.07	16.16	18.92
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43	1.99	2.72	[illegible]	4.48	5.37	7.16	9.38	11.65	15.67	19.42	22.78
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60	2.24	3.09	[illegible]	5.11	6.15	8.23	10.81	13.35	18.17	22.57	26.51
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90	2.70	3.75	[illegible]	6.30	[illegible]	10.24	13.53	16.77	22.95	28.60	33.67
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43	3.52	4.95	[illegible]	[illegible]	[illegible]	[illegible]	18.57	23.14	31.89	39.95	47.18
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89	4.24	6.03	[illegible]	[illegible]	12.69	[illegible]	23.24	29.07	40.29	50.63	59.93
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30	4.91	7.02	[illegible]	[illegible]	14.96	20.57	27.66	34.71	48.29	60.84	72.15

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

National Pollutant Discharge Elimination System (NPDES)

Rainfall Erosivity Factor Calculator for Small Construction Sites

EPA's stormwater regulations allow NPDES permitting authorities to waive NPDES permitting requirements for stormwater discharges from small construction sites if:

- the construction site disturbs less than five acres, and
- the rainfall erosivity factor ("R" in the revised universal soil loss equation, or RUSLE) value is less than five during the period of construction activity.

If your small construction project is located in an area where EPA is the permitting authority and your R factor is less than five, you qualify for a low erosivity waiver (LEW) from NPDES stormwater permitting. If your small construction project does not qualify for a waiver, then NPDES stormwater permit coverage is required. Follow the steps below to calculate your R factor.

LEW certifications are submitted through the NPDES eReporting Tool or "CGP-NeT". Several states that are authorized to implement the NPDES permitting program also accept LEWs. Check with your state NPDES permitting authority for more information.

- Submit your LEW through EPA's eReporting Tool
- List of states, Indian country, and territories where EPA is the permitting authority (pdf)
- Construction Rainfall Erosivity Waiver Fact Sheet
- Small Construction Waivers and Instructions (pdf)

The R-factor calculation can also be integrated directly into custom applications using the R-Factor web service.

For questions or comments, email EPA's CGP staff at cgp@epa.gov.

● Select the estimated start and end dates of construction by clicking the boxes and using the dropdown calendar.

The period of construction activity begins at initial earth disturbance and ends with final stabilization.

Start Date: 03/01/2024 **End Date:** 12/31/2024

● Locate your small construction project using the search box below or by clicking on the map.

Location: 12158 Baseline Road Rancho Cucamonga **Search**

Click the "Calculate R Factor" button below to calculate an R Factor for your small construction project.

Calculate R Factor

Facility Information

Start Date: 03/01/2024

End Date: 12/31/2024

Latitude: 34.1216

Longitude: -117.5398

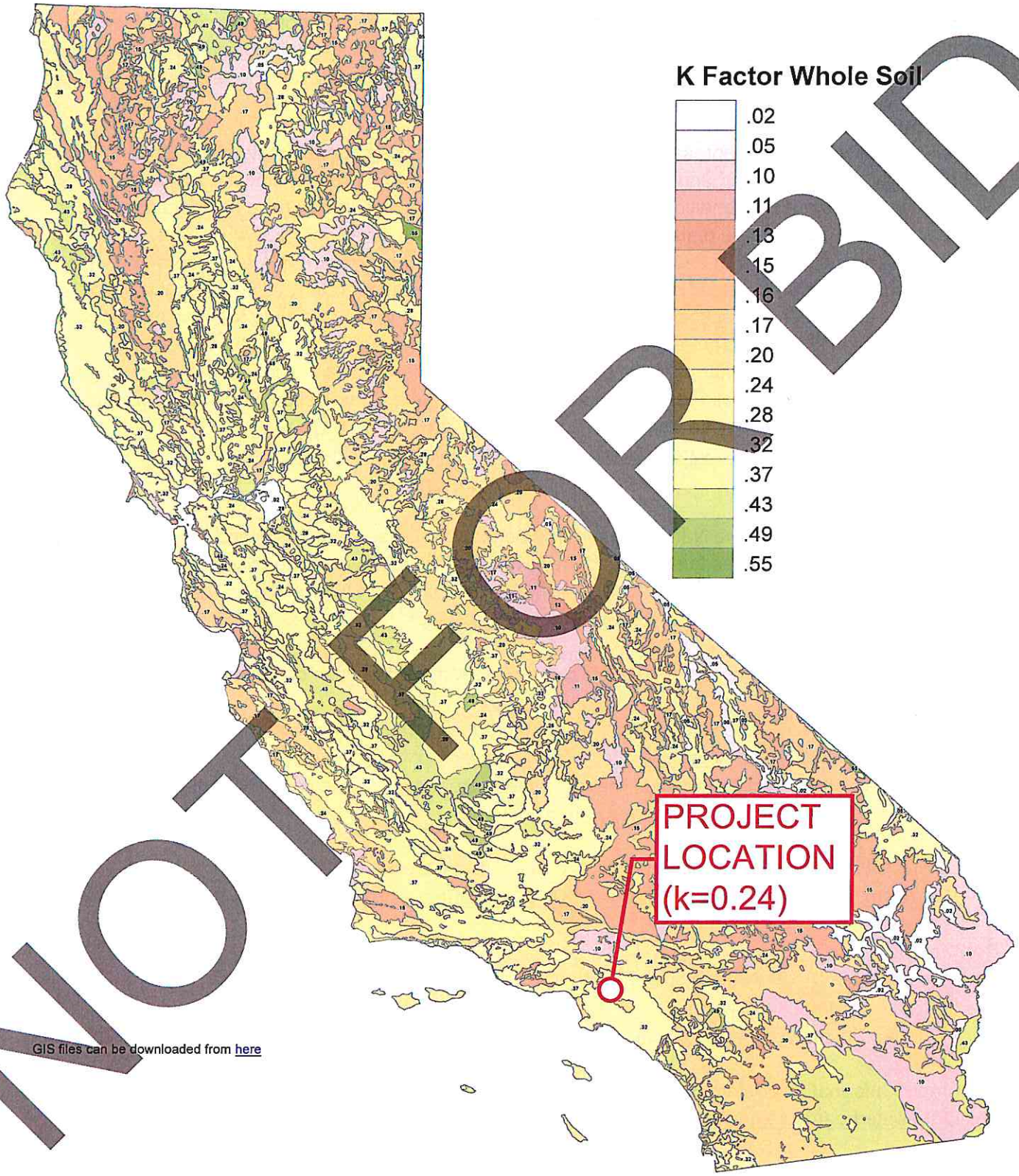
Calculation Results

Rainfall erosivity factor (R Factor) = **30.38**

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority (pdf), you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT).Otherwise, you must seek coverage under your state's CGP.

RUSLE K Values



GIS files can be downloaded from here

Water Boards

Data Source: *Natural Resources Conservation Service, U.S. Dept. of Agriculture and State Water Resources Control Board*

RUSLE K Factor Watershed Map Methodology

Objective:
To provide guidance for determining the Revised Universal Soil Loss Equation (RUSLE) K Factor with regards to the Construction General Permit. The K factor represents the combination of detachability of the soil, runoff potential of the soil, and the transportability of the sediment eroded from the soil. Using the methodology, a discharger will be able to identify the appropriate, areally-weighted K Factor value for a construction project.

Background:
The soil-erodibility factor (K) represents: (1) the susceptibility of soil or surface material to erosion, (2) the transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff, although these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high runoff rates and large runoff volumes. For more information on the Construction General Permit and references for the RUSLE, please visit:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Data and Method:
Soil data was acquired from the Natural Resources Conservation Service (NRCS) and was used in conjunction with an NRCS Microsoft Access template and the NRCS Soil Data Viewer. The Microsoft Access template was used in conjunction with the data received from the Soil Data Mart to produce the background data needed to create the K Factor values (for whole soil) in ArcMap.

- The California subset of the U.S. General Soils Map dataset can be downloaded from: http://soildatamart.nrcs.usda.gov/Default.aspx
- The Microsoft Access template needed to produce K Factor values can be downloaded from: http://soildatamart.nrcs.usda.gov/Templates.aspx
- The GIS extension "Soil Data Viewer" used in creating this data can be downloaded from: http://soils.usda.gov/sdv/download.html

For a complete list of NRCS soil survey data and methods please visit:

- http://soildatamart.nrcs.usda.gov/SSURGOMetadata.aspx

Contact:
Please contact the Storm Water help desk with any questions or comments:

- Phone: 916-341-5537
- Email: stormwater@waterboards.ca.gov

Geographic Information System (GIS) Data can be accessed here:
https://ftp.waterboards.ca.gov/?u=GIS_Shared&p=GIS_Download&path=/swrcb/dwq/cgp/Risk/

RUSLE LS Values

GIS files can be downloaded here

Water Boards

0 25 50 100 Miles

Data Source: *State Water Resources Control Board*

Appendix C: SWPPP Amendment QSD Certifications

SWPPP Amendment No. _____

Project Name: _____

Project Number: _____

Qualified SWPPP Developer's Certification of the Stormwater Pollution Prevention Plan Amendment

"This Stormwater Pollution Prevention Plan and its appendices were prepared under my direction to meet the requirements of the 2022 CGP (SWRCB Order No. 2022-0057-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD's Signature	Date
QSD Name	QSD Certificate Number
Title and Affiliation	Telephone
Address	Email

Appendix D: Submitted Changes of Information

Log of Updated PRDs

The 2022 CGP allows for the reduction or increase of the total acreage when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

A Change of Information (COI) shall be filed electronically within the timeframe shown in the table below. The SWPPP shall be modified appropriately, with revisions and amendments recorded in the SWPPP Amendment Log at the front of the SWPPP. COIs submitted electronically via SMARTS can be found in this Appendix.

Reason for Filing COI	Timeline for Filing COI
Reduction or increase in total disturbed area	Within 30 days of the reduction or increase
Updating site specific BMPs	Within 14 days of design change
Change construction start or end date	At least 14 days prior to the date to be changed
Post-construction plans updated or approved by the municipal stormwater permittee	Within 14 days of approval

This appendix includes all of the following updated PRDs (check all that apply):

☐ Change of Information;

☐ Revised Site Map;

☐ Revised Risk Assessment;

☐ New landowner's information (name, address, phone number, email address); and

☐ New signed certification statement.

Signature of [Authorized Representative of] Legally Responsible Person or Duly Authorized Representative	Date
Name of [Authorized Representative of] Legally Responsible Person or Duly Authorized Representative	Telephone Number

Appendix E: Construction Schedule