SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

ITEM: 15.2
(ID # 30409)
MEETING DATE:
Tuesday, May 12, 2026

FROM : DEPARTMENT OF WASTE RESOURCES

SUBJECT: DEPARTMENT OF WASTE RESOURCES: Approval of Contract Documents, including Plans and Specifications, and Bid Advertisement for the Construction of the 2026 On-Call Site Improvements Project at Riverside County Sanitary Landfills, District 5 [$0 – 100% Department of Waste Resources Enterprise Funds], (CEQA Exempt per State CEQA Guidelines Section 15301, 15302, 15304, and 15061(b)(3)).

RECOMMENDED MOTION: That the Board of Supervisors:

1. Find that the Project is exempt from the California Environmental Quality Act (CEQA) pursuant to State CEQA Guidelines Sections 15061(b)(3) (General Rule for Exemption), and categorically exempt pursuant to Sections 15301 (Existing Facilities), 15302 (Replacement and Reconstruction), 15303 (New Construction or Conversion of Small Structures), and 15304 (Minor Alterations of Land);

2. Approve the Contract Documents, including the Plans and Specifications, for the Construction of the 2026 On-Call Site Improvements Project at Riverside County Sanitary Landfills;

Continued on Page 2
ACTION: Policy

Andrew Cortez 4/30/2026
Andrew Cortez

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Gutierrez, seconded by Supervisor Perez and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Medina, Spiegel, Washington, Perez, and Gutierrez
Nays:	None
Absent:	None
Date:	May 12, 2026
xc:	Waste

Kimberly A. Rector
Clerk of the Board
By: _____
Deputy

RECOMMENDED MOTION: That the Board of Supervisors:

3. Authorize the General Manager-Chief Engineer of the Department of Waste Resources (Department) to advertise for bids to be received in the Department Office located at 14310 Frederick Street, Moreno Valley, CA 92553, up to the hour of 11:00 a.m. on Wednesday, June 10, 2026, at which time the bids will be opened; and

4. Direct the Department to file the Notice of Exemption with the County Clerk and the State Clearinghouse upon approval of the Project.

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$ 0	$ 0	$ 0	$ 0
NET COUNTY COST	$ 0	$ 0	$ 0	$ 0
SOURCE OF FUNDS: 100% Waste Resources Enterprise Funds			**Budget Adjustment:** No	
			For Fiscal Year: 26/27 - 27/28	

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

Landfill site improvements represent an integral part of the Department of Waste Resources (Department) efforts to reduce the introduction of pollutants which affect the quality of storm water discharges associated with landfill operations at Department landfill sites. As part of the National Pollutant Discharge and Elimination System (NPDES) statewide general permit to regulate industrial storm water discharges, the Department is responsible for the installation and maintenance of Best Management Practices (BMPs), including drainage structures that collect and channel runoff from the landfill.

Maintenance and improvements will take place on an on-call basis. It is anticipated that the contract will reduce the cost and time involved in bidding separate public works projects, especially with respect to very small projects that cannot be planned for ahead of time. It will also allow the Department to have a contractor under agreement at reasonable prices when the need arises, rather than having to pay inflated prices for emergency work.

The Board has awarded similar on-call site improvement projects through the California Public Works Contract process. To ensure continuity of regulatory compliance at both Badlands and Lamb Canyon Sanitary Landfills, the Department is proposing to advertise a new 18-month contract to provide the necessary maintenance and drainage site improvements.

In addition to the onsite drainage improvements and on-call work, two earthwork projects are included in the contract documents, one at both sites. At the Lamb Canyon Sanitary Landfill, the earthwork project consists of the remediation of a landslide on an existing native slope

immediately above the Water Quality Basin. Final slope stabilization measures will include removal of landslide debris, re-grading of slope, and installation of surface drainage structures and erosion control measures to reduce the potential for future slope failure. Repair of the landslide is necessary to prevent debris from impacting the site's Water Quality Basin and to maintain compliance with the applicable regulatory requirements. The earthwork project at the Badlands Sanitary Landfill consists of the vertical and horizontal expansion of the Northwest Berm adjacent to the Phase 1 Fill. This project extends the life of the Phase 1 area of the landfill by approximately four (4) months by increasing the vertical height of the existing Northwest berm by an average of 20 feet and extending the length of the Northwest Berm by approximately 400 feet.

California Environmental Quality Act (CEQA) Findings

The Project is exempt from CEQA pursuant to the State CEQA Guidelines Sections 15061(b)(3) (General Rule for Exemption), and categorically exempt pursuant to Section 15301 Existing Facilities, 15302 (Replacement and Reconstruction), 15303 (New Construction or Conversion of Small Structures), and 15304 (Minor Alterations of Land). The Project contemplated in this Form 11 involves approval of a contract for site improvements at Lamb Canyon Sanitary Landfill and Badlands Sanitary Landfill. The Contract Documents, including Plans and Specifications, will be advertised and, ultimately, a contractor will be selected to complete the work (under a separate Board action). The proposed contract work is located within the permitted landfill disturbance areas. This work would not have a direct, indirect, or cumulatively significant effect on the environment. A Notice of Exemption (NOE) to this effect will be filed with the County Clerk upon Project approval.

Impact on Citizens and Businesses

This project reduces the introduction of pollutants into stormwater being discharged from Riverside County Landfills to improve the environment for nearby citizens and businesses.

Price Reasonableness

The Engineer's estimate for this project is $4,300,000 and the action today, if approved, will authorize the Department to pursue competitive bids through the California Public Works Contract process. The Department will then return to the Board of Supervisors to seek approval to award the Contract to the lowest responsible bidder.

ATTACHMENTS:

Attachment A: Contract Documents for the Construction of On-Call Site Improvements at Riverside County Sanitary Landfills

Attachment B: NOE 26-03

Crystal Carrillo
Crystal Carrillo, Senior Management Analyst 5/7/2026

Aaron Gettis
Aaron Gettis, Chief Deputy County Counsel 5/7/2026



CONTRACT DOCUMENTS

FOR

THE CONSTRUCTION OF

2026 ON-CALL SITE IMPROVEMENTS

AT

RIVERSIDE COUNTY LANDFILLS

APRIL 2026

FORM APPROVED COUNTY COUNSEL
BY: Lisa Sanchez 5/04/2026
LISA SANCHEZ DATE

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ADMINISTRATIVE PROVISIONS

FOR

THE CONSTRUCTION OF

2026 ON-CALL SITE IMPROVEMENTS

AT

RIVERSIDE COUNTY SANITARY LANDFILLS

MAY 2026

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NOTICE INVITING BIDS

The Riverside County Department of Waste Resources, hereinafter called "**County**," invites sealed bids for:

2026 ON-CALL SITE IMPROVEMENTS

AT

RIVERSIDE COUNTY SANITARY LANDFILLS

1. **CONTRACT DOCUMENTS AVAILABLE:** On or after May 13, 2026, an official copy of the Contract Documents (as enumerated in the Construction Agreement) may be examined at the County's office located at 14310 Frederick Street, Moreno Valley, CA 92553, and may be obtained upon payment to the County of $70 per set (received at the County's office) or $80 per set if mailed by U.S. mail (mailing cost does not apply when using recipient's mailing account number). No refund will be made.

   A digital copy of the Contract Documents and Project Drawings in PDF format will be available on the Department of Waste Resources' website http://www.rcwaste.org. The Project Drawings will also be available in digital AutoCAD (.dwg) format on the Department of Waste Resources' website. This digital data is to be used at the Bidder's own discretion. The County is not responsible for the manner in which the Bidder chooses to use the digital data. The County is not responsible for how this digital data might be converted by the Bidder to another format. The Bidder is solely responsible for its use of this digital data.

2. **ADDENDA:** Interpretations, corrections, clarifications, and changes to the Contract Documents will be made by Addenda. Each Addendum, if any, shall be adopted as a part of the Contract Documents, a copy of which may be examined at the County's office and obtained as further described in Section 1 above. A copy of all Addenda will also be provided to prospective Bidders as further described in Section 2.10 of Article 2, Bidding Procedures, in the Instructions to Bidders. It is the Bidder's responsibility to actively check for the issuance of Addenda.

3. **BID SECURITY:** Each Bid Proposal must be accompanied by a Bid Security, in the form of either cash, a certified check, a cashier's check, or a Bidder's Bond executed by an Admitted Surety Insurer ("Bid Bond") equal to ten percent (10%) of the total aggregate amount of the Bid. The Bid Bond shall be payable to the County of Riverside (the "Bid Security") as a guarantee that the Bidder will, if awarded the Contract, execute a satisfactory Contract, furnish the required bonds, and provide the required Certificates of Insurance.

4. **BID DEADLINE, PLACE FOR RECEIPT AND OPENING:** Bid Proposals must be placed in a sealed envelope clearly marked "Bid Proposal." Bid Proposals must be submitted in accordance with Instructions to Bidders and other Contract Documents and filed with the County **before 11:00 AM on June 10, 2026 ("Bid Deadline")** at 14310 Frederick Street, Moreno Valley, CA 92553, which time and place are fixed for the public opening of bids. The County reserves the right to extend the Bid Deadline by Addendum issued no less than seventy-two (72) hours before the new Bid Deadline.

5. **NOTICE OF PRE-BID SITES VISITS, CONFERENCE OR MEETING:** A **mandatory** pre-bid site visit, conference, or meeting will be conducted at **both** Badlands and Lamb Canyon Sanitary Landfills on **Wednesday, May 27, 2026, at 10:00 AM**. This mandatory pre-bid site review will start at the Badlands Sanitary Landfill at 10:00 AM and then proceed to the Lamb Canyon Sanitary Landfill. The Badlands Sanitary Landfill site address is 31125 Ironwood Avenue, Moreno Valley, CA 92555. The Lamb Canyon Sanitary Landfill site address is 16411 Lamb Canyon Road, Beaumont, CA 92223. Failure to attend the mandatory pre-bid conference and job walk, or arriving at the pre-bid conference and job walk late, will disqualify your Bid. All attendees are required to sign-in to be acknowledged to be in attendance and eligible to bid and receive Addenda.

6. **DEADLINE FOR BIDDER REQUESTS FOR INFORMATION:** All questions and requests for clarification or interpretation of the Contract Documents must be submitted in writing by **5:00 PM on Friday, May 29, 2026**, to Sarah Lunetta via e-mail to "slunetta@rivco.org" or via fax to (951) 486-3250. Any requests for information or clarification submitted after the date and time specified above will not be considered.

7. **CONTRACT DURATION:** The Work must be completed within eighteen (18) calendar months from the date the County issues the Notice to Proceed with the Work.

8. **PAYMENT AND PERFORMANCE BOND:** The successful Bidder must furnish County with Payment and Performance Bonds, with each issued by a California Admitted Surety Insurer, and each in an amount equal to 100% of the Contract Price.

9. **PUBLIC WORKS BIDDER REGISTRATION:** Pursuant to Labor Code Section 1771.1, any Bidder bidding and Subcontractors to be listed on a Bid Proposal shall not be eligible to bid on or be listed in a Bid Proposal, subject to Public Contract Code Section 4104, or engage in the performance of any Contract for Public Work, unless currently registered with the Department of Industrial Relations and qualified to perform Public Works pursuant to Labor Code Section 1725.5. No Bidder or Subcontractor may be awarded a Public Works Contract or enter into a Contract without proof of current registration to perform Public Works.

10. **PUBLIC WORKS PROJECT SUBJECT TO PREVAILING WAGE LAWS:** This Project is subject to the provisions of Labor Code Section 1720 et seq., and the requirements of Title 8 of the California Code of Regulations Section 16000 et seq., which govern the payment of prevailing wages on Public Works projects. General prevailing rate of per diem wages and general prevailing rate of per diem wages for holiday and overtime work, including employer payments for health and welfare, pension, vacation, apprentices and similar purposes for each craft, classification or type of workman needed for execution of Contracts under the jurisdiction of the County have been obtained by the County from the Director of Industrial Relations of the State of California for the area where the Work is to be done. These are on file at the County's office, and will be made available to any interested person upon request and are also on the DIR website, https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The Contractor shall post job site notices, including a copy of the prevailing rate of per diem wage determinations made by the Director for the Department of Industrial Relations and other

notices prescribed by regulations that comply with the provisions of the California Labor Code, including, without limitation, Sections 1771.4, 1773.1, 1773.2, 1774, 1775, 1776, and 1777.5.

Contractor shall furnish the records specified in Labor Code Section 1776, including but not limited to certified payroll records, directly to the Labor Commissioner for the Department of Industrial Relations.

11. SUBSTITUTION OF SECURITIES: Substitution of securities for any monies withheld by County shall be permitted as provided for by Section 22300 of the California Public Contract Code.

12. CONTRACTOR'S LICENSE: Bidders submitting Bid Proposals for this Project shall have an active and in good standing Class A Contractor's license from the State of California at the Bid Deadline, or in the case of federal funding, at Contract Award, in order to be considered eligible for the Contract Award. The license(s) shall remain active and in good standing throughout the entire duration of the Project.

Subcontractors must possess the appropriate licenses for each specialty subcontracted.

13. LIQUIDATED DAMAGES: If the Contractor fails to complete the Work within the Contract Time, County shall assess liquidated damages against Contractor at the daily rate established in the Construction Agreement.

14. WITHDRAWAL OF BIDS/PERIOD OF BID IRREVOCABILITY: No bid may be withdrawn or changed after the Bid Deadline, except as otherwise provided by law. A Bidder may request County consent to allow a Bidder to withdraw its Bid in accordance with Public Contract Code Section 5100 et seq. Each Bidder agrees by submitting a Bid that its Bid shall remain open, is irrevocable, and may not be modified, withdrawn, or cancelled for a period of at least sixty (60) Calendar Days after the Bid Deadline.

15. ACCEPTANCE AND REJECTION OF BIDS: County reserves the right to reject any or all Bids or to waive irregularities or informalities in any Bids or in the bidding.

16. CONTRACT AWARD/ALTERNATE BID ITEMS: Award will be made to the responsive and responsible Bidder submitting the lowest Bid price; however, if Alternate Bid Items are included in the Bid form, the lowest Bid will be determined in accordance with Paragraph 3.1 of the Instructions to Bidders.

17. BIDDER QUALIFICATIONS AND PROJECT REFERENCES:

A Bidder must satisfy the following requirements to bid on this Project:

a. Within the last five (5) years, the Bidder and/or subcontractor shall have successfully completed an earthwork construction project(s) with a minimum quantity of 100,000 cubic-yards in comparable topographic features as exist at the project sites (that is, with canyons and valleys, and not just flat terrain).

b. Within the last five (5) years, the Bidder and/or subcontractor shall have successfully completed an earthwork construction project(s) with at least 50,000 cubic yards of

engineered fill including soil material processing, placement, compaction, and grading per plan.

c. Within the last five (5) years, the Bidder and/or subcontractor shall have successfully completed a construction project(s) with installation of at least five hundred (500) tons of asphalt concrete structures.

d. Within the last five (5) years, the Bidder and/or subcontractor shall have successfully completed a construction project(s) with at least five thousand (5,000) tons of aggregate base material (CMB, class-II base, rock material) or a combination there of including placement, compaction and grading.

Bidders shall provide all reference information requested on the Project Reference Form for the Bidder and for any and all Subcontractor(s) listed to perform any Work that requires the above qualifications.

With the submittal of the Bid Proposal, the Bidder shall submit for approval by the County documented evidence of satisfaction of the Bidder Qualifications listed above, including the name and experience of the superintendent and lead personnel that will be responsible for each category of Work listed under the preceding paragraph "**Bidder Qualifications and Project References**". As part of this submittal, **Project Reference Forms** shall be completed indicating, at a minimum, the name, address, and phone number of the project owner and owner's representative, the location of the Project, the amount of material installed, and the completion date.

18. WORK PERFORMED BY THE CONTRACTOR: The successful Bidder shall perform, with its own organization, Work amounting to at least fifty percent (50%) of the Contract Price, except that any designated "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" may be deducted from the Contract Sum before computing the amount of Work required to be performed by the Contractor. See Section **3-2** of the General Provisions and Section **3.3** of the Special Provisions.

Dated: _____

RIVERSIDE COUNTY
DEPARTMENT OF WASTE RESOURCES

_____
Andy Cortez, General Manager - Chief Engineer

INSTRUCTIONS TO BIDDERS

ARTICLE 1 - GENERAL CONDITIONS

1.1 DEFINITIONS

Capitalized terms used on the Contract Documents shall have the meanings assigned to them in the Construction Agreement, Bonds, other Forms, General Provisions, Special Provisions, Detailed Provisions, or elsewhere in the Contract Documents. Capitalized terms so defined shall have the meanings assigned to them in, or if none is assigned as reasonably interpreted according to the context of, the portion of the Contract Documents where such terms are used.

1.2 ENGINEER'S ESTIMATE AND ESTIMATED QUANTITIES

Any Engineer's estimate provided by the County relating to this Work has been provided strictly for informational purposes and cannot be relied upon by any Bidder as representing an accurate estimate of the value of the Work. The purpose of providing any such Engineer's estimate is simply to provide each potential Bidder with some preliminary information relating to whether the Work may be within its bonding capacity and available resources. Under no circumstance may a Bidder rely upon the Engineer's estimate as representing a reasonable value of the Work. Sometimes Engineer's estimates are significantly higher or lower than the actual Bids received.

The estimated quantities set forth in the Bid Item List are approximate only and are provided only as a basis for the comparison of Bids. The amount of Work to be done or materials to be furnished by the Bidder as stated in the Bid Proposal (except for lump sum items) are only estimates and are not to be taken as an express or implied statement that the actual amount of Work or materials will correspond to the estimate. The County reserves the right to increase, decrease, or to eliminate certain items from the Work or materials if found desirable or expedient. The County shall not be responsible for the accuracy of the estimate of quantities. The Bidder shall judge for itself, after considering all circumstances and conditions, the costs and quantities of materials involved in the Work. Payment shall be made only for actual quantities of items of Work constructed in accordance with the Contract Documents. Unit Prices shall include all overhead, profit, general conditions, cost and fee for the Work described. The Contractor will be allowed no Claims for anticipated profits, loss of profits or for any damages of any sort because of any difference between the estimated and the actual amounts of Work done, or materials furnished or used in the Project except as provided by Change Order.

1.3 BASIS FOR DETERMINING AGREEMENT OF FIGURES FOR UNIT PRICES

All prices and totals provided by Bidder in the Bid Proposal are subject to verification and correction by County. All Bid prices including, but not limited to, lump sum prices and Alternate Bid Item prices, are deemed to include the cost of all materials, equipment, labor (at prevailing wage rates), transportation, delivery, installation, supervision, overhead, profit, licenses, permits, fees, bonds, insurance, all sales, use and other taxes legally chargeable, and all other costs and expenses incidental to the Work. If the Unit Prices and the extended total amounts inserted by the Bidder in the Bid Proposal do not agree, the Unit Prices alone will be considered as representing the Bidder's intention and will be used to determine the lowest Bid, except as follows:

A. If the amount set forth as a Unit Price is ambiguous, unintelligible, or uncertain for any reason, or is omitted, or is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the Unit Price.

(Decimal Errors) If the product of the entered Unit Price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered Unit Price or item total, whichever most closely approximates percentage-wise the Unit Price or item total in the County's final estimate of cost.

1.4 TRADE NAMES AND "OR EQUAL" SUBSTITUTIONS

The materials, products and equipment described in the Contract Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. Pursuant to Division 2, Chapter 3, Article 5, commencing at Public Contract Code Section 3400, all specifications calling for a designated material, product, thing, or service by specific brand or trade name shall be deemed to include the words "or equal," unless the Notice Inviting Bids sets forth a finding in accordance with Public Contract Code Section 3400 that substitutions are not permitted for such particular material, product, thing or service; provided, however, that permissible exceptions or other requirements shall be specifically noted in the Detailed Provisions. Bidders wishing to obtain authorization for an "or equal" substitution of an equivalent material, product or equipment not expressly noted in the Detailed Provisions, shall submit all requests for "or equal" substitution using the form included at the end of Detailed Provisions Section 01 6000 – Product Requirements, together with data substantiating Bidder's representation that the non-specified item is of equal quality to the item specified within thirty-five (35) calendar days after award of the Contract.

Authorization of an "or equal" substitution of equivalent materials is solely within the discretion of the County and, if given, shall be made by Addendum or Change Order issued through the County. Bids shall not be based on any "or equal" substitution request that has not been authorized in writing by Addendum. In the absence of a written Addendum authorizing a pre-Bid or Equal Substitution request, the request shall be deemed denied.

1.5 INSPECTION OF SITE AND UNDERSTANDING OF CONTRACT DOCUMENTS

Prior to submission of a Bid, Bidders must have examined the site and fully acquainted themselves with the Contract Documents and all conditions affecting the Work. Failure of a Bidder to examine any of the Bidding Documents or to inspect the site will not relieve the successful Bidder from any obligation with respect to the Bid, the Contract, or the Work required under the Contract Documents. By the submittal of a Bid Proposal, the Bidder will be deemed to have personally examined the site and the drawings, to have carefully read all of the Specifications and other Contract Documents, and to be fully satisfied in its ability to meet all the difficulties attending the execution of the Work. The Bidder agrees that if it is awarded the Contract, it will make no Claim against the County based on ignorance or misunderstanding of the Contract Documents; and that the Bidder fully understands the payment method for the Work.

Where the County has made investigations of subsurface conditions in areas where Work is to be performed, or in other areas, such investigations are made only for the purpose of study and design. Where such investigations have been made, the Bidder may, upon request, inspect the County's public records of such investigations. The records of such investigations are not a part of the Contract and are solely for the convenience of the Bidder. It is expressly understood and agreed that the County assumes no responsibility whatsoever in respect to the sufficiency or accuracy of the investigations thus made, the records thereof, or of the interpretations set forth therein or made by the County in its use thereof, and there is no warranty or guarantee, either express or implied, that the conditions indicated by such investigations or records thereof are representative of those existing throughout such areas, or any part thereof, or that unlooked-for developments may not occur, or that materials other than, or in proportions different from those indicated, may not be encountered. No information derived from inspection of such records will in any way relieve the Bidder from its obligations under the Contract Documents.

1.6 QUALIFICATIONS OF BIDDERS AND ADDITIONAL INFORMATION

No Bid Proposal will be accepted from a Bidder who is not licensed under laws of the State of California, as evidenced by the submittal of the Bidder's Statement of Licensure form by Bidder with the Bid Proposal. No award will be made to any Bidder who cannot give satisfactory assurance to the County as to its ability to carry out the Contract, both from its financial standing and by reason of its previous experience as a Contractor on Work of the nature contemplated in the Contract. If a Bidder is a corporation, limited partnership or limited liability company, such entity shall be (1) duly incorporated, formed, or organized; (2) authorized to transact and do business in the State of California; and (3) current, active and in good standing under the laws of the State of California. Bidder shall complete the Bidder's Statement of Qualifications and Project References and submit it as part of its Bid. Notwithstanding the provisions of Section **4.4** herein, the Bidder's Statements of Qualifications and attachments shall not be public records.

Upon County's request, a Bidder whose Bid is under consideration for the award of the Contract shall promptly submit satisfactory evidence to County demonstrating the Bidder's financial resources, experience in the field, organization, and other factors evidencing Bidder's ability to successfully execute and complete the Contract. By signing the Bid Proposal, a Bidder authorizes County to contact third parties and authorizes release of information from third parties to the County to verify a Bidder's qualifications and information included in the Bid.

1.7 BALANCED BID

The Bidder is cautioned against the unbalancing of its Bid by including its overhead and profit into one (1) or two (2) items only when there are a number of items on the Bid Item List. The overhead and indirect charges should be prorated on all items in the Bid Item List included in the Bid Proposal. Bids in which the prices are mathematically or materially unbalanced may be rejected. Following are the U.S. Comptroller General's definitions of mathematically and materially unbalanced bids:

- A bid is mathematically unbalanced if the bid is structured on the basis of nominal prices for some Work and inflated prices for other Work; that is, each element of the bid must carry its proportionate share of the total cost of the Work plus profits.

- A bid is materially unbalanced if there is reasonable doubt that award to the Bidder submitting the mathematically unbalanced bid will result in the lowest ultimate cost to the County.

1.8 ANTI-DISCRIMINATION

It is the policy of the County that, in connection with all Work performed under this Contract, there be no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age, marital status, or sexual preference. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment and Housing Act, beginning with Labor Code Section 1735. In addition, the Contractor agrees to require like compliance by any Subcontractors employed on the Work.

1.9 REQUIRED SUBMITTALS

There are a number of forms and other documents required as submittals by the Bidder during the various stages of the Project. **Table 1** provides a checklist of submittals required by the Bidder as provided in the Administrative and General Provisions. Bidders acknowledge that submittal of the documents listed in the following table do not guarantee a complete Bid submittal package.

Table 1: Required Submittal Checklist

	BID DOCUMENT	SUBMITTAL TIMEFRAME	CONTRACT DOCUMENT REFERENCE
☐	Bid Proposal	at Bid	Administrative Provisions
☐	List of Subcontractors	at Bid	Administrative Provisions: Instructions to Bidders, Article 2, Section 2.8
☐	Bidder's Statement of Licensure	at Bid	Administrative Provisions: Instructions to Bidders, Article 1, Section 1.6
☐	Non-Collusion Declaration	at Bid	Administrative Provisions, Instructions to Bidders, Article 2, Section 2.12
☐	Iran Contracting Act Certification	at Bid	Administrative Provisions, Instructions to Bidders, Article 2, Section 2.14
☐	Economic Sanctions in Response to Russia's Actions in Ukraine	at Bid	Administrative Provisions, under Section "Bid Proposal"
☐	Bid Security (10% of Bid Price)	at Bid	Administrative Provisions: Instructions to Bidders, Article 2, Section 2.7
☐	Project Reference Form(s) (Minimum of 5 References) Must provide all the information described on the Project Reference Form.	at Bid	Administrative Provisions: Notice Inviting Bids to Contractors, Submittal Requirements, Instructions to Bidders, Article 1, Section 1.6
☐	Bidder's Statement of Qualifications Form(s)	at Bid	Administrative Provisions: Instructions to Bidders, Article 1, Section 1.6, and Article 3
☐	Construction Agreement	within **5 days** of Notice of Intent to Award	Administrative Provisions
☐	Performance Bond (100% of Contract Price)	within **5 days** of Notice of Intent to Award	Administrative Provisions: Instructions to Bidders, Article 4, Section 4.2
☐	Payment Bond (100% of Contract Price)	within **5 days** of Notice of Intent to Award	Administrative Provisions: Instructions to Bidders, Article 4, Section 4.2
☐	Workers' Compensation Bidder Certificate	within **5 days** of Notice of Intent to Award	Administrative Provisions, under Section "Construction Agreement, Bonds, and Other Forms"
☐	Declaration of Sufficiency of Funds	within **5 days** of Notice of Intent to Award	Administrative Provisions, under Section "Construction Agreement, Bonds, and Other Forms"
☐	Evidence of Insurance and Endorsements	within **5 days** of Notice of Intent to Award	Administrative Provisions: Article 4, Section 4.1.1
☐	Construction Schedule	within **14 days** of Notice of Intent to Award	Administrative Provisions: Article 4, Section 4.1.2
☐	Schedule of Values	within **14 days** of Notice of Intent to Award	Administrative Provisions: Article 4, Section 4.1.2
☐	Affirmative Action Compliance Program (for Bidders with 50+ Employees)	within **30 days** of Award of Contract	General Provisions: Section 5, Subsection 5-2.6

ARTICLE 2 - BIDDING PROCEDURES

2.1 PUBLIC OPENING OF BID PROPOSALS

Bid Proposals will be opened and read publicly at the time and place indicated in the Notice Inviting Bids. Bidders or their authorized agents are invited to be present. The County may, in its sole discretion, elect to postpone the opening of the submitted Bids. Without limitation to the County's right to reject all Bids received, if two (2) or more Bids from Bidders determined to be responsible are both the same amount and are the lowest bids received, then the County may accept the Bid it determines, at its sole discretion, to be in the County's best interest.

2.2 BID PROPOSAL FORMS AND SIGNATURES

Attention of all Bidders is called to all Bid Proposal forms attached hereto and Bidders are cautioned that all Bid Proposals submitted must be signed where so indicated by the person or persons duly authorized to sign on behalf of the Bidder and must be accompanied by the proper declaration, properly executed, and proof of acknowledgement. Bids without valid required signature(s) may be considered non-responsive. Bid Proposals must be made on the forms furnished by the County. If any Bidder makes any alteration or otherwise deviates from or makes and qualifications of the Bidder's Proposal forms in separate documents submitted with the Bidder's Proposal, the Bid may be considered non-responsive.

2.3 SUBMISSION OF BID PROPOSALS

The Bid Proposal, Bid Security, and other Bid Proposal submittals shall be enclosed by the Bidder in a sealed opaque envelope. Said envelope, as well as any other, outer envelope or packaging in which said envelope may have been placed by Bidder or the carrier for delivery, shall be addressed and delivered as provided in the Notice Inviting Bids bearing on the outside the Bidder's name and address, the Project name, Facility Name, and Bid Deadline. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

In order to receive consideration, Bids must be received **before** the Bid Deadline. Bids shall be submitted on the pre-printed forms provided by the County. Bids submitted on any other forms may be rejected as non-responsive. All required submissions are identified in **Table 1** above. All information required in Bid forms must be completely and accurately provided. All blanks must be legibly executed in a non-erasable medium. If any Bidder makes any alteration, strike-through or otherwise deviates from any of the pre-printed Bid forms or makes any qualifications of the Bid Forms in separate documents submitted with the Bid, the Bid may be considered non-responsive. The Bid amount shall be stated in numerals where so indicated in the Bid forms. Incomplete Bids may be rejected as non-responsive. Each Bidder is solely responsible for all costs and expenses incurred in preparing a Bid. Bidders wishing to submit a Bid for more than one (1) Bid Package category must submit a full, complete, original executed Bid and all required Bid forms and attachments.

2.4 TIMELY RECEIPT

The Bidder assumes full and sole responsibility for timely receipt of its Bid Proposal, including its Bid Security and all other Bid submittals, at the location designated in the Notice Inviting Bids. A

Bid is considered submitted only if the outer envelope containing the Bid is stamped by the County's date/time stamp device at the place designated for submittal of the Bid. The County's date/time stamp is controlling and determinative as to the date and time of the Bidder's submittal of its Bid. Bids received **on or after** the Bid Deadline are non-responsive and will be returned to the Bidder unopened.

2.5 DELIVERY METHOD

Submittal of Bid Proposals shall be by hand delivery or mail, only. Oral, telephonic, telegraphic, facsimile or other electronic transmission is not permitted.

2.6 INVALID BID PROPOSALS

Bid Proposals submitted by fax or e-mail and those which fail to reach the place fixed for opening of Bid Proposals prior to the date and hour set for opening same will not be considered.

2.7 BID SECURITY: BIDDER'S CASH, CHECK OR BOND

Each Bid Proposal must be accompanied by Bid Security, in the form of cash, certified check, cashier's check, or by a Bid Bond only on the form supplied by the County, drawn in favor of the County in an amount not less than ten percent (10%) of the total amount of the Bid. This Bid Security shall be given as a guarantee that the Bidder, if identified on the Notice of Intent to Award, will execute and deliver the Construction Agreement, the required Payment and Performance Bonds, and the required certificates of insurance in accordance with the Bid Proposal accepted by the County. In default of execution of the Construction Agreement and/or delivery of said Payment and Performance Bonds and Certificates of Insurance, such Bid Security may be forfeited, and the County may award the Contract to another Bidder or obtain new Bids on said Work. The Bid Security, cash, Bid Bond or check shall, in addition, be forfeited. The Bid Security will be returned upon the close of the period for Bid Withdrawal established in the Notice Inviting Bids to the successful Bidder upon execution of the Construction Agreement. NO BONDS WILL BE ACCEPTED UNLESS SUBMITTED ON THE FORM SUPPLIED BY THE COUNTY.

2.8 SUBLETTING AND SUBCONTRACTING

2.8.1. LIST OF SUBCONTRACTORS.

Each Bidder shall submit a proposed List of Subcontractors in accordance with the Subletting and Subcontracting Fair Practices Act, Public Contract Code Section 4100 et seq. The County has furnished a form for this purpose. If additive Alternate Bid Items are included in the Bidding Documents, Bidder shall identify Subcontractors performing additive Alternate Bid Items when such Work or combination of base Contract Work and alternate Work exceeds one-half (1/2) of one percent (1%) of the total Bid price. If a Bidder fails to specify a Subcontractor or if a Bidder specifies more than one Subcontractor for the same portion of Work to be performed under the Contract in excess of one-half (1/2) of one percent (1%) of the Bidder's total bid, the Bidder agrees that it is fully qualified to perform that portion itself and that the Bidder shall perform that portion itself. The County may require the three (3) lowest Bidders to submit other information pertinent to the proposed Subcontractors' quality, fitness, capacity and experience to satisfactorily perform the Work. Failure to timely submit such additional Subcontractor information may result in the Bid being deemed non-responsive and the Bid may be rejected by the County.

2.8.2. WORK OF SUBCONTRACTORS.

The organization or arrangements of the Specifications and Plans shall not limit the extent of the Work of the Contract Documents. Accordingly, all Bidders are encouraged to disseminate all of the Specifications, Drawings and other Contract Documents to all persons or entities submitting sub-bids to the Bidder. The omission of any portion or item of Work from the Bid or from sub-bids that is reasonably inferable from the Contract Documents is not a basis for adjustment of the Contract Price or the Contract Time.

2.8.3. BIDDER-PERFORMED WORK.

After the Bid Deadline, the County may require the three (3) lowest Bidders to submit information about Bidder-performed Work including, but not limited to, the dollar value or percentage value of Work to be performed by Bidder in conformity with the Contract Documents. See Section **3-2** of the General Provisions and Section **3.2** of the Special Provisions regarding requirements for Contractor-performed Work.

2.8.4. INELIGIBLE SUBCONTRACTORS.

The successful Bidder is prohibited from performing Work on the Project with any Subcontractor who is ineligible to perform Work on a Public Works project pursuant to Sections 1725.5, 1777.1 or 1777.7 of the California Labor Code. By submitting a Bid, each Bidder certifies that it has investigated the eligibility of each and every listed Subcontractor and has determined that none is ineligible to perform Work pursuant to the Labor Code.

2.9 INTERPRETATION OF CONTRACT DOCUMENTS AND ADDENDA

Discrepancies, omissions, ambiguities, or requirements likely to cause disputes shall be immediately brought to the attention of the County. When appropriate, Addenda will be issued by the County. No communication by anyone except by an Addendum affects the meaning or requirements of the Contract Documents. Should it appear that the Work to be done is not sufficiently detailed or explained in the Contract Documents, the Bidder must bring this to the County's attention in writing prior to submittal of the Bid. If at any time (before or after submittal of its Bid Proposal) the Bidder is of the opinion that there is or may be a discrepancy or inconsistency in the plans, drawings, specifications or other Contract Documents, it shall immediately report this in writing to the County and shall not proceed with any related Work until ordered so to do. All Bidders shall submit such written requests to County on or before the deadline established in the Notice Inviting Bids unless modified by Addendum (i.e., at least **seven (7) calendar days** prior to the Bid Deadline, unless modified by Addendum). The person or entity submitting the request will be responsible for its proper delivery to County.

Interpretations, corrections, clarifications and changes to the Contract Documents will be made by Addenda. The County reserves the right to issue Addenda to the Contract Documents no later than seventy-two (72) hours prior to the Bid Deadline. Addenda will be transmitted by the County to all prospective Bidders who (1) attended and signed in at the pre-bid visit, conference, or meeting (if any), (2) downloaded a copy of these Contract Documents at https://www.rcwaste.org/business/bids, and/or (3) have submitted a written request for notice of Addenda to the Riverside County Department of Waste Resources located at 14310 Frederick St.,

Moreno Valley, CA 92553, including in such request the Bidder's name and address for mailing. Each potential Bidder shall leave with the County its name, address, and fax number for the purpose of receiving Addenda. Addenda will be issued on https://www.rcwaste.org/business/bids alongside these Contract Documents. To be considered, a Bid Proposal must list and take into account all issued Addenda. Failure of the Bidder to receive any Addendum shall not relieve the Bidder from any of its obligations under its Bid Proposal. It is the Bidder's responsibility to actively check for the issuance of Addenda. The costs of performance by Bidder of all items of Work and other obligations contained in all Addenda issued by the County shall be deemed included in the amount of the Bid Proposal. The Bidder shall identify and list in its Bid Proposal all Addenda received from the County. Failure to list all Addenda may be a basis for determining that a Bid Proposal is non-responsive.

2.10 POSTPONEMENT OF BID DEADLINE

The County reserves the right to postpone the time and date for the public opening of bids as specified in the Notice Inviting Bids to Contractors by issuance of an Addendum to the Contract Documents no later than **seventy-two (72) hours** prior to the specified time and date for public opening of bids.

2.11 REJECTION OF BID PROPOSALS CONTAINING ALTERATIONS, ERASURES OR IRREGULARITIES

Bid Proposals may be rejected if they show any alterations of form, additions not called for, conditional Bid Proposals, incomplete Bid Proposals, erasures, or irregularities of any kind. Erasures or interlineations in the Bid Proposal must be explained or noted over the signature of the Bidder. The County may determine as unresponsive any Bid Proposal in which any statement or representation made or incorporated by reference in the Bid Proposal, including any Bid submittal comprising the Bid Proposal, is false, incorrect or materially incomplete and misleading.

2.12 DISQUALIFICATION OF BIDDERS INTERESTED IN MORE THAN ONE BID

No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one (1) Bid; however, a person, firm, or corporation that has submitted a sub-bid to a Bidder or that has quoted prices of materials to a Bidder, is not, thereby disqualified from submitting a sub-bid or quoting prices to other Bidders or making a Bid as the prime Contractor. More than one (1) Bid Proposal from an individual, a firm or partnership, a corporation or an association under the same or different names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one (1) Bid Proposal for the Work contemplated will cause the rejection of all Bid Proposals in which such Bidder is interested. If there is any reason for believing that collusion exists among the Bidders, none of the participants in such collusion will be considered in awarding the Contract. In accordance with Public Contract Code Section 7106, each Bidder shall submit a Non-Collusion Declaration, signed under penalty of perjury, certifying that the Bid is not the result of and has not been influenced by collusion.

2.13 WITHDRAWAL OF BID PROPOSALS

Any Bid Proposal may be withdrawn at any time prior to the hour Bid Deadline, provided that a request in writing, executed by the Bidder or its duly authorized representative, for the withdrawal of such Bid Proposal, and filed with the County. The withdrawal of a Bid Proposal shall not

prejudice the right of a Bidder to file a new Bid Proposal. Once submitted, all Bids are irrevocable, except as otherwise provided by law. Requests for withdrawal of Bids after the Bid Deadline shall be made only in accordance with Public Contract Code § 5100, *et seq.* Each Bidder agrees by submitting a Bid that its Bid shall remain open, is irrevocable, and may not be modified, withdrawn or cancelled for the period specified in the Notice Inviting Bids, unless a Bidder and, if applicable, its Bid Bond surety, agree to extend the period of Bid irrevocability.

2.14 IRAN CONTRACTING ACT CERTIFICATION

Each Bidder shall submit the certification required by the Iran Contracting Act of 2010, Public Contract Code section 2200 et seq. with its Bid on the County-prescribed form.

ARTICLE 3 - CONSIDERATION OF BIDS

3.1 BASIS OF AWARD/ALTERNATE BID ITEMS

It is the intent of the County to award the Contract, if it be awarded, to the lowest, responsible and qualified Bidder submitting a Bid in accordance with the requirements of the Contract Documents based upon all Bid items.

A responsible Bidder is a Bidder who has demonstrated the attributes of trustworthiness, as well as quality, fitness, capacity and experience of the Bidder to satisfactorily perform the proposed Work and satisfy the requirements of the Contract. The County may determine a Bidder to be non-responsible for purposes of this proposed Work, if the Board of Supervisors for the County, in its discretion, finds that the Bidder has done any such acts or omissions, including without limitation, that: (1) violated a term of a Contract for any Public Works project, including one with the County; (2) reflects negatively on the Bidder's quality, fitness or capacity to perform a Contract with the County or any public entity; (3) made any false statements or Claims against the County or any public entity; (4) demonstrates or indicates a lack of business integrity or honesty including such acts or omissions that would demonstrate a pattern or practice of such negative business practices; or (5) violated any law or regulation required of a Contractor in the submission of bids to or performance under any Contracts with any public entity.

3.1.1. NO ALTERNATE BID ITEMS.

If Alternate Bid Items are not called for in the Contract Documents:

A. The lowest Bid shall be determined by the lowest Base Bid.

B. If a submitted Bid includes alternate prices for any Bid Item, the County may reject the Bid.

3.1.2. ALTERNATE BID ITEMS.

If Alternate Bid Items are called for in the lowest Bid shall be determined by the lowest total of the prices on the Base without consideration of Alternate Bid Items:

A. Each Bidder must fill in the prices for all Alternate Bid Items indicated on the Schedule of Bid Items;

B. If no change in the Base Bid is required, enter "No Change" in the blank for the price of the Alternate Bid Item;

C. Any Bid that does not include prices for any Alternate Bid Item may result in the Bid being rejected as non-responsive; and

D. County reserves the right, in its sole discretion, to select any, all, or none of the Alternate Bid Items at the time of award of the Contract, regardless of whether those Alternative Bid Items were used in the analysis to determine the lowest Bid.

3.2 NOTICE OF INTENT TO AWARD

Following public opening and reading of Bids, and prior to the period of Bid irrevocability established in the Notice Inviting Bids, the County will issue a Notice of Intent to Award identifying the name of the Bidder to whom the County intends to award the Contract, which will be e-mailed to all Bidders submitting a Bid Proposal ("Notice of Intent to Award"). The County, in its sole and absolute discretion, may elect to request that some Bidders extend the period of Bid irrevocability and thereafter, to extend the time for its issuance of its Notice of Intent to Award.

3.3 BID PROTESTS

Any Bidder submitting a Bid Proposal to the County may file a protest of the County's proposed award of the Contract provided that each and all of the following are complied with:

1. The bid protest is in writing.

2. The bid protest is both filed with and received by Andy Cortez, General Manager – Chief Engineer at the following address, 14310 Frederick Street, Moreno Valley, CA 92553, not more than five (5) business days following the date of issuance of the Notice of Intent to Award. Failure to timely file and serve the bid protest under this provision shall constitute grounds for the County's denial of the bid protest without consideration of the grounds stated therein.

3. The written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest. Any grounds not set forth in the bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and credible evidence. Any bid protest not conforming to the foregoing shall be rejected as invalid.

4. Provided that a bid protest is filed in conformity with the foregoing, the General Manager – Chief Engineer, or such individual(s) as may be designated by the General Manager – Chief Engineer in his discretion, shall review and evaluate the basis of the bid protest, and shall provide a written decision to the Bidder submitting the bid protest, either concurring with or denying the bid protest. The written decision of the General Manager -Chief Engineer or his designee shall be final, unless overturned by the Board of Supervisors.

3.4 ACCEPTANCE AND REJECTION OF BIDS AND POST BID INTERVIEWS

The County reserves the right to reject, in its sole discretion, to waive any irregularities or informalities in any Bids or in the bidding process, judge the Bidder's representations as stated in the Bid forms, including the Bidder's Statement of Qualifications, and any post-Bid information to determine whether or not Bidder is qualified to perform the Work; be the sole judge regarding the suitability of the products, services or supplies offered; not purchase all items or the full quantity of each item listed in the Bidding Documents; reject any or all Bids; modify, cancel or withdraw the Notice Inviting Bids; issue a new Notice Inviting Bids; suspend or abandon the Project; appoint evaluation committees to review bids and seek the assistance of outside technical experts in Bid evaluation; waive deficiencies, informalities and minor irregularities in Bids; require a Bidder to provide a guarantee (or guarantees) of the Contract by a third party; and to not issue a Notice to Proceed after execution of the Contract. In submitting a Bid, the Bidder is specifically

acknowledging the County holds these rights. The Notice Inviting Bid does not commit the County to enter into a Contract, to reject, in its sole discretion, all Bids, nor does it obligate the County pay for any costs incurred in preparation and submission of a Bid or in anticipation of a Contract. By submitting a Bid, the Bidder disclaims any right to be paid for such costs associated with any and all Bid Proposals. Bids may be considered irregular and may be rejected for reasons that include, but are not limited to, the following:

1. If the forms furnished by the County are not used or are altered.

2. If there are material additions, qualifications, conditions, or irregularities of any kind which may make the Bid incomplete, indefinite, or ambiguous.

3. If the Bidder adds any provisions reserving its rights to accept or reject any award of Contract.

4. If the lump sum price, provided by the Bidder, is obviously unbalanced or is excessive or may materially affect the final cost of the Work. In case of an error in an extension, the price upon which the extension is based shall take precedence.

5. If the Bidder fails to complete, in any manner, the Bid forms where information is requested so that the Bid may not be properly evaluated.

6. If the Bid Bond/Security does not accompany the Bid Proposal.

7. If Bidder has been delinquent or unfaithful in the performance of any former Contract with the County.

8. If the Bid is received after the Bid Deadline.

9. If the County determines that any information provided by a Bidder is false or misleading or is so incomplete as to be false or misleading.

Prior to award of the Contract, and if requested by County, the Bidder agrees to meet with the County to review the details and calculations of the Bid Proposal and the Bidder's understanding of any aspect of the Work.

3.5 RETURN OF BID SECURITY

Upon an award of the Contract, the County will return the Bid Security accompanying those Bid Proposals that are not considered in making the award within a reasonable period of time, but not to exceed beyond sixty (60) days from the time the award of the Contract is made by the County. All other Bid Securities will be held until the Contract has been fully executed and the required bonds and Certificates of Insurance have been provided by the successful Bidder, after which such Bid Securities will be returned to the respective Bidders whose Bid Proposal they accompany.

ARTICLE 4 - POST NOTICE OF INTENT TO AWARD

4.1 POST-NOTICE OF INTENT TO AWARD SUBMITTALS

Within the time periods set forth below, the successful Bidder identified in the Notice of Intent to Award as the successful Bidder shall submit the following additional Post-Notice of Intent to Award submittals, completed and signed in the manner required by the Contract Documents, to the County at 14310 Frederick Street, Moreno Valley, CA 92553:

4.1.1. WITHIN FIVE (5) DAYS AFTER ISSUANCE BY COUNTY TO BIDDER OF THE NOTICE OF INTENT TO AWARD AND PRIOR TO THE CONTRACT AWARD, SUCH CONTRACTOR SHALL SUBMIT TO THE COUNTY THE FOLLOWING:

(1) Construction Agreement duly executed by an authorized delegate of the Contractor;

(2) Performance Bond and Payment Bond (issued by Surety), as set forth in Paragraph 4.2 below;

(3) Evidence of Insurance and Endorsements, as specified in Section 5-3 of the General Provisions;

(4) Workers' Compensation Certificate and Waiver of Subrogation Endorsement, in the form specified by the Contract Documents; and

(5) Declaration of Sufficiency of Funds (required only if the Bidder has not entered into a collective bargaining agreement covering the workers to be employed for performance of the Work), in the form specified by the Contract Documents.

4.1.2. WITHIN FOURTEEN (14) DAYS AFTER ISSUANCE BY COUNTY TO BIDDER OF THE NOTICE OF INTENT TO AWARD AND PRIOR TO COMMENCEMENT OF THE WORK, SUCH BIDDER SHALL SUBMIT TO THE COUNTY THE FOLLOWING:

(1) Construction Schedule, prepared by Bidder in the manner required by the Contract Documents; and

(2) Schedule of Values, prepared by Bidder in the manner required by the Contract Documents.

4.2 CONTRACT SECURITY - PERFORMANCE AND PAYMENT BONDS

Contractor shall furnish two (2) Surety bonds in duplicate, one (1) as a security for the faithful performance of the Contract in the amount equal to one hundred percent (100%) of the Contract Price (the "Performance Bond"), and one (1) as security for the payment of all persons performing labor and furnishing materials in connection with the Contract in an amount equal to one hundred percent (100%) of the Contract Price (the "Payment Bond"). Both the Performance Bond and Payment Bond shall be issued by an Admitted Surety. The Surety on the Performance Bond shall have an A.M. Best's Insurance Rating of A:VIII (A:8) or better. All bonds must be submitted on forms provided by the County. Notary acknowledgements of the signatures of the Contractor and

Surety(ies) are required. The attorney-in-fact who executes the required Performance Bond and Payment Bond on behalf of the Surety shall affix thereto a certified and current copy of the power of attorney authorizing such attorney-in-fact to execute same on behalf of such Surety. Bonds submitted in any other form will not be accepted. Should any Surety on the Payment Bond or Performance Bond be deemed unsatisfactory by the County, Contractor shall upon notice promptly substitute new bonds satisfactory to the County. All bonds must be issued by California Admitted Surety Insurers which are authorized by the State of California to issue such bonds.

4.3 FORFEITURE OF BID SECURITY FOR FAILURE TO POST SECURITY AND EXECUTE AGREEMENT

In the event the Bidder, to whom an award is made, fails or refuses to post the required bonds and provide the required Certificates of Insurance and fails to return executed copies of the Construction Agreement within five (5) days after the prescribed forms are presented to it for signature, the County may declare the Bidder's Bid Security forfeited as damages caused by the failure of the Bidder to post such security and execute such copies of the Construction Agreement and may award the Work to the next lowest responsible Bidder, or may call for new bids.

4.4 PUBLIC RECORDS

County seeks to conduct its business openly. Upon opening, all Bids shall be regarded as public, with the exception of the Statement of Qualifications and attachments and those elements of each Bid that are identified by the Bidder as business or trade secrets and plainly marked as "trade secret," "confidential," or "proprietary." Each element of a Bid which a Bidder desires not to be considered public must be clearly marked as set forth above; any blanket statement (i.e. regarding entire pages, documents, or other, non-specific designations) shall not be sufficient and shall not bind the County in any way whatsoever. If County receives a request from a third party to make a Bid available for inspection or copying, the County will notify the Bidder of the request. If a Bidder instructs the County that the information is not to be released, County will withhold the information, provided, the Bidder expeditiously seeks a protective order from a court of competent jurisdiction to prevent such release. If disclosure is required by law (despite the Bidder's request for confidentiality), the County shall not in any way be liable or responsible for the disclosure of such records or part thereof.

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BID PROPOSAL

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BID PROPOSAL

TO THE BOARD OF SUPERVISORS OF THE COUNTY OF RIVERSIDE:

The undersigned hereby declares:

(a) That the only persons or parties interested in this Bid Proposal as principals are the following:

_____

_____

(If the Bidder is a corporation, give the name of the corporation and the name of its president, secretary, treasurer, and manager. If a co-partnership, give the name under which the co-partnership does business, and the names and addresses of all co-partners. If an individual, state the name and address under which the Contract is to be drawn). If a limited liability company, give the names and addresses of the manager and all members.

(b) That this Bid Proposal is made without collusion with any other person, firm or corporation.

(c) That the Bidder has carefully examined the location of the proposed Work, and has familiarized itself with all of the physical, climatic or other conditions related to the Work.

(d) That the Bidder has carefully examined all of the specifications, plans, and other Contract Documents, and makes this Bid Proposal in accordance therewith.

(e) That, if this Bid Proposal is accepted, the Bidder will enter into a written Contract with the County of Riverside.

(f) That the Bidder proposes to enter into such Contract and to accept in full payment for the Work actually done at the prices shown in the attached schedule. It is understood that the quantities listed (except for those shown as "Final" or "Lump Sum (L.S.)") are but estimates only and final payment will be based on actual quantities whatever they may be, subject to such adjustments and alterations as elsewhere provided for in the Contract Documents.

As Bid Security, accompanying this Bid Proposal is cash, a certified check, cashier's check or Bid Bond payable to the order of the County of Riverside in the sum of: TEN PERCENT (10%) OF THE TOTAL BID PROPOSAL.

THE REQUIRED REFERENCES AND OTHER REQUIRED DOCUMENTS MUST BE ATTACHED TO THIS BID PROPOSAL

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Bidder bids as follows on this Bid Item List for **2026 ON-CALL SITE IMPROVEMENTS** at the RIVERSIDE COUNTY SANITARY LANDFILLS located in Riverside County, California:

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
BADLANDS SANITARY LANDFILL					
BA-1	Demolition	LS	1		
BA-2	Earthwork - Excavation	CY	47,755		
BA-3	Earthwork - Engineered Fill (Min. 93% Compacted)	CY	40,727		
BA-4	Construct Reinforced Concrete Structures	CY	11		
BA-5	Construct Reinforced Shotcrete Structures	CY	22		
BA-6	Construct Metal Flume Down Drain and Inlet Structures	LS	1		
BA-7	Cold Plane 2" Thick Section of Existing Asphalt Roadway and Overlay with New Asphalt Concrete	SF	83,290		
BA-8	Construct Asphalt Concrete Roadway (7" of Asphalt Concrete over 10" of Class 2 Base)	SF	9,517		
BA-9	Construct Asphalt Concrete Speed Humps	EA	4		
BA-10	Construct Asphalt Concrete Drainage Structures	T	476		
BA-11	Apply Thermoplastic Striping	LS	1		
BA-12	Construct Concrete Block Masonry Splash Wall	LF	18		
BA-13	Construct Grouted Rip-Rap Channel	SF	102		
BA-14	Construct 2-Foot-Tall Berm with Compacted Engineered Fill	LF	546		
BA-15	Construct 3-Foot-Tall Berm with Compacted Engineered Fill	LF	400		
BA-16	*Optional* Excavate and Haul Sediment from Badlands Southwest Sedimentation Basin	CY	2,000		
BA-17	*Optional* Excavate and Haul Sediment from Badlands Western Stockpile Sedimentation Basin	CY	500		
BA-18	*Optional* Excavate and Haul Sediment from Badlands P2S1 Sedimentation Basin	CY	1,400		
BA-19	*Optional* Excavate and Haul Refuse to Active Face	CY	1,120		
BA-20	*Optional* Compacted Landfill Cover	CY	1,120		
BA-21	Authorized Time and Materials	LS	1	$500,000.00	$500,000.00
LAMB CANYON SANITARY LANDFILL					
LC-1	Saw-Cut and Demolish Shotcrete Drainage Structures and Stockpile Debris	LS	1		
LC-2	Earthwork – Excavation, Hauling and Stockpiling	CY	67,000		

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
LC-3	Construct Reinforced Shotcrete Drainage Structures	CY	100		
LC-4	Construct Concrete Block Masonry Walls	LF	100		
LC-5	Furnish and Install Silt Fencing with Sandbag Check Dams	LF	1,100		
LC-6	Apply Greenwaste Material	SF	171,300		
LC-7	*Optional* Saw-Cut, Remove and Replace Damaged Sections of Existing Asphalt Concrete Roadway (6" thick A.C. over 12" thick Class II Base)	SF	5,000		
LC-8	*Optional* Construct Asphalt Concrete Roadway (6" thick A.C. over 12" thick Class II Base)	SF	13,000		
LC-9	*Optional* Saw-Cut, Remove and Replace Damaged Sections of Existing 6" thick Concrete	SF	2,000		
LC-10	*Optional* Earthwork - Engineered Fill Material at 90% Relative Compaction	CY	2,000		
LC-11	*Optional* Furnish and Install 24-inch Corrugated HDPE Pipe and Appurtenances	LF	150		
LC-12	*Optional* Furnish and Install 36-inch Corrugated HDPE Pipe and Appurtenances	LF	250		
LC-13	*Optional* Construct Asphalt Concrete Drainage Structures	T	60		
LC-14	*Optional* Construct 3-Foot-Tall Earthen Berm with Compacted Engineered Fill	LF	500		
LC-15	*Optional* Furnish and Install Crushed Miscellaneous Base (CMB)	T	2,000		
LC-16	*Optional* Furnish and Install 2"- 4" Rock	T	2,000		
LC-17	Authorized Time and Materials	LS	1	$500,000.00	$500,000.00

For the Total Bid Proposal of: **TOTAL COST (State in Figures)** **$_____**

_____

(Write out Total Bid Amount in Words), subject to additions and deductions as provided for in this Agreement.

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Bidder Acknowledges Receipt of Addenda No(s): _____

Name of Bidder: _____

Address: _____

Telephone: _____

Contractor's License No. and Classification: _____

Department of Industrial Relations (DIR) Registration Number: _____

Signature: _____

Name: _____

Title: _____

Dated: _____

Signature: _____

Name: _____

Title: _____

Dated: _____

A general partner must sign on behalf of a partnership. **Two (2)** corporate officers must sign on behalf of a corporation, in accordance with California Corporations Code section 313, unless the corporation has a corporate resolution that allows one person to sign on behalf of the corporation; if applicable, said resolution must be attached hereto.

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LIST OF SUBCONTRACTORS

The name, the location of the place of business, the California Contractor License Number, and Public Works Contractor Registration Number issued pursuant to Section 1725.5 of the Labor Code of each Subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or improvement, or a Subcontractor who specially fabricates and installs a portion of the Work or improvement, in an amount in excess of one-half (½) of one percent (1%) of the Bidder's total bid and the portion of the Work by indicating the Item No. of the Work which will be done by each such Subcontractor is as follows:

Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

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Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

Bid Item No. (s):

_____

Name of Subcontractor: _____

Location: _____

Subcontractor's License No.: _____

Department of Industrial Relations (DIR) Registration Number: _____

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PROJECT REFERENCE FORM

Project Reference No. ____	
Project Name:	
Project Location:	
Contractual Completion Date:	
Adjusted Completion Deadline Based on Time Extensions Granted by Owner:	
Actual Completion Date:	
Contracted Project Cost: Final Project Cost: Reason for Difference:	
Did change orders exceed 10% of original Contract sum? If yes, explain.	
Were any liquidated damages assessed against the Bidder on this project? If yes, explain.	
Project Owner:	
Owner's Mailing Address:	
Name of Owner's Representative:	
Representative's Email Address:	
Representative's Telephone Number:	
Name of Bidder's Project Manager/Lead in Office: Superintendent/Lead on Site:	
Brief Description of Work Performed (Describe how the Scope of Work meets the Experience Criteria for the Project that is the subject of this Bid):	

Bidder shall provide all of the project reference information requested on this Project Reference Form for the Bidder and also for any and all Subcontractor(s) listed to perform any Work that requires the qualifications described for this project in the Bidders Qualifications Section on page III of the Notice Inviting Bids.

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BIDDER'S STATEMENT OF QUALIFICATIONS FORM

Bidder shall complete the entire Statement of Qualifications Form and submit it with its Bid Proposal for the Project in accordance with the Instructions to Bidders. Failure to complete this Form will be grounds for immediate disqualification for this proposed Work. Any explanation requested by a Bidder regarding the meaning or interpretation of this Statement of Qualification must be requested in writing and submitted in sufficient time to allow for a written reply to reach Bidder before the submission of its Bid Proposal. Oral explanations or instructions will not be provided. Any information provided to any prospective Bidder concerning this Statement of Qualification will be furnished to all prospective Bidders as an Addendum to the Contract Documents.

1	Has Bidder's Contractor's License been revoked or suspended by any governmental agency at any time in the last five (5) years?	☐ **YES**	☐ **NO**
2	In the last five (5) years has Bidder been denied an award of a Public Works Contract based on a finding by a public agency that your company was not a responsible bidder? If YES, attach description of each instance including details and owner's name and phone number.	☐ **YES**	☐ **NO**
3	Has Bidder defaulted on a Contract or been terminated for cause by any public agency on any project in California within the past five (5) years?	☐ **YES**	☐ **NO**
4	In the last five (5) years has Bidder, or any firm with which any of your company's owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing, any government agency or Public Works project for any reason? If YES, attach description of each instance including details and owner's name and phone number.	☐ **YES**	☐ **NO**
5	Has Bidder been assessed and paid liquidated damages pursuant to a Contract for a project with a public owner within the past five (5) years? If YES, explain and indicate on a separate signed sheet(s) the project name(s), damage(s), and date(s).	☐ **YES**	☐ **NO**
6	Has a Surety completed a Contract for Bidder, or paid for completion because your firm was in default or terminated on a Public Works project with any public agency within the last five (5) years?	☐ **YES**	☐ **NO**
7	Has any insurer had to pay amounts to third parties that were in any way related to construction activities of Bidder on a Public Works project for any public agency within the past five (5) years? If YES, explain and indicate on a separate signed sheet(s) the project name(s), damage(s), and date(s).	☐ **YES**	☐ **NO**
8	Has Bidder had any Claims, litigation, or disputes ending in judgments, settlement, mediation or arbitration, or termination for cause associated with any project in the past five (5) years? If yes, attach description of each instance including details of total Claim amount, settlement amount, and owner's name and phone number.	☐ **YES**	☐ **NO**
9	Has Bidder been cited, fined, penalized or otherwise found to have violated any prevailing wage or labor code provision within the past five (5) years? If YES, attach description of each occurrence.	☐ **YES**	☐ **NO**
10	In the past five (5) years, has Bidder or any of its owners or officers been charged and convicted of a crime under federal, state, or local law involving: (1) Bidding for awarding of, or performance of a Contract with a public entity; (2) Making a false Claim(s) to any public entity or government agency; or (3) Fraud, theft, or other acts of dishonesty to any contracting party within the past ten (10) years?	☐ **YES**	☐ **NO**

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Certification

The Bidder's Statement of Qualifications Form submitted by corporations must be signed with the legal name of the corporation, followed by the name of the state of incorporation and by the signature and designation of the chairman of the board, president or any vice president, and then followed by a second signature by the secretary, assistant secretary, the chief financial officer or assistant treasurer. All persons signing must be authorized to bind the corporation in the matter. The name of each person signing shall also be typed or printed below the signature. Satisfactory evidence of the authority of each officer signing on behalf of a corporation shall be furnished.

The Bidder's Statement of Qualifications Form submitted by partnerships must furnish the full name of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters, followed by the signature and designation of the person signing. The name of the person signing shall also be typed or printed below the signature.

Each person signing below makes the following representations under penalty of perjury:

The submitter of the foregoing answers has read the same and the matters stated therein are true to the best of his or her own personal knowledge. This information is provided for the purpose of qualifying to bid on the Project, and any individual, company or other agency named herein is hereby authorized to supply the awarding body with any information necessary to verify the prospective bidder's statements. By signing below, the submitter and the named Contractor hereby grant permission to the County to contact any or all of the above listed persons or entities to confirm facts or otherwise investigate the above facts and issues.

The submitter understands that any statement which is proven to be false shall be grounds for immediate disqualification from bidding on the Project. The submitter whose signature appears below represents and warrants that he or she has authority to bind the named Contractor.

I, _____ (Name), the undersigned, am the _____ (Title),

with the authority to act for and on behalf of _____ (Contractor Entity Name), declare under penalty of perjury under the laws of the State of California that the foregoing information provided in this Bidder's Statement of Qualification Form is true, full, and correct.

I understand that making a false statement may result in disqualification from bidding on any Public Works project, registering as a Public Works Contractor with the Department of Industrial Relations, and may be grounds for termination of a Public Works Contract.

Executed on this: _____ day of _____ at _____.
(Date) (Month / Year) (City / State)

Name of Contractor Representative: _____

Signature of Contractor Representative: _____

(ADD ADDITIONAL SIGNATURE PAGES AS NECESSARY TO COMPLY WITH THE CERTIFICATION REQUIREMENTS ABOVE.)

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BIDDER'S STATEMENT OF LICENSURE

The undersigned does certify under oath that the information provided herein is true and sufficiently complete as not to be misleading.

1. Full Legal Name of Bidder: _____
2. Legal Capacity: □ Corporation □ Partnership □ Individual □ Joint Venture □ Other_____
3. Address of Bidder: _____
4. How many years has Bidder been in business as a Contractor? _____
5. How many years has Bidder been in business under its present name? _____
6. Under what other or former name have you operated? _____
7. Bidder certifies that it is the license under State of California Contractors License No. _____; said Contractors License is current and valid; and is of a classification appropriate to the Work to be undertaken for the County, a Class _____ license.
8. List other Contractors License classifications in which Bidder holds in California: _____

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated: _____

Signature: _____

Name: _____

Title: _____

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NON-COLLUSION DECLARATION
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

(Public Contract Code Section 7106)

The undersigned declares:

I am the_____ (Title) of_____ (Company), the party making the foregoing Bid.

The Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The Bid is genuine and not collusive or sham. The Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid. The Bidder has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham Bid, or to refrain from bidding. The Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the Bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the Bid price, or of that of any other Bidder. All statements contained in the Bid are true. The Bidder has not, directly or indirectly, submitted his or her Bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, Bid depository, or to any member or agent thereof, to effectuate a collusive or sham Bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a Bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the Bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on:

_____ [Date], at _____ [City], _____ [State].

Signature of Declarant: _____

Printed/Typed Name of Declarant: _____

Name of Bidder: (Company): _____

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IRAN CONTRACTING ACT CERTIFICATION

(Public Contract Code sections 2200-2208)

In accordance with Public Contract Code Section 2204(a), prior to bidding on, submitting a Bid Proposal or executing a Contract or renewal for a County of Riverside Contract for goods or services of $1,000,000 or more, a Bidder must either:

1. Certification:

   Certify it is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b) and is not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person, for 45 calendar days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS;

   OR

2. Exemption:

   Demonstrate it has been exempted from the certification requirement for that solicitation or Contract pursuant to Public Contract Code section 2203(c) or (d).

To comply with this requirement, please insert your Bidder or financial institution name and Federal ID Number (if available) and complete one of the options below. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of $250,000 or twice the amount of the Contract for which the false certification was made; Contract termination; and three-year ineligibility to bid on Contracts. (Public Contract Code section 2205.)

Option #1 – Certification

I, the official named below, certify I am duly authorized to execute this certification on behalf of the Bidder/financial institution identified below, and the Bidder/financial institution identified below is **not** on the current list of persons engaged in investment activities in Iran created by DGS and is not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person/vendor, for 45 calendar days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

Bidder Name/Financial Institution (Printed):	Federal ID Number (or n/a):
By (Authorized Signature):	
Printed Name and Title of Person Signing:	
Date Executed:	Executed in:

(This page left intentionally blank.)

Option #2 – Exemption

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a Bidder/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a Bid Proposal for, or enters into or renews, a Contract for goods and services.

If you have obtained an exemption from the certification requirement under the Iran Contracting Act, please fill out the information below, and attach documentation demonstrating the exemption approval.

Bidder Name/Financial Institution (Printed):	Federal ID Number (or n/a):
By (Authorized Signature):	
Printed Name and Title of Person Signing:	
Date Executed:	Executed in:

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ECONOMIC SANCTIONS IN RESPONSE TO RUSSIA'S ACTIONS IN UKRAINE

The Contractor must certify that it is not a target of economic sanctions imposed in response to Russia's actions in Ukraine imposed by the United States government or the State of California. The Contractor is required to comply with the economic sanctions imposed in response to Russia's actions in Ukraine, including with respect to, but not limited to, the federal executive orders identified in California Executive Order N-6-22, located at https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf and the sanctions identified on the United States Department of the Treasury website at (https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions).

The Contractor is required to comply with all applicable reporting requirements regarding compliance with the economic sanctions, including, but not limited to, those reporting requirements set forth in California Executive Order N-6-22 for all parties with one or more agreements with the State of California, the County of Riverside, or any other local agency, with a value of Five Million Dollars ($5,000,000) or more. Notwithstanding any other provision in these documents, failure to comply with the economic sanctions and all applicable reporting requirements may result in disqualification or termination of the Construction Agreement, if awarded. For contractors with an agreement value of Five Million Dollars ($5,000,000) or more with the State of California, the County of Riverside, or any other local agency, reporting requirements include, but are not limited to, information related to steps taken in response to Russia's actions in Ukraine, including but not limited to:

1. Desisting from making any new investments or engaging in financial transactions with Russian institutions or companies that are headquartered or have their principal place of business in Russia;
2. Not transferring technology to Russia or companies that are headquartered or have their principal place of business in Russia; and
3. Direct support to the government and people of Ukraine.

To comply with this requirement, please insert your Contractor name and Federal ID Number (if available) on the Certification Form on Page XXXIV execute by a duly authorized representative for the contractor and return with the bid proposal.

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COMPLIANCE WITH ECONOMIC SANCTIONS IN RESPONSE TO RUSSIA'S ACTIONS IN UKRAINE
(BIDDERS)

Prior to bidding on, submitting a proposal, or executing a contract, a contractor must certify: 1) it is not a target of economic sanctions and 2) in compliance with economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any requirements related to the Russian sanctions imposed by the California Governor's Executive Order N-6-22 issued on March 4, 2022 and under state law, if any.

To comply with this requirement, please insert the Contractor name and Federal ID Number (if available), complete the information described below and execute by an authorized representative of the contractor.

CERTIFICATION

I, the authorized representative for contractor named below, certify I am duly authorized to execute this certification on behalf of the contractor below, and the contractor identified below has conducted a good faith review of existing contracts. I attest that the contractor is not a target of economic sanctions, and that contractor is in compliance with the economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any requirements related to the Russian sanctions imposed by the California Governor's Executive Order N-6-22 issued on March 4, 2022 and under state law, if any.

Contractor Name (Printed)	*Federal ID Number (or n/a)*
By (Authorized Signature)	
Printed Name and Title of Person Signing	
Date	

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BID BOND

(Public Work – Public Contract Code Section 20129(a) –
Not necessary when cash, cashier's check or certified check accompanies Bid)

Recitals:

1. _____ (Bidder) has submitted its Bid Proposal to the County of Riverside, by and for the Department of Waste Resources, for the construction of the Public Work known as **2026 ON-CALL SITE IMPROVEMENTS** at the RIVERSIDE COUNTY SANITARY LANDFILLS, in accordance with a Notice Inviting Bids dated _____.

2. WHEREAS,

_____

_____

_____
(Name, address, and telephone number of Bidder),

the undersigned Bidder, as Principal, has submitted the accompanying Bid Proposal, which as a condition of submittal shall include Bid Security pursuant to Public Contract Code §20129 in the amount of ten percent (10%) of the Bid amount, which security may be in the form of a Bid Bond issued by an Admitted surety insurer pursuant to Code of Civil Procedure Section 995.120.

3. WHEREAS,

_____

_____

_____
(Name, address, and telephone number of Surety),

the undersigned Surety, hereafter called Surety, is the surety, an Admitted surety insurer pursuant to Code of Civil Procedure Section 995.120, on this Bond.

(This page left intentionally blank.)

Agreement: NOW, THEREFORE, We, Bidder as principal and Surety as surety, jointly and severally agree and state as follows:

1. The amount of the obligation of this Bond is ten percent (10%) of the amount of the Total Bid Proposal price and inures to the benefit of County.

2. This Bond is exonerated by (1) County rejecting said Bid Proposal or, in the alternate, (2) if said Bid Proposal is accepted, Bidder executes the Construction Agreement and furnishes the Bonds and certificates of insurance as agreed to in its Bid Proposal, otherwise it remains in full force and effect until forfeiture resulting from failure of Bidder to act as agreed to in its Bid Proposal.

3. Surety, for value received, stipulates and agrees that its obligations hereunder shall in no way be impaired or affected by any extension of time within which County may accept the Bid Proposal and waives notice of any such extension.

4. This Bond is binding on our heirs, executors, administrators, successors and assigns.

5. The penal sum guaranteed by this Bond shall be forfeited to the County in the event of any of the following:

    a. Principal withdraws said Bid after the Bid Deadline in violation of the Contract Documents and Applicable Law; or

    b. Principal fails to provide the County within the time specified in the Contract Documents, the executed Construction Agreement, insurance and bonds.

Dated: _____

By: _____ By: _____

Title: _____ Title: _____

(Surety) (Bidder)

NOTE: This Bond must be executed by both parties with corporate seal affixed. All signatures must be acknowledged by a notary (attach acknowledgments). A power of attorney for the attorney-in-fact of the Surety must be attached.

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CONSTRUCTION AGREEMENT, BONDS, AND OTHER FORMS

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CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT ("**Agreement**") is made as of _____ and is by and between the COUNTY OF RIVERSIDE, through its Department of Waste Resources, a political subdivision of the State of California, (County) and _____, (Contractor). The indemnity and insurance obligations of Contractor, as set forth in Section **5-3** General Provisions, shall commence upon execution of this Agreement.

IT IS AGREED BY THE PARTIES AS FOLLOWS:

1. **The Work**. Contractor shall furnish all tools, equipment, apparatus, facilities, labor, supervision, services, transportation, materials and other required items necessary to perform the Work for the project, **2026 ON-CALL SITE IMPROVEMENTS** at the RIVERSIDE COUNTY SANITARY LANDFILLS (the "**Project**"), and Contractor shall do all things necessary to accomplish and complete the Work described in and in exact conformity with the Contract Documents, subject to such inspection as County deems appropriate.

2. **Contract Documents**. The Contract Documents for the Project, except Change Orders and Construction Change Directive issued after execution of this Agreement, are enumerated as follows:

(a) Construction Agreement, including:
   a. Exhibit A, Bidder's completed Bid Item List, Performance Bond, Payment Bond, List of Subcontractors, and Non-Collusion Declaration,
   b. Exhibit B, Workers' Compensation Contractor Certificate,
   c. Exhibit C, Declaration of Sufficiency of Funds,
   d. Exhibit D, Evidence of Insurance,
   e. Exhibit E, Construction Schedule,

(b) Administrative Provisions;
(c) General Provisions;
(d) Special Provisions for the **2026 ON-CALL SITE IMPROVEMENTS** at the RIVERSIDE COUNTY SANITARY LANDFILLS;
(e) Appendix A – Rule 403 Dust Control Requirements;
(f) Appendix B – Landfill Site Rules;
(g) Appendix C – Badlands and Lamb Canyon Sanitary Landfill Site Specific SWPPPs
(h) Appendix D – Badlands Sanitary Landfill Rule 1150 Landfill Excavation Permit;
(i) Appendix E – Project Drawings for the **2026 ON-CALL SITE IMPROVEMENTS**;
(j) Standard Specifications for Public Works Construction, Latest Edition, with Amendments ("**Standard Specifications**" or "**Greenbook**");
(k) Any other documents included in or incorporated into the Contract Documents;
(l) Addenda Nos. _____;
(m) Orders, instructions, drawings and plans issued by County during the course of the Work in accordance with the provisions of the Contract Documents.

(This page left intentionally blank.)

Each of the listed documents presently in existence are by this reference incorporated into this Agreement and each of these documents not now in existence are incorporated herein as of the time of their issuance.

The following are not considered Contract Documents and stand alone:

- Payment Bond and Performance Bond
- Escrow Agreement (optional)

3. Precedence of the Contract Documents. In the event of conflict between any of the Contract Documents, the provision placing a more stringent requirement on the Contractor shall prevail. The Contractor shall provide the better quality or greater quantity of Work and/or materials unless otherwise directed by County in writing. In the event none of the Contract Documents place a more stringent requirement or greater burden on the Contractor, the controlling provision shall be that which is found in the document with higher precedence. The order of precedence, from highest to lowest, shall be as follows:

- Permits issued by jurisdictional regulatory agencies.
- Change Orders, Construction Change Directives and/or Supplemental Agreements, or Addenda to any of the Contract Documents; whichever occurs last.
- Construction Agreement.
- Detailed Provisions
- Special Provisions.
- Administrative Provisions.
- General Provisions.
- Project Drawings and Specifications.
- Standard Drawings.
- Reference Specifications.

Detail drawings shall take precedence over general drawings.

4. Notice to Proceed. The County will not issue the Notice to Proceed before the Contractor submits the Performance Bond, Payment Bond, certificates of insurance, construction schedule, and Public/Site Safety Plan, and attends the mandatory pre-construction meeting. After receipt of the construction schedule and Public/Site Safety Plan, the County will review said documents and provide appropriate comments. The Contractor will be required to address all comments from the County and resubmit within five (5) Working Days.

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5. Contract Time for Completion and Liquidated Damages. The Contractor shall diligently and continuously prosecute the entire Project to Final Completion before the expiration of eighteen (18) calendar months from the date of the Contractor's receipt of the Notice to Proceed, as may be modified by a Change Order or Construction Change Directive. The number of Working Days charged to the Contractor shall be as set forth in Section **4** of the Special Provisions. The length of each Working Day shall be from 7:00 AM to 3:30 PM, including half hour (1/2) for lunch break, unless otherwise approved in writing by the County.

The following days have been designated by the County as Legal Holidays:

• January 1st	New Year's Day
• Third Monday in January	Martin Luther King, Jr. Birthday
• February 12th	Lincoln's Birthday
• Third Monday in February	Washington's Birthday (observed)
• Last Monday in May	Memorial Day
• June 19th	Juneteenth
• July 4th	Independence Day
• First Monday in September	Labor Day
• Second Monday in October	Columbus Day
• November 11th	Veteran's Day
• Fourth Thursday in November	Thanksgiving Day
• Fourth Friday in November	day after Thanksgiving Day
• December 25th	Christmas Day

For a Legal Holiday that falls on a Saturday, both the Saturday and the preceding Friday shall be considered Legal Holidays. For a Legal Holiday that falls on a Sunday, both the Sunday and following Monday shall be considered Legal Holidays.

The Contractor shall not be permitted to work on days designated by the County as Legal Holidays unless the Contractor submits a written request to work and the request is approved in writing by the County. All Contractor requests to work on designated Legal Holidays shall be submitted at least seven (7) calendar days prior to the requested date(s).

It is agreed by the parties to the Contract that in the case all the Work called for under the Contract in all parts and requirements is not finished or completed within the number of Working Days as set forth in this Agreement, damage will be sustained by the County, and that it is and will be impractical and extremely difficult to ascertain and determine the actual damage which the County will sustain in the event of and by reason of such delay; and it is therefore agreed that the Contractor will pay to the County the sum of <u>One Thousand</u> Dollars ($ 1,000) per day for each and every calendar days delay in finishing the Work in excess of the number of Working Days prescribed above as liquidated and agreed damages; and the Contractor agrees to pay said liquidated damages herein provided for, and further agrees that the County may deduct the amount thereof from any moneys due or that may become due the Contractor under the Contract. The Parties intend for the liquidated damages set forth herein to apply to this Contract as set forth in Government Code Section 53069.85 and in Public Contract Code Section 7203.

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Liquidated damages are owed automatically and without notice of any kind upon the accrual of each day of delay. County may at any time deduct liquidated damages as are payable hereunder from money due or to become due to Contractor, or pursue any other legal remedy to collect such liquidated damages from Contractor and/or its Surety. Neither the County's failure or delay in deducting liquidated damages from payments otherwise due Contractor, nor County's failure or delay in notifying Contractor of the accrual of liquidated damages, shall be deemed a waiver of County's right to liquidated damages.

County's rights under this Section shall not be interpreted as precluding or limiting: (1) any right or remedy of County arising from an event of Contractor default other than a failure to complete the Work within the Contract Time; or (2) County's right to order an acceleration, at Contractor's expense, of performance of the Work to overcome delay, including, without limitation, a delay for which County has the right to assess and/or accrue liquidated damages. The availability of liquidated damages shall not limit County's right to terminate the Contractor's performance and accrual and/or assessment of liquidated damages does not constitute a waiver of such rights.

6. Contract Price and Payment.

6.1 **Contract Price.** The Contract Price is the total aggregate amount of the Contractor's Total Bid Proposal based on the estimated quantities listed in the Bid Proposal as set forth in the award of the Contract approved by the County's Board of Supervisors. The estimated quantities will not govern final payment. The Contractor will receive and accept and the County will pay the Unit Prices and lump sum prices only for actual quantities of installed items constructed in accordance with the Contract Documents specified in the attached Bid Item List which is incorporated herein by reference as Exhibit A, as full compensation for the Contractor's full performance of the Contract including furnishing all labor, materials, and equipment for doing all the Work contemplated and embraced in this Agreement. Upon completion of the Work, if the actual installed quantities show either an increase or decrease from the estimated quantities in the Bid Proposal, the Unit Prices (including lump sum prices) will prevail.

6.2 **Payment Procedures.** Based upon applications for payment submitted by the Contractor to the County, the County shall make payments to the Contractor in accordance with Article 7 of the General Provisions.

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7. Bonds. The Contractor shall provide two (2) surety bonds. The Contractor shall furnish a satisfactory Performance Bond meeting all statutory requirements of the State of California on the form provided by the County. The bond shall be furnished as a guarantee of the faithful performance of the requirements of the Contract Documents as may be amended from time to time, including, but not limited to, liability for delays and damages (both direct and consequential) to the County and the County's separate Contractors and consultants, warranties, guarantees, and indemnity obligations, in an amount that shall remain equal to one hundred percent (100%) of the Contract Price.

The Contractor shall furnish a separate satisfactory Labor and Materials Payment Bond meeting all statutory requirements of the State of California on the form provided by the County in an amount that shall remain equal to one hundred percent (100%) of the Contract Price to secure payment of all Claims, demands, stop payment notices, or charges of the State of California, of material suppliers, mechanics, or laborers employed by the Contractor or by any Subcontractor, or any person, form, or entity eligible to file a stop payment notice with respect to the Work.

All bonds shall be executed by a California-admitted surety insurer. Bonds issued by a California-admitted surety insurer listed on the latest version of the U.S Department of Treasury Circular 570 shall be deemed accepted unless specifically rejected by the County. Bonds issued by sureties not listed in Treasury Circular 570 must be accompanied by all documents enumerated in California Code of Civil Procedure Section 995.660(a). The bonds shall bear the same date as the Contract. The attorney-in-fact who executes the required bonds on behalf of the surety shall affix thereto a certified and current copy of the power of attorney. In the event of changes that increase the Contract Price, the amount of each bond shall be deemed to increase and at all times remain equal to the Contract Price. The signatures shall be acknowledged by a notary public. Every bond must display the surety's bond number and incorporate the Contract for construction of the Work by reference. The terms of the bonds shall provide that the surety agrees that no change, extension of time, alteration, or modification of the Contract Documents or the Work to be performed thereunder shall in any way affect its obligations and shall waive notice of any such change, extension of time, alteration, or modification of the Contract Documents. The surety further agrees that it is obligated under the bonds to any successor, grantee, or assignee of the County.

Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

Should any bond become insufficient, or should any of the sureties, in the opinion of the County, become non-responsible or unacceptable, the Contractor shall, within ten (10) Calendar Days after receiving notice from the County, provide written documentation to the Satisfaction of the County that Contractor has secured new or additional sureties for the bonds; otherwise the Contractor shall be in default of the Contract. No further payments shall be deemed due or will be made under Contract until a new surety(ies) qualifies and is accepted by the County.

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RIVERSIDE COUNTY DEPARTMENT OF
WASTE RESOURCES
14310 Frederick Street
Moreno Valley, CA 92553

By: _____ Date: _____
Andy Cortez
General Manager – Chief Engineer

COUNTY OF RIVERSIDE

By: _____ Date: _____
Chair, Board of Supervisors

ATTEST:

By: _____
Kimberly Rector, Clerk of the Board

By: _____ Date: _____
Deputy

(Seal)

CONTRACTORS LICENSE NOTICE

Contractors are required by law to be licensed and regulated by the Contractors State License Board which has jurisdiction to investigate complaints against Contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a Contractor may be referred to the Registrar, Contractors State License Board, P.O. Box 26000, Sacramento, California 95826.

_____
CONTRACTOR

By: _____ Date: _____

Name: _____

Title: _____
(If corporation, attach corporate seal)

License No.:_____

Federal Tax I.D. No.:_____

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EXHIBIT A

(Construction Agreement for the Riverside County Department of Waste Resources, **2026 ON-CALL SITE IMPROVEMENTS** at the RIVERSIDE COUNTY SANITARY LANDFILLS, located in Riverside County, California.)

It is understood that the quantities listed in this Bid Proposal (except for those shown as "Final" or "Lump Sum (L.S.)") are but estimates only and final payment will be based on actual quantities whatever they may be, subject to such adjustments and alterations as elsewhere provided for in the Contract Documents. Notwithstanding anything to the contrary in the Contract Documents, Contractor will not be entitled to an adjustment of any unit cost, except as expressly agreed to in writing by the County, which agreement shall be within the County's sole and absolute discretion.

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
BADLANDS SANITARY LANDFILL					
BA-1	Demolition	LS	1		
BA-2	Earthwork- Excavation	CY	47,755		
BA-3	Earthwork- Engineered Fill (Min. 93% Compacted)	CY	40,727		
BA-4	Construct Reinforced Concrete Structures	CY	11		
BA-5	Construct Reinforced Shotcrete Structures	CY	22		
BA-6	Construct Metal Flume Down Drain and Inlet Structures	LS	1		
BA-7	Cold Plane 2" Thick Section of Existing Asphalt Roadway and Overlay with New Asphalt Concrete	SF	83,290		
BA-8	Construct Asphalt Concrete Roadway (7" of Asphalt Concrete over 10" of Class 2 Base)	SF	9,517		
BA-9	Construct Asphalt Concrete Speed Humps	EA	4		
BA-10	Construct Asphalt Concrete Drainage Structures	T	476		
BA-11	Apply Thermoplastic Striping	LS	1		
BA-12	Construct Concrete Block Masonry Splash Wall	LF	18		
BA-13	Construct Grouted Rip-Rap Channel	SF	102		
BA-14	Construct 2-Foot-Tall Berm with Compacted Engineered Fill	LF	546		
BA-15	Construct 3-Foot-Tall Berm with Compacted Engineered Fill	LF	400		
BA-16	*Optional* Excavate and Haul Sediment from Badlands Southwest Sedimentation Basin	CY	2,000		
BA-17	*Optional* Excavate and Haul Sediment from Badlands Western Stockpile Sedimentation Basin	CY	500		
BA-18	*Optional* Excavate and Haul Sediment from Badlands P2S1 Sedimentation Basin	CY	1,400		
BA-19	*Optional* Refuse Excavation and Hauling to Active Face	CY	1,120		

BA-20	*Optional* Compacted Landfill Cover	CY	1,120		
BA-21	Authorized Time and Materials	LS	1	$500,000.00	$500,000.00
LAMB CANYON SANITARY LANDFILL					
LC-1	Saw-Cut and Demolish Shotcrete Drainage Structures and Stockpile Debris	LS	1		
LC-2	Earthwork – Excavation, Hauling and Stockpiling	CY	67,000		
LC-3	Construct Reinforced Shotcrete Drainage Structures	CY	100		
LC-4	Construct Concrete Block Masonry Walls	LF	100		
LC-5	Furnish and Install Silt Fencing with Sandbag Check Dams	LF	1,100		
LC-6	Apply Greenwaste Material	SF	171,300		
LC-7	*Optional* Saw-Cut, Remove and Replace Damaged Sections of Existing Asphalt Concrete Roadway (6" thick A.C. over 12" thick Class II Base)	SF	5,000		
LC-8	*Optional* Construct Asphalt Concrete Roadway (6" thick A.C. over 12" thick Class II Base)	SF	13,000		
LC-9	*Optional* Saw-Cut, Remove and Replace Damaged Sections of Existing 6" thick Concrete	SF	2,000		
LC-10	*Optional* Earthwork - Engineered Fill Material at 90% Relative Compaction	CY	2,000		
LC-11	*Optional* Furnish and Install 24-inch Corrugated HDPE Pipe and Appurtenances	LF	150		
LC-12	*Optional* Furnish and Install 36-inch Corrugated HDPE Pipe and Appurtenances	LF	250		
LC-13	*Optional* Construct Asphalt Concrete Drainage Structures	T	60		
LC-14	*Optional* Construct 3-Foot-Tall Earthen Berm with Compacted Engineered Fill	LF	500		
LC-15	*Optional* Furnish and Install Crushed Miscellaneous Base (CMB)	T	2,000		
LC-16	*Optional* Furnish and Install 2"- 4" Rock	T	2,000		
LC-17	Authorized Time and Materials	LS	1	$500,000.00	$500,000.00

For the Total Bid Proposal of: **TOTAL COST (State in Figures)** **$_____**

_____

(Write out Total Bid Amount in Words), subject to additions and deductions as provided for in this Agreement.

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PERFORMANCE BOND

(Public Work – Public Contract Code Section 20129 (b))

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the Board of Supervisors ("Board") for the County of Riverside, ("County") and _____ _____, ("Contractor)" have entered into a Contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

Construction of 2026 ON-CALL SITE IMPROVEMENTS at RIVERSIDE COUNTY SANITARY LANDFILLS

("Contract") which Contract dated as of the date of the last signature on the signature page and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof;

AND, WHEREAS, said Contractor, as Principal on this Bond, is required by the Contract and/or by California Public Contract Code, Section 20129 (b) to furnish a performance bond for the faithful performance of the Contract;

NOW THEREFORE, we, the Contractor and _____ ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto County in the penal sum of _____ _____ Dollars ($_____), this amount being not less than one hundred percent (100%) of the total sum payable by County under the Contract at the time the Contract is awarded by County to the Contractor, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Contractor and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents, to:

1. Perform all the Work required to complete the Project; and

2. Pay to the County all damages the County incurs as a result of the Contractor's failure to perform all the Work required to complete the Project.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Contractor, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, conditions and agreements in the Contract, including, without limitation, all obligations during the original term and any extensions thereof as may be granted by County, with or without notice to Surety thereof (including, without limitation, the obligation for Contractor to pay liquidated damages), all obligations during the period of any warranties and guarantees of materials and workmanship required under the Contract and all other obligations otherwise arising under the terms of the Contract (such as, but not limited to, obligations of indemnification), all within the time and in the manner therein designated in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

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As a condition precedent to the satisfactory completion of the Contract, the above obligations shall hold good and remain in effect for a period equal to the warranty and/or guarantee periods of the Contract, during which time Surety's obligations shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the County from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the County's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Contractor shall be, and is declared by County to be, in default under the Contract, the Surety shall promptly either remedy the default, or, if the Contract is terminated by County or the Contractor's performance of the Work is discontinued, Surety shall take one of the following actions:

(1) Promptly complete the Contract through its agents or independent Contractors, subject to acceptance of such agents or independent Contractors by County as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Contractor under the Contract (including without limitation, all obligations with respect to payment of liquidated damages) to be secured with performance and payment bonds extended by a qualified surety equivalent to the "Balance of the bonds issued on the Construction Contract and pay to the County the amount of damages in excess of the Balance of the Contract Price (as hereinafter defined) incurred by the County as a result of the Contractor Default; or

(2) Waive its right to arrange for completion of the Work and pay to the County the amount of damages in excess of the Balance of the Contract Price incurred by the County as a result of the Contractor Default, subject to the penal amount of this bond as set forth above.

If the Surety elects to complete the Contract Subject to the commitment by the County to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for (a) the responsibilities of the Contractor for correction of defective Work and completion of the Construction Contract; (b) additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety; and (c) liquidated damages caused by delayed completion of the Work.

The term "**Balance of the Contract Price**," as used herein, shall mean the total amount payable to Contractor by County under the Contract and any modifications thereto, less the amount previously paid by County to the Contractor and less amounts that County is authorized to withhold or deduct from payment under the terms of the Contract and Applicable Law.

(This page left intentionally blank.)

If the Surety does not proceed as provided above with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven (7) days after receipt of an additional written notice from the County to the Surety demanding that the Surety perform its obligations under this Bond, and the County shall be entitled to enforce any remedy available to the County.

If County determines that completion of the Contract by Surety or its agents or independent Contractors must be performed by a lowest responsible bidder selected pursuant to a competitive bidding process, then Surety shall comply with such processes in accordance with the requirements of County and Applicable Laws. Unless otherwise approved by County, in the exercise of its sole and absolute discretion, Surety shall not utilize Contractor in completing performance of the Work.

No right of action shall accrue on this bond to or for the use of any person or entity other than County or its successors or assigns.

In the event any legal proceeding or arbitration is brought upon this bond by County and judgment or award is entered in favor of County as the prevailing party, Surety shall pay all costs and attorney's fees incurred by the County.

Correspondence or Claims relating to this bond shall be sent to Surety at the address set forth below.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder, shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing County's rights against the others.

Signature provisions on following page:

(This page left intentionally blank.)

Affix Seal if Corporation

(Firm Name – Contractor)

(Business Address)

By
(Original Signature)

(Title)

(Corporation Name – Surety) **Affix Corporate Seal**

(Business Address)

By
(Signature – Attached Notary's Acknowledgment)

ATTORNEY-IN-FACT
(Title-Attach Power of Attorney)

Note: Notary acknowledgment of signatures of Bidder and Surety, and Surety's Power of Attorney, must be included or attached

(This page left intentionally blank.)

PAYMENT BOND

(Public Work - Civil Code Sections 9550 et seq.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the Board of Supervisors ("Board") for the County of Riverside, ("County") and _____ _____, ("Contractor)" have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

Construction of 2026 ON-CALL SITE IMPROVEMENTS at RIVERSIDE COUNTY SANITARY LANDFILLS

("Contract") which Contract dated as of the date of the last signature on the signature page and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, said Contractor is required by the Contract and/or by Division 3, Part IV, Title XV, Chapter 7 (commencing at Section 9550 et seq.) of the California Civil Code to furnish a payment bond in connection with the Contract;

NOW THEREFORE, we, the Contractor and _____ ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto County in the penal sum of _____ _____ Dollars ($_____), this amount being not less than one hundred percent (100%) of the total sum payable by County under the Contract at the time the Contract is awarded by County to the Contractor, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Contractor and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Contractor, its heirs, executors, administrators, successors, or assigns approved by County, or its Subcontractors, of any contracting tier, shall fail to pay any person or persons named in California Civil Code, Section 9554, then Surety will pay for the same, in or to an amount not exceeding the penal amount hereinabove set forth, and also will pay to the prevailing party if suit is brought upon this bond, reasonable attorney's fees as provided in California Civil Code, Section 9564.

Contractor and Surety agree that this Labor and Materials Payment Bond shall not be considered a part of the Contract between Contractor and the County. Contractor and Surety further agree that this Labor and Materials Payment Bond is a separate obligation of the Contractor and its Surety, and that any attorney's fee provision contained in this Labor and Materials Payment

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Bond shall not apply to the Contract. In the event there is any litigation between the parties arising from the breach of the Contract, each party will bear its own attorneys' fees in the litigation.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file Claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder, nor any rescission or attempted rescission of the Contract or this bond, nor any conditions precedent or subsequent in the bond or Contract attempting to limit the right of recovery of any claimant otherwise entitled to recover under the Contract or this bond shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety is not released from liability to those for whose benefit this bond has been given, by reason of any breach of the Contract by County or Contractor

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing County's rights against the others.

Signature provisions on following page:

(This page left intentionally blank.)

Affix Seal if Corporation

(Firm Name – Contractor)

(Business Address)

By
(Original Signature)

(Title)

(Corporation Name – Surety) **Affix Corporate Seal**

(Business Address)

By
(Signature – Attached Notary's Acknowledgment)

ATTORNEY-IN-FACT
(Title-Attach Power of Attorney)

Note: Notary acknowledgment of signatures of Bidder and Surety, and Surety's Power of Attorney, must be included or attached

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WORKERS' COMPENSATION CONTRACTOR CERTIFICATE

(Labor Code Sections 1860, 1861 & 3700)

In accordance with the provisions of Section 3700 of the Labor Code, every Contractor shall secure compensation in one or more of the following ways:

(a) By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state.

(b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or as one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to its employees.

(c) For any county, city, municipal corporation, public district, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against Workers' Compensation Claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer Workers' Compensation Claims properly, and to pay Workers' Compensation Claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against Workers' Compensation Claims. The certificate shall be issued and be subject to the provisions of Section 3702.

Labor Code Section 1861 requires each Contractor to whom a Public Works Contract is awarded shall sign and file with the County the following certification prior to performing the Work of the Public Works construction Contract:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

By signing this certification, the Contractor understands the requirements of and agrees to comply with the aforementioned requirements.

Name of Contractor: _____

By: _____

Title: _____

(This page left intentionally blank.)

DECLARATION OF SUFFICIENCY OF FUNDS

(California Labor Code Section 2810)

I, the undersigned, an authorized representative of _____("Contractor") with authority to make the statements contained in this Declaration on behalf of Contractor, hereby declare the following:

1. The Contractor's employer identification number for state tax purposes is:

_____.

2. The Contractor's Workers' Compensation insurance policy number is:

_____,

and the name, address, and telephone number of the insurance carrier providing said insurance is:

_____

_____

_____.

3. The following information is provided concerning any and all vehicles that are owned by the Contractor and that will be used for transportation in connection with any service provided for the performance of the Work that is the subject of the Contractor's Bid
[Insert information requested. Attach additional sheets, if needed.]:

Vehicle	Vehicle ID #	Vehicle. Liability Insurance Policy Number (of policy covering vehicle)	Name, Address and Telephone Number of Vehicle Liability Insurance Carrier (issuing policy covering vehicle)

4. The following is the address of any real property that will be used to house workers in connection with the performance of the Work that is the subject of the Contractor's Bid
[If no such housing will be provided, enter "none"]:

_____

_____

_____

(This page left intentionally blank.)

5. The actual or estimated number of workers that will be employed to perform the Work that is the subject of the Contractor's Bid, the total amount of wages to be paid to said workers, and the dates on which said wages will be paid are as follows [Attach additional sheets, if needed.]:

Total Number of Workers	Total Amount of Wages	Date(s) for Payment of Wages

6. Check only one of the following boxes, as applicable:

☐ The statement of number of workers declared in Paragraph 5, above, is a statement of the actual number of workers that will be employed.

☐ The actual number of workers requested in Paragraph 5, above, is unknown and therefore the statement of number of workers declared therein is based on the Contractor's best estimate available at the time of submitting its Bid, rather than the actual number of workers that will be employed and if and when the actual number of workers and the other information requested above is available, it will be reported to the County of Riverside by Bidder in writing.

7. The actual or estimated total number of persons who will be utilized as independent Contractors to perform the Work of the Project that is the subject of the Contractor's Bid (together with their known, current local, state, and federal Contractor license identification numbers that each is required to have under local, state or federal laws or regulations) are as follows [Attach additional sheets, if needed.]:

List of Independent Contractors	Current Local, State and Federal Contractor License Identification Number

(This page left intentionally blank.)

8. Check only one of the following boxes, as applicable:

☐ The statement of number of independent Contractors declared in Paragraph 7, above, is a statement of the actual number of independent Contractors that will be utilized.

☐ The actual number of independent Contractors requested in Paragraph 7, above, is unknown and therefore the statement of number of independent Contractors declared therein is based on the Contractor's best estimate available at the time of submitting its Bid, rather than the actual number of independent Contractors that will be utilized, and if and when the actual number of independent Contractors and the other information requested above is available, it will be reported to the County of Riverside by Contractor in writing.

I, the undersigned, declare under penalty of perjury that the foregoing statements are within my personal knowledge and are true and correct. Executed on this _____ day of _____, in the year 20__ at _____, California.

_____
(Signature)

_____
Print Name of Signer:

_____
Print Name of Contractor:

(This page left intentionally blank.)

ADD EVIDENCE OF INSURANCE EXHIBIT HERE

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GENERAL PROVISIONS

FOR

THE CONSTRUCTION OF

2026 ON-CALL SITE IMPROVEMENTS

AT

RIVERSIDE COUNTY LANDFILLS

MAY 2026

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ARTICLE 1 - GENERAL

1-1 GENERAL

Unless otherwise stated, the words directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory, or words of like meaning, refer to actions, expressions, and prerogatives of the Engineer.

The phrase unless otherwise specified shall mean unless otherwise specified in the Contract Documents or shown on the Plans.

The Work shall be performed in accordance with these Contract Documents.

1-2 TERMS AND DEFINITIONS

Whenever in these Contract Documents, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows (See Special Provisions and/or Detailed Provisions for additional terms and definitions):

a) **Admitted Surety Insurer**. "Admitted Surety Insurer" means corporate issuer or a reciprocal or interinsurance exchange to which the Insurance Commissioner has issued a certificate of authority to transact surety insurance in this state, as defined in Section 105 of the Insurance Code (CCP 995.120).

b) **Agency**. "Agency" whenever used in the Contract Documents shall refer to the County Department of Waste Resources.

c) **Agreement**. "Agreement" means the Construction Agreement included with the Administrative Provisions entered into between the County and the Contractor (sometimes also referred to as the "Contract").

d) **Allowable Costs**. "Allowable Costs" means those costs that are used in calculating Contract Adjustments to the Contract Price.

e) **Allowable Markups**. "Allowable Markups" means those percentage markups used in calculating Contract Adjustments to the Contract Price.

f) **Alternate Bid Item**. "Alternate Bid Item" is Work described in the Contract Documents as Alternate Work, to be added or deducted from the Base Bid, which shall be the Contractor's responsibility, for the price included in the Bid, if the County accepts the Alternate Bid Item.

g) **Applicable Law**. "Applicable Law" means all Federal, State, County and municipal laws, statutes, ordinances, resolutions, codes, rules, regulations, building inspection assessments and recommendations, fire marshal approvals, lawful orders of governmental authorities and life safety codes as may be amended from time to time, governing Contractor's performance of the Work.

h) **Base Bid, Base Bid Price**. "Base Bid" or "Base Bid Price" is the price stated in the Bid for which the Bidder offers to perform the Work described in the Contract Documents as the base Contract Work (i.e. not including Alternate Bid Items).

i) **Bid, Bid Proposal**. "Bid" or "Bid Proposal" is a completed and properly executed offer by the Bidder on County-prescribed forms to perform the Work for the price(s) stated in response to the Notice Inviting Bids.

j) **Bid Item**. "Bid Item" means an item of Work listed on the Bid Item List in the Bid Proposal, for which the Bidder provides a price.

k) **Bid Item List**. "Bid Item List" means the list of items of Work, units of measure, Estimated Quantities, and the prices offered by the Bidder submitted on the County's forms, setting forth the prices for the Work including the Base Bid Price and Alternate Bid Items, if any.

l) **Bidder**. "Bidder" means any individual, firm, partnership, limited liability company, or corporation submitting a Bid for the Work contemplated, acting directly or through a duly authorized representative.

m) **Board or Board of Supervisors**. "Board" or "Board of Supervisors" means the Board of Supervisors of the County, also sometimes referred to as the Board.

n) **Change**. "Change" means a modification, change, addition, substitution or deletion in the Work. Use of the term "Change," in any context, in the Contract Documents shall not be interpreted as implying that the Contractor is entitled to a Contract Adjustment on any basis other than as permitted by the terms of the Contract Documents for Change Orders or Deleted Work.

o) **Change Order**. "Change Order" means a written instrument, signed in accordance with the requirements of the General Provisions, setting forth the agreement of the County and the Contractor on the terms of a Contract Adjustment. See Section **7-4.4.3** of these General Provisions.

p) **Change Order Request**. "Change Order Request" means the Contractor's written request for a Contract Adjustment.

q) **Claim**. "Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested for one or more of the following: (a) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by the County under the Contract; (b) payment by the County of money or damages arising from Work done by or on behalf of the Contractor and payment for which is not otherwise expressly provided or to which the Contractor is not otherwise entitled; (c) payment of an amount that is disputed by the County; (d) that Contractor's performance is excused, or (d) other relief. See Article **8** -of these General Provisions.

r) **Construction Change Directive**. "Construction Change Directive" means a written instrument issued by the County to the Contractor which: (1) directs the performance of a Change that does not involve a Contract Adjustment; (2) establishes a mutually agreed

basis for compensation to the Contractor for a Change under circumstances where performance of the Change needs to proceed in advance of the County performing a full evaluation of the Contractor's rights relative to a Contract Adjustment; or (3) directs the performance of Work or a Change with respect to which there exists a dispute or question regarding the terms of a Contract Adjustment.

s) **Contract**. "Contract" means the Agreement included in the Administrative Provisions covering the Work signed by County and Contractor, which includes all Contract Documents.

t) **Contract Adjustment**. "Contract Adjustment" means an adjustment, additive or deductive, to the Contract Price or Contract Time permitted by the Contract Documents due to circumstances constituting a Change, Excusable Delay, or Deleted Work.

u) **Contract Documents**. The "Contract Documents" for the Project are enumerated in the Agreement.

v) **Contract Price**. "Contract Price" shall mean either the total aggregate amount of the Lump Sum, Unit Price, or Unit Prices named in the Agreement awarded by the County, subject to adjustment for variances in quantities and Change Orders or Unilateral Change Orders, or the total of all payments under the Contract at the Lump Sum, Unit Price, or Unit Prices based on the Engineer's approvals of installed quantities of Work, as the case may be.

w) **Contract Time**. "Contract Time" means the total number of Working Days stated in the Agreement within which Contractor must complete the Work, as may be modified by a Change Order or Unilateral Change Order.

x) **Contractor**. "Contractor" means the person or persons, entity, including but not limited to, limited liability corporation, co-partnership, or corporation, private or municipal, who have entered into the Agreement with the County, or his or their legal representatives.

y) **County or Owner**. "County" or "Owner" means the County of Riverside, by and through the Department of Waste Resources.

z) **Critical Path**. "Critical Path" is the longest continuous chain of activities for the Work that has the least amount of total float of all chains. In general, a delay on the critical path extends the scheduled completion date of the Work.

aa) **Defective Work**. "Defective Work" means materials, equipment, labor, workmanship, construction services or other construction work comprising the Work of Contractor or a Subcontractor that: (1) is faulty, omitted, incomplete or deficient, or (2) does not conform to Applicable Laws, the Contract Documents, or the requirements of any inspection, reference standard, test, code or approval specified in the Contract Documents.

bb) **Delay**. "Delay" means any circumstances involving delay, disruption, hindrance, or interference to the Critical Path of the Work.

cc) **Deleted Work**. "Deleted Work" means Work that is eliminated or cost reduced pursuant to a Change Order or Unilateral Change Order.

dd) **Department**. "Department" means the Department of Waste Resources, an agency of the County.

ee) **Differing Site Conditions**. "Differing Site Conditions" means unforeseen "changed conditions," as defined in Section **2-6** of these General Provisions, that the Engineer determines constitute a basis for Contract Adjustment.

ff) **Engineer**. "Engineer" means the General Manager -– Chief Engineer of the Riverside County Department of Waste Resources, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

gg) **Excusable Delay**. "Excusable Delay" means a Delay to Contractor's ability to achieve Final Completion of the Work within the Contract Time that is: (1) not caused, in whole or in part, by an act or omission of Contractor or a Subcontractor, of any Tier, to comply with the Contract Documents; (2) unforeseeable, unavoidable and beyond the control of the Contractor and its Subcontractors, of every Tier; and (3) the result of a Force Majeure event. Without limitation to the foregoing, neither the bankruptcy, insolvency nor financial inability of the Contractor any a Subcontractor, of any Tier, nor any failure by a Subcontractor, of any Tier, to perform any obligations imposed by Contract or Applicable Laws shall constitute grounds for Excusable Delay.

hh) **Extra Work**. "Extra Work" means new or unforeseen labor, materials, equipment, services or other work, not reasonably inferable by Contractor or its Subcontractors from the design and other information set forth in the Contract Documents, the performance of which requires the expenditure by Contractor of additional and unforeseen costs. References to Extra Work shall not be interpreted to mean or imply that Contractor is entitled to an adjustment.

ii) **Final Acceptance**. "Final Acceptance" of the Work occurs when the Engineer determines that Final Completion of the Work has been achieved, the Board issues a written acceptance of a completed Contract, and, a Notice of Completion has been recorded with the County of Riverside by the County. The date of Final Acceptance is the date the Notice of Completion is recorded by the County of Riverside Recorder.

jj) **Final Completion**. "Final Completion" is the stage of performance of the Work when:

1. All Work required by the Contract Documents has been fully completed in compliance with the Contract Documents and all Applicable Laws including, but not limited to, correction or completion of all punch list items noted upon Final Completion and final cleaning;

2. Contractor has delivered to County all closeout documentation required by the Contract Documents;

3. Final inspection and approval by the Inspector of Record and all applicable governmental agencies has occurred and a final certificate of occupancy (or equivalent inspection sign-off by applicable governing agency) has been issued by covering the entire Project site without exception or condition; and

4. The County accepts the Work as complete and, in its discretion, records a Notice of Completion and Acceptance.

kk) **Force Majeure**. "Force Majeure" means any of the following unanticipated events not caused by County or Contractor, which materially and adversely affect Contractor's obligations under the Contract: Acts of God as defined in Public Contract Code §7105, embargo, rebellion, war, terrorism, riot, act of sabotage, civil commotion, discovery of any archeological, paleontological or cultural resources, spill of hazardous substances by a third party not under the control of Contractor at or near the Project site which is required to be reported to the California Environmental Protection Agency, Department of Toxic Substances Control, discovery at, near or on the site of any species listed as "threatened" or "endangered" under the Federal or State Endangered Species Act, fire, flood, landslide. Force Majeure does not include epidemic, pandemic, virus, infection or other disease.

ll) **Indemnified Parties**. "Indemnified Parties" shall refer to the County, its agencies, districts, special districts and departments, including but not limited to the Department of Waste Resources, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents and representatives and any parties to whom the County owes a duty to indemnify, defend, and hold harmless for any Work on the Project.

mm) **Inspector of Record**. "Inspector of Record" means a person designated by the County to perform inspections on behalf of the County, who may be an employee or an independent consultant of the County.

nn) **Installation Subcontractor**. "Installation Subcontractor" means a Subcontractor who performs a portion of the Work that includes providing substantial, rather than minor and incidental, services for the installation of temporary or permanent materials, equipment, or facilities at the Project site.

oo) **Laboratory**. "Laboratory" means the laboratory(ies) authorized by the County to test materials and Work involved in the Contract.

pp) **Legal Holiday**. "Legal Holiday" means: New Year's Day; Martin Luther King Jr. Birthday, Lincoln's Birthday; Washington's Birthday (observed); Memorial Day; Independence Day; Labor Day; Columbus Day; Veteran's Day; Thanksgiving Day; day after Thanksgiving; Christmas; and such other days as are declared County holidays by ordinance passed by the Board of Supervisors.

qq) **Non-Compensable Delay**. "Non-Compensable Delay" means a Delay caused by Force Majeure events.

rr) **Notice of Change**. "Notice of Change" means a formal written notice required to be submitted by the Contractor to the County notifying the County of circumstances that the Contractor believes may give rise to a Contract Adjustment.

ss) **Notice of Delay**. "Notice of Delay" means a formal written notice prepared and submitted by the Contractor to the County notifying the County of circumstances that the Contractor believes may give rise to a Contract Adjustment to the Contract Time for Excusable Delay.

tt) **Or Equal Substitution**. "Or Equal Substitution" means the material, product, equipment, process, thing, or services proposed by the Contractor for use in the Work as equivalent to that specified in the Contract Documents, which must be approved as equal in the opinion of the Engineer before used in the Work.

uu) **Plans or Project Drawings**. "Plans" or "Project Drawings" means the official plans, profiles, typical cross sections, general cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, approved by the County, which show the location, character, dimension and details of the Work, and which are to be considered a part of the Contract Documents.

vv) **Project**. "Project" means the total construction of the Project identified in the Notice Inviting Bids of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other Contractors and the County's own forces.

ww) **Reasonable Order of Magnitude Estimate**. "Reasonable Order of Magnitude Estimate" means a general estimate prepared by Contractor, or jointly by Contractor and County, without the benefit of complete or definitive pricing by Subcontractors, of the projected additional cost and time associated with Contractor's performance of a particular item or items of Extra Work described in a Construction Change Directive. Unless otherwise agreed to in writing between County and Contractor, a Reasonable Order of Magnitude Estimate does not constitute either an authorization or agreement by County to any adjustment or a guarantee.

xx) **Request for Extension**. "Request for Extension" means a formal written request submitted by the Contractor to the County setting forth the justification and support for Contractor's request for a Contract Adjustment to the Contract Time.

yy) **Right of Way**. "Right of Way" means the whole established piece of property, which is reserved for and secured for access to or use in constructing the Work.

zz) **Specifications**. "Specifications" means the directions, provisions, and written requirements contained in the Contract Documents as to the method and manner of performing the Work or to the quantities and qualities, standards and workmanship of materials, equipment, systems and related services to be furnished under the Agreement.

aaa) **Subcontractor**. "Subcontractor" means a person or entity that has a direct Contract with the Contractor or with another Subcontractor to perform a portion of the Work, including

without limitation, Subcontractors, Sub-subcontractors, suppliers, equipment operators, manufacturers and vendors, of any and every Tier.

bbb) **Superintendent**. "Superintendent" means the executive representative of the Contractor, present on the Project site at all times while performing the Work, authorized by the Contractor to receive and execute instructions from the County.

ccc) **Surety or Sureties**. "Surety" or "Sureties" means the Admitted Surety Insurer(s), approved by the County, who may guarantee the fulfillment of the Contract by bond, and whose signatures are attached to said bond.

ddd) **Technical Specifications**. "Technical Specifications" shall refer to the Detailed Provisions of these Contact Documents.

eee) **Tier**. "Tier" means the contractual level of a Subcontractor with respect to the Contractor. For example, a "first-Tier" Subcontractor is under a direct Contract with the Contractor. A Sub-subcontractor under Contract with a first-Tier Subcontractor is in the "second-Tier," and so on. Use of the phrase "of every Tier," or similar phraseology, in the Contract Documents shall not be interpreted as implying that other provisions of the Contract Documents, where such phrase is not used, are intended to be limited in application to only the first Tier or to only certain other Tiers of Subcontractors.

fff) **Unexcused Delay**. "Unexcused Delay" means any Delay caused by Contractor, or that is not an Excusable Delay, including, without limitations, the following: (1) Delay caused by an act or omission of the Contractor or a Subcontractor (2) Delay for which the Contractor has failed to provide a timely and complete Notice of Delay or Request for Extension; or (3) Delay associated with any circumstances where the costs or risk associated with such circumstances are designated in the Contract Documents as being at Contractor's risk or Contractor's own expense.

ggg) **Unforeseen Difficulties**. "Unforeseen Difficulties" means the risk of all loss or damage, except as noted in Section **5-5.6** of these General Provisions, arising out of the Work, or from any unforeseen obstructions or difficulties which may be encountered during the progress of the Work, or from the action of the weather, or from encumbrances in the line of Work, shall be the responsibility of the Contractor.

hhh) **Unilateral Change Order**. "Unilateral Change Order" means a written Change Order issued by the County for a Contract Adjustment, for which there is no mutual agreement between the County and the Contractor regarding the terms thereof.

iii) **Unit Price**. "Unit Price" means a Contract Unit Price entered by a Bidder in its Bid for a single unit of a Bid Item of Work or a Stipulated Unit Price established by the County in the Contract Documents.

jjj) **Work**. "Work" means all the resources, activities, construction work and other services specified, indicated, shown or reasonably inferable from the Contract Documents including labor, materials, equipment and services to fulfill the Contractor's obligations.

kkk) **Working Day**. "Working Day" means any day (except Saturdays, Sundays, Legal Holidays, and days on which the Contractor is specifically required by the Contract Documents to suspend construction operations) on which the Contractor is not prevented by inclement weather or resulting conditions from proceeding with at least sixty (60) percent of the normal labor and equipment force engaged in the controlling operation or operations for at least five (5) hours.

1-3 CORRECLATION AND INTENT OF CONTRACT DOCUMENTS

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and the Work called for by anyone shall be as binding as if called for by all.

1-3.1. SIMILARITY OF WORDS.

Wherever in the Specifications or upon the Plans the words directed, required, permitted, ordered, designated, prescribed, or words of like import are used, it will be understood that the direction, requirements, permission, order, designation, or prescription of the County is intended, and similarly the words approved, acceptable, satisfactory, or words of like import, shall mean approved by, or acceptable to, or satisfactory to, the County, unless otherwise expressly stated.

1-3.2. SEVERABILITY.

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable upon mutual agreement of the parties; otherwise, such provisions shall be severed and deleted from the Contract Documents. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

1-3.3. PROVISIONS DEEMED INSERTED.

Each and every provision of law and clause required to be inserted in the Contract Documents shall be deemed to be inserted herein and the Contract Documents shall be read and enforced as though such provision or clause is included herein, and if through mistake, or otherwise, any such provision is not inserted or not correctly inserted, then upon application of either party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.

1-3.4. SURVIVAL OF PROVISIONS.

The Contract provisions relating to any obligation to provide insurance or indemnity, any waiver, warranty, guarantee or representation, any County right to Subcontractor assignment, joint or direct payment, or audit right given by the Contractor to County, the Claims and dispute resolution provisions, and all other provisions of the Contract Documents, which by their nature should survive termination of the Contract and

completion of the Work, shall survive termination of the Contract and completion of the Work and shall be binding upon Contractor and County until any action thereunder is barred according to terms in the Contract Documents or by the applicable statute of limitations or statute of repose.

ARTICLE 2 - SCOPE OF WORK

2-1 WORK TO BE DONE

The Contractor shall perform all work necessary to complete the Contract in accordance with the Contract Documents. Unless otherwise specified, the Contractor shall furnish all materials, equipment, tools, labor, and incidentals necessary to complete the Work.

The Contractor shall provide all labor, power, light, water, materials, equipment, tools, scaffolding, machinery, transportation, insurance, permits, bonds, temporary protection, watchmen, and Superintendents necessary to construct and complete all Work, and to furnish all materials included in the Contract, except those furnished by the County as specifically stated in the Contract Documents.

2-2 ALTERATIONS AND CHANGES

The Contractor agrees that reasonable alterations and modifications may be made by the County and that this may be done without notice to the Sureties on the Contractor's bonds. If such changes result in increased or decreased quantities under the Bid Items specified in the Agreement, the Contractor will be paid on the basis of actual quantities as measured by the County; and such changes shall not affect the Contract Unit Prices bid by the Contractor.

2-3 RIGHTS OF WAY

The County shall provide the rights of way as specifically described in the Contract Documents upon which the Work under this Contract is to be done, except that the Contractor shall provide land required for the erection of temporary construction facilities and storage of his material, together with right of access to same. Unless otherwise specified, the Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The Contractor shall indemnify and hold the Agency harmless from all Claims for damages caused by such actions.

2-3.1. CLEANING UP RIGHTS OF WAY AND TEMPORARY FACILITIES.

The Contractor shall, as directed by the County, remove from the County's right of way and from all public and private property, at its own expense, all temporary structures, rubbish and waste materials resulting from its operations.

2-4 THE CONTRACTOR'S EQUIPMENT AND FACILITIES

2-4.1. GENERAL.

The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work.

The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition, and regularly pumped out. The Contractor shall provide a hand washing facility.

The Contractor shall comply with all Applicable Law pertaining to public health, sanitation and physical distancing.

All equipment and facilities shall meet all requirements of Applicable Law.

2-4.2. TEMPORARY UTILITY SERVICES.

The Contractor shall, at its own expense, make all arrangements necessary for the provisions of temporary utility services necessary for its own use during performance of the Work.

The Contractor shall not draw water from any fire hydrant (except to extinguish fire), without obtaining permission from the water utility owner.

2-4.3. CRUSHING AND SCREENING OPERATIONS.

Unless otherwise specified in the Special Provisions and/or Detailed Provisions, the establishment and operation of portable screens and crushers will not be allowed on or adjacent to the Work site.

2-4.4. HAUL ROUTES.

Unless otherwise specified in the Special Provisions and/or Detailed Provisions, haul routes shall be determined by the Contractor.

2-5 CHANGES REQUESTED BY THE CONTRACTOR

Changes in the Plans and Specifications, requested in writing by the Contractor, which do not materially affect the Work, and which are not detrimental to the Work or to the interest of the Agency, may be granted by the Engineer. Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes.

If the Contractor alleges that instructions issued after the date of the Contract will result in increases to the Contract Price or Contract Time, or that Contractor's performance is excused because of the acts or omissions of County. If latent or unforeseen conditions require modification of the Contract Documents, or the Contractor otherwise becomes aware of the need for or desirability of a change in the Work, a Change Order Request ("COR") may be submitted to the County in writing, using the forms described in Section 7-4.4.6.B of these General Provisions, and must specify the reasons for such change, including relevant circumstances and impacts on the construction schedule. The Contractor may request additional compensation and/or time through a COR but not for instances that occurred more than ten (10) Calendar Days prior to the COR. Contractor's failure to initiate a COR within such period shall be deemed a waiver of the right to adjustment of the Contract Price or the Contract Time for the alleged change. Any COR that is approved by the County will be incorporated in a Change Order or Construction Change Directive. If the County determines that the Work in question is not a change, the County shall issue a Work Directive, ordering the Contractor to proceed with the Work without delay. If the COR is denied but the Contractor believes that it does have merit, the Contractor may submit a Claim to the County.

2-6 CHANGED CONDITIONS

Contractor shall promptly, and before the following conditions are disturbed and in no event later than two (2) Business Days after first observance of the conditions, notify the County, in writing, of any:

a. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

b. Subsurface or latent/concealed physical conditions at the Project differing from those indicated by information about the Project site made available to the Bidder prior to the deadline for submitting bids.

c. Unknown physical conditions at the Project of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract.

Notwithstanding the foregoing, the following conditions are excluded from concealed or unknown conditions: (1) conditions that Contractor had, or should have had, actual or constructive knowledge as of the date of the Agreement; or (2) conditions that could have been discovered by reasonable site investigation or review of other available site information referenced in the Contract Documents prior to the Bid Deadline.

The County shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work shall issue a Change Order under the procedures described in the Contract. If the County determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the County shall promptly notify the Contractor, stating the reasons. In the event that a dispute arises between the County and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all Claims in connection therewith.

ARTICLE 3 - CONTROL OF THE WORK

3-1 ASSIGNMENT

The Contract may be assigned only upon prior written consent of the County. Such written consent to sublet, assign or otherwise dispose of any portion of the Contract, shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the Contract.

3-2 SELF-PERFORMANCE

The Contractor shall give its personal attention to the fulfillment of the Contract and shall keep the Work under its control. The Contractor shall perform, with its own organization, Work of a value amounting to not less than 50 percent (50%) of the remainder obtained by subtracting from the total original Contract Price the sum of any item designated herein, in the Bid or in the Special Provisions as "Specialty Items". The furnishing and placing of reinforcing steel, when placing is performed by the supplier, will be considered as a Specialty Item for this purpose; however, the supplier shall be designated in the List of Subcontractors. The value of the Work subcontracted will be based on the Bid Item bid price, if any subdivision of a Bid Item is subcontracted, the entire Bid Item shall be considered as subcontracted.

Any Bid that does not indicate that Work valued at least fifty percent (50%) of the Contract Price (except Specialty Items) will be performed by the Bidder's own forces, will be considered non-responsive and will be rejected with no further consideration. If, after execution of the Agreement, the County discovers the Contractor is performing Work valued at less than fifty percent (50%) of the Contract Price (except Specialty Items), the Contractor will be notified that it is in breach of the Contract. The Contractor's obligation to self-perform at least fifty percent (50%) of the Contract Price (except Specialty Items) is not subject to Change Orders that increase the value of subcontracted items of Work.

3-3 SUBCONTRACTORS

The Contractor shall give personal attention to the fulfillment of the Contract. The Contractor shall keep the Work under its control. Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their Work.

Before the Work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement listing the name, Contractor License Number, and business address of each Subcontractor and a description and value of each portion of the Work to be so subcontracted.

Reference is made to the Subletting and Subcontracting Fair Practices Act contained in the California Public Contract Code (commencing with Section 4100). By this reference, said Act is incorporated herein with like effect as if it were here set forth in full, and the parties shall abide by its terms and substitution shall be only as allowed by that Act.

3-3.1. INELIGIBLE SUBCONTRACTORS.

Pursuant to Labor Code Section 1777.1, the Labor Commissioner publishes and distributes a list of Contractors ineligible to perform work as a Subcontractor on a Public Works

project. This list of debarred Contractors is available from the Department of Industrial Relations website at https://www.dir.ca.gov/dlse/debar.html. In addition, Subcontractors shall not be qualified to engage in the performance of this Public Works Project unless currently registered and qualified to perform Public Work pursuant to Labor Code Section 1725.5. Contractor shall not Contract with an uninsured Subcontractor.

3-3.2. COUNTY'S RIGHT TO OBJECT TO SUBCONTRACTORS.

All Subcontractors, whether or not they are required to be listed in Contractor's Bid Proposal, must be acceptable to the County, and/or Agency funding the Project. If the County or funding entity has made a reasonable objection to a Subcontractor proposed by the Contractor, the Contractor shall propose a replacement without increase to the Contract Price or Contract Time.

3-3.3. COORDINATION OF SUBCONTRACTORS.

The Contractor is responsible for properly performing and completing all Work required by the Contract, whether or not the Contractor employs Subcontractors for certain portions of the Work. The Contractor shall coordinate the sequence and timing of his or her efforts and those of any Subcontractors to insure the proper and timely completion of the Work. Contractor shall be responsible for the acts and omissions of its Subcontractors and shall make certain that at all times its Subcontractors comply with the terms of the Contract Documents and Applicable Law. Where a portion of the Work which has been subcontracted by the Contractor is not being prosecuted in a manner satisfactory to the County, the Subcontractor shall be removed immediately on the request of the County and shall not again be employed on the Project.

3-3.4. INCORPORATION OF CONTRACT DOCUMENTS IN SUBCONTRACTS.

Each subcontract or supply agreement shall contain provisions that:

1. Require that the Work being performed pursuant to such subcontract or supply agreement, as the case may be, be performed in accordance with the requirements and intent of the Contract Documents;

2. Require Subcontractors of any tier and supplier to furnish to Contractor or the applicable Subcontractor, as the case may be, in a timely fashion all information necessary for the preparation and submission of the reports, operations and maintenance manuals, warranties, as-built information, and closeout documents required herein;

3. Require that each Subcontractor and supplier continue to perform under its subcontract or supply agreement if the Contract is terminated and if the County takes an assignment of the subcontract or supply agreement and requests the Subcontractor or supplier to continue such performance; and

4. Include the termination and suspension provisions set forth in Sections 6-6, 6-7, and 6-8 below.

If any provision of any subcontract or supply agreement is inconsistent with any provision of the Contract Documents or the intent of the Contract Documents, then the Contract Documents shall control.

3-3.5. PAYMENTS TO SUBCONTRACTORS.

The Contractor shall pay all Subcontractors for and on account of Work of the Contract performed by such Subcontractors within seven (7) days after receipt of payment from County, unless Contractor notifies the County as to the amount and reasons for withholding from payments to Subcontractors.

3-3.6. JOINT AND DIRECT PAYMENTS TO SUBCONTRACTORS.

County reserves the right, upon written notice to Contractor, to issue joint checks to the Contractor and Subcontractor of any Tier, or Suppliers, and to make payment directly to each Subcontractor or Supplier in satisfaction of the County's obligation to make progress payments or the final payment due to Contractor.

3-3.7. ARM'S LENGTH TRANSACTIONS AND COMMERCIALLY USEFUL FUNCTION OF SUBCONTRACTORS.

To assure competitive bids and to assure that no bid rigging, unfair practices, collusion or conflicts of interest occur in connection with the Work, Contractor agrees that all agreements between Contractor and Subcontractors and suppliers for performance of the Work shall be pursuant to arm's length transactions, with unrelated and unaffiliated firms (a "related" or "affiliated" firm is one which is subject to the control of the same persons through joint ownership or otherwise). In all such agreements, each firm shall act in its own best interest, for compensation that reflects the fair market values of the materials or services that are the subject of the transaction.

Contractor further agrees that each Subcontractor and supplier for the Work will perform a commercially useful function (i.e. is responsible for the performance, management and supervision of a distinct element of the Work). A Subcontractor or supplier does not perform a commercially useful function when, for example: the Work is outside the firm's experience or qualifications; the firm provides little or no supervision of the Work; more than fifty percent (50%) of the Work designated to be performed by a Subcontractor is performed by a Sub-subcontractor or supplier; the Subcontractor only purchases materials while performing little or no Work; the firm works for only one prime Contractor; or the same employees work for the firm and the Contractor.

If, upon County's request, Contractor fails to provide adequate assurances of arm's length transactions or that all Subcontractors and suppliers will perform a commercially useful function, Contractor shall remove such Subcontractor or supplier from the Project, exclude the cost associated with such firm from all Applications for Payment and Change Order Requests and, if necessary, propose another Subcontractor or supplier to whom the County has no objection, without increase to the Contract Price or Contract Time.

3-4 AUTHORITY TO THE BOARD AND THE ENGINEER

The County shall have general supervision of the Contract under authority of the Board of Supervisors. The County has the authority to stop the Work whenever such stoppage may be necessary to ensure the proper execution of the Contract. The County shall decide all questions which may arise as to the quality or acceptability of materials furnished, Work performed, and rate or progress of the Work; all questions which may arise as to the interpretation of the Plans and Specifications; all questions as to the acceptable fulfillment of the Contract on the part of the Contractor; and all questions as to compensation. The County's determination and decision thereon shall be final and conclusive.

3-5 INSPECTION

The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer before inspection is required within the timeframe specified in the Special Provisions and/or Detailed Provisions. Work shall be done only in the presence of the Engineer, unless otherwise approved. Any Work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall, at all times, have access to the Work during its construction at shops and yards and while in storage, as well as to the Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship conform to the Contract Documents. All Work done and all materials furnished shall be subject to the County's inspection and approval. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.

Defective Work or unsuitable materials may be rejected, notwithstanding that such Work or materials may have been previously overlooked by County representatives, accepted, or estimated for payment. The Inspector cannot authorize deviations from the Plans, Special Provisions, and/or Detailed Provisions and does not have the authority to obligate the County financially.

If any Work is concealed or performed without the requisite inspection notice, then the Work shall be subject to such tests or exposure as may be necessary to prove to the Engineer that the materials used and the Work performed are in conformity with the Plans, Special Provisions, and/or Detailed Provisions, or said materials or Work may be removed and installed or performed again at the discretion of the Engineer. All labor, equipment, and materials necessary for exposing, testing or complete removal, and installation or replacement shall be furnished by the Contractor at its own expense. The Contractor shall replace, at its own expense, any materials or Work damaged by exposure or testing.

Cost of rework inspection incurred by the County will be deducted from the Contract Price via Change Order. Rework inspection cost is as follows:

a. Contractor's failure to complete the Work within the Contract Time, including any previously authorized extensions thereof.
b. Extra inspections required for Contractor's correction of defective Work.
c. Overtime costs for acceleration of Work done for Contractor's convenience.
d. All associated costs including travel.
e. Removal of Defective and Unauthorized Work.

All Work which has been rejected shall be remedied or removed and replaced by the Contractor in an acceptable manner; and no compensation will be allowed for such removal or replacement. Any Work done beyond the lines and grades as described by the Contract Documents, or any Extra Work done without proper written authority, will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the Contractor's expense. Upon failure on the part of the Contractor to comply, the County shall have authority to cause defective or unauthorized Work to be remedied, or removed and replaced, and to deduct the costs for this Work from any monies due or to become due the Contractor.

3-5.1. THE CONTRACTOR'S REPRESENTATIVE

Before starting the Work, the Contractor shall designate in writing a representative who shall have complete authority to act for it. An alternative representative may be designated as well. The representative or alternate shall be present at the Work site whenever Work is in progress or whenever actions of the elements necessitate its presence to take measures necessary to protect the Work, persons, or property. Any order or communication given to this representative shall be deemed delivered to the Contractor. A joint venture shall designate only one representative and alternate. In the absence of the Contractor or its representative, instructions or directions may be given by the Engineer to the superintendent or person in charge of the specific Work to which the order applies. Such order shall be complied with promptly and referred to the Contractor or its representative.

At all times while performing the Work, the Contractor shall keep a competent Superintendent responsible for the construction of the Work, as well as any necessary assistants. All such persons shall be acceptable to the County continuously throughout the duration of the Project. The Superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor.

Work by Subcontractors will not be allowed in the absence of the Contractor's Superintendent, unless previous arrangements are approved by the Engineer in writing. In the event a Subcontractor attempts to perform Work in the absence of the Superintendent, a STOP WORK NOTICE will be issued to the Subcontractor.

3-6 CONTRACT DOCUMENTS

3-6.1. GENERAL.

The Contractor shall keep at the Work site a copy of the Plans and Specifications, to which the Engineer shall have access at all times.

The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complimentary and cooperative. Anything specified in the Specifications and not shown on the Plans or shown on the Plans and not specified in the Specifications, shall be as though shown on or specified in both.

The Plans shall be supplemented by such Working Drawings and Shop Drawings as are necessary to adequately control the Work.

The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

3-6.1.1. CONFORMITY WITH PLANS AND ALL ALLOWABLE DEVIATIONS.

Except as otherwise specifically stated in the Contract Documents, finished surfaces in all cases shall conform exactly to the elevations, lines, grades, cross-sections, and dimensions shown or described in the Contract Documents. Any deviations must be authorized in advance in writing by the County.

3-6.1.2. INTERPRETATION OF PLANS AND SPECIFICATIONS.

Should it appear that the Work to be done is not sufficiently detailed or explained in the Contract Documents, the Contractor must bring this to the County's attention in writing prior to submittal of the Contractor's Bid Proposal. In the event of any discrepancy between any drawings and the figures written thereon, the figures shall be taken as correct. The Contractor will not be allowed to take advantage of errors and omissions in the Plans and Specifications.

3-7 SURVEYING

3-7.1. GENERAL.

The Contractor shall preserve construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement will be at the expense of the Contractor. The Contractor shall dig all holes necessary for line and grade stakes.

The Contractor shall preserve benchmarks, survey monuments, survey stakes and points set for lines, grades or measurements of Work in their proper places unless removal is authorized by the Engineer.

3-7.2. LINE AND GRADE.

The Work shall conform to the lines, elevations, and grades shown on the Plans.

Three (3) consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the Contractor shall be responsible for any error in the grade of the Work.

Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench.

The Contractor shall provide opportunities and facilities for setting points and making measurements as requested by the County or otherwise as reasonably required. The Contractor shall not proceed until it has made timely demand upon the County for, and has received from the County, such lines and grades as may be necessary as the Work progresses. The Work shall be done in strict conformity with such lines and grades.

The Contractor shall carefully preserve benchmarks, reference points and stakes, and in case of willful or careless destruction, the Contractor shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their loss or disturbance.

3-8 WORK SITE MAINTENANCE

3-8.1. AIR POLLUTION CONTROL.

The Contractor shall not discharge smoke, dust, equipment exhaust, or any other air contaminant into the atmosphere in such quantity as will violate any Federal, State, or local regulations. The Contractor shall also abate dust nuisance by cleaning, sweeping, and spraying with water, or other means as necessary.

3-8.2. DUST ABATEMENT.

During the performance of all Work, the Contractor shall take the necessary precautions to avoid any loss or damage resulting from its operations that raise or produce dust. The Contractor will be required to have a positive and continuous method of dust control which is satisfactory to the County. The methods to be used for controlling dust in the construction area and along haul roads shall be approved by the County prior to starting any of the Work. All costs incidental to dust control shall be included in the Unit Prices paid for other items of Work.

3-9 ACCESS TO THE WORK

Unless provided for in the Special Provisions and/or Detailed Provisions, access to the Work from existing roads shall be provided by the Contractor at its expense and maintained in a manner so as not to create a public nuisance. The County assumes no responsibility for the condition or maintenance of any existing road or structure thereon that may be used by the Contractor for performing the Work or for traveling to and from the site of the Work. No additional payment will be made to the Contractor for constructing any temporary road used for construction operations or for improving, repairing, or maintaining any existing road or structure thereon that may be used by the Contractor for performance of the Work under these specifications. The cost of all work described in this paragraph shall be included in the prices bid in the schedule for other items of the Work.

3-10 DAMAGES BY ACT OF GOD

If the construction of the Project herein is damaged, which damage is determined to have been proximately caused by an Act of God, as defined in Public Contract Code Section 7105, in excess of five percent (5%) of the Contract Price, provided that the Work damaged is built in accordance with applicable building standards and the Plans and Specifications, then the County may, without prejudice to any other right or remedy, terminate the Contract.

ARTICLE 4 - CONTROL OF MATERIALS

4-1 GENERAL

Materials, parts, and equipment furnished by the Contractor for the Work shall be new, free of defects, and conform to the requirements in the Contract Documents. Used or secondhand materials, parts, and equipment may be used only if so, specified in the Contract Documents.

The quality of materials shall be subject to approval by the Engineer. Materials of quality not conforming to the requirements of the Special Provisions and/or Detailed Provisions shall be considered defective and will be subject to rejection. Defective material, whether in place or not, shall be removed immediately from the Work site by the Contractor, at its expense, when so directed by the Engineer.

If the Contractor fails to replace any defective material after reasonable notice, the Engineer may cause such Work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

4-1.1. DEFECTIVE MATERIALS.

No rejected materials, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the County. Upon failure on the part of the Contractor to comply forthwith with any order of the County made under the provisions of this Section, the County shall have authority to remove and replace defective material and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

4-1.2. ACCEPTANCE OF NONCONFORMING WORK.

If the County prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the County may do so instead of requiring its removal and correction, in which case the Contract Price will be reduced by an amount equal to the entire cost of replacing the Work to make it as originally specified and intended as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

4-1.3. PROPERTY, PLANT AND EQUIPMENT.

Property, plant and equipment ("PP&E") (Contractor's physical or tangible long-term assets having a useful life of more than one (1) year (such as vehicles, equipment and machinery) not suitable to produce the quality of Work required will not be permitted to operate on the Project. PP&E shall be designed and constructed in accordance with general practice for such equipment and shall be of sufficient material to carry the Work to completion within the Contract Time. The Contractor shall provide adequate and suitable PP&E to meet these requirements and, when ordered by the County, shall immediately remove unsuitable PP&E from the Project and discontinue the operation of unsatisfactory PP&E. No worn or obsolete equipment shall be used, and in no case shall the maker's rating of the capacity for any equipment be exceeded. All vehicles used to haul materials over existing highways shall be equipped with pneumatic tires.

4-1.4. COUNTY FURNISHED MATERIALS.

The Contractor shall furnish all materials required to complete the Work, except those specified in the Contract Documents to be furnished by the County. Any materials furnished by the County will be delivered to the Contractor at the points specified in the Contract Documents. The Contractor will be held responsible for all materials so delivered to him, and deductions will be made from any monies due Contractor to make good any shortages and deficiencies, from any cause whatsoever, which may occur after such delivery, or for any demurrage charges due to delinquency in unloading.

4-1.5. SOURCE OF SUPPLY AND QUALITY OF MATERIALS.

At the option of the County, the source of supply of any materials shall be approved by the County before the delivery is started. Only materials conforming to the exact requirements of the Contract Documents and approved by the County shall be used in the Work. All materials proposed for use may be inspected or tested by the County at any time during their preparation and use. If it is found that sources of supply which have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other approved sources. No material which, after approval, subsequently becomes unfit for use shall be used in the Work.

4-1.6. MANUFACTURER'S INSTRUCTIONS.

Where it is required in the Contract Documents that materials, products, processes, equipment or the like be installed or applied in accordance with manufacturer's instructions, directions, labels, tags, manuals, trade literature or specifications or words to this effect, it shall be construed to mean that said application or installation shall be in strict accord with current instructions furnished by the manufacturer (whether attached to the material or equipment or published on the manufacturer's website) of the material concerned for use under conditions similar to those at the site. If there is a conflict between manufacturer's instructions and Applicable Law or the Contract Documents, Contractor shall notify Engineer in writing to request clarification.

4-2 PROTECTION

The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The Contractor also adequately protects new and existing Work and all items of equipment for the duration of the Contract.

The Contractor shall not, without the Agency's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered, and which may be necessary for the completion of the Work.

4-2.1. STORAGE OF MATERIALS.

Materials shall be so stored as to ensure the preservation of their quality and fitness for the Work. When considered necessary by the County, they shall be placed on wooden

platforms or other hard, clean surfaces and not on the ground. They shall be placed under cover when so directed by the County. Stored materials shall be so located as to facilitate prompt inspection.

4-3 TESTING

4-3.1. SAMPLES AND TESTS.

All testing of materials furnished by the Contractor shall be made in accordance with commonly recognized standards of national organizations for this type of Project, and such special methods and tests as are in use at the laboratory or otherwise determined by the County to be needed. The County shall determine what testing is needed.

Field testing of materials will be made by the County or its representative when deemed necessary as determined by the County; and these tests shall be made in accordance with standard practices of the County or as otherwise needed.

The Contractor shall furnish samples of all materials as requested by the County without charge. No material shall be used until it has been approved by the County. Samples will be secured and tested whenever necessary as determined by the County to determine the quality of the material.

Promptly after the approval of the Contract, the Contractor shall notify the County of the proposed sources of supply of all materials to be furnished by it, using a form which will be supplied by the County upon request.

Whenever reference is made to standard tests or requirements of the County, ASTM International (formerly the American Society for Testing Materials), the American Railway Engineering Association or the American Association of State Highway Officials, the reference shall be construed to mean the standards that are in effect at the date the Agreement is signed with subsequent amendments, changes, or additions as thereafter adopted and published by the organization referred to.

Unless otherwise called for in these General Provisions or the Special Provisions and/or Detailed Provisions, all testing of materials will be performed in such manner and at such locations as deemed necessary by the Engineer to ensure compliance with the Contract Documents. The cost of all re-testing will be borne by the Contractor, and the amount due the County for said re-testing will be deducted from the Contract Price by Change Order.

None of the provisions stated in this section shall relieve the Contractor of its obligations as stated elsewhere in the Contract Documents.

4-4 TRADE NAMES/OR EQUAL SUBSTITUTIONS

Wherever the name, brand, or manufacturer of an item is specified, it is used as a measure of quality and utility or a standard. Except in those instances where the product is designated to match others presently in use, or as otherwise stated in the Contract Documents, specifications calling for a designated material, product, thing or service by specific brand or trade name shall be deemed

to be followed by the words “or equal”. Listing of materials is not intended to be comprehensive, or in order of preference.

If the Contractor desires to use any other brand or manufacturer of equal quality or utility to that specified in the Contract Documents, the Contractor shall, at its expense, submit a written request to the Engineer for each desired substitution using the form included at the end of Detailed Provisions Section 01 6000 – Product Requirements. The Contractor shall have the material tested, as required by the Engineer, to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function. Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer’s findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

If, in the Engineer's opinion, the requested substitution is of lesser quality or in variance with that specified, or if the information submitted is insufficient or incomplete, the requested substitution will not be approved, and the specified materials or equipment shall be furnished. For submittals after award of the Contract, the Contractor shall allow fifteen (15) Working Days for the Engineer to make this determination unless otherwise specified in the Contract Documents.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this subsection.

By submitting an Or Equal Substitution request Contractor shall be deemed to certify that:

(i) The proposed Or Equal Substitution is equal to or exceeds all requirements of the pertinent Contract Documents;

(ii) Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified;

(iii) Contractor will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects;

(iv) Contractor waives all Claims for additional costs related to the substitution which subsequently become apparent; and

(v) Contractor accepts all responsibility for direct or indirect costs and/or time impacts as result of the substitution including impacts to Work not identified in the proposal.

4-5 PROPERTY RIGHTS IN MATERIALS

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the Work or the soil. All such materials shall become the property of the County upon being so attached or affixed.

ARTICLE 5 - LEGAL RELATIONS AND RESPONSIBILITY

5-1 LAWS AND REGULATIONS

The Contractor shall keep itself fully informed of State and national laws and County and municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. The Contractor shall, at all times, observe and comply with such laws, ordinances, and regulations.

Reference to and/or incorporation into the Contract Documents of a particular law, statute, ordinance, rule or regulation is not, nor is it intended to be, a definitive statement of the law applicable to the Contract Documents and the accomplishment of the Work. Contractor must keep informed as to all such Applicable Laws - Federal, State, County, Municipal - as they affect the conduct of the Work and comply with such laws, including, but not limited to, having requisite licenses, obtaining necessary permits, paying necessary fees and taxes, posting notices and installing, operating and maintaining safety precautions and facilities. It is likewise the Contractor's responsibility to see to it that its Subcontractors also fully comply with such Applicable Laws. Contractor shall protect and defend County, its officers, agents, employees and Contractors against any Claim or liability arising from or based upon any alleged violation of such Applicable Laws.

5-2 LABOR

5-2.1. GENERAL.

The Contractor, its agents, and employees shall be bound by and comply with applicable provisions of the Labor Code and Federal, State, and local laws related to labor.

If any Subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the County or shall appear to the County to be incompetent or to act in a disorderly or improper manner, he/she shall be discharged immediately upon the request of the County and such person shall not again be employed on the Project.

5-2.2. PREVAILING WAGES.

Pursuant to Section 1773.2 of the Labor Code, the current prevailing rate of per diem wages at the time of the Bid as determined by the Director of the Department of Industrial Relations (DIR) are on file at the office of the Engineer. The Contractor shall post a copy of these rates at the Work site. Pursuant to Sections 1771 and 1774 of the Labor Code, the Contractor and any Subcontractors shall pay not less than the specified prevailing rates of wages to workers employed on the Contract. If the Contract is Federally-funded, the Contractor and any Subcontractors shall not pay less than the higher of these rates or the rates determined by the United States Department of Labor. Pursuant to Section 1775 of the Labor Code, the Contractor and any Subcontractors, shall, as a penalty to the Agency, forfeit the prescribed amounts per Calendar Day, or portion thereof, for each worker paid less than the prevailing wage rates.

5-2.2.1. DETERMINATION OF PREVAILING WAGE RATES.

The County has determined that the Contractor and Subcontractors of any tier must pay not less than the prevailing wage rates to all workers employed in execution of the Contract. The Director of the Department of Industrial Relations, State of California (DIR) pursuant to the California Labor Code, and the United States Secretary of Labor ("Secretary"), pursuant to the Davis-Bacon Act, have determined the general prevailing rates of wages in the locality in which the Work is to be performed. The County has obtained from DIR and from the Secretary determinations of the generally prevailing rates of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the Work is to be performed. Copies of said rates are on file with the Capital Projects Division of the County and will be made available for inspection during regular business hours and are also available on the Internet at the California Department of Industrial Relations website:

http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm
(California prevailing wage rates).

Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

The wage rate for any classification not listed, but which may be required to execute the Work, shall be commensurate and in accord with specified rates for similar or comparable classifications for those performing similar or comparable duties. Holidays shall be as defined in the collective bargaining agreement applicable to each particular craft, classification or type of worker employed under the Contract. Per diem wages include employer payments for health and welfare, pensions, vacation, travel time and subsistence pay, apprenticeship or other training programs authorized by California Labor Code § 3093, and similar purposes when the term "per diem wages" is used herein. Holiday and overtime work, when permitted by law, must be paid for at the rate of at least one and one-half (1½) times the above specified rate of per diem wages, unless otherwise specified. In accordance with Section 1773.2 of the California Labor Code, the Contractor must post a schedule showing all applicable prevailing wage rates at appropriate and conspicuous locations on the job site where they can easily be seen by workers.

Contractor is required to utilize apprentices as required by the California Labor Code and applicable regulations. Only apprentices, as defined in California Labor Code § 3077, who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code § 3070 et seq. are eligible to be employed for the Work.

The Contractor shall comply with all applicable requirements of the California Labor Code, including but not limited to Chapter 2, Subchapter 1, Article 10, Required Apprentices on Public Works Contracts. Reference is made to Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). By this

reference said Chapter 1 is incorporated herein with like effect as if it were here set forth in full. The parties recognize that said Chapter 1 deals with, among other things, discrimination, penalties and forfeitures, their disposition and enforcement, wages, working hours and securing workers' compensation insurance and directly affect the method of prosecution of the Work by Contractor and subject it under certain conditions to penalties and forfeitures. Execution of the Agreement by the parties constitutes their agreement to abide by said Chapter 1. Their stipulation as to all matters which they are required to stipulate to by the provisions of said Chapter 1, constitutes Contractor's certification that it is aware of the provisions of said Chapter 1 and will comply with them and further constitutes Contractor's certification as follows: "I am aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the Work of this Contract."

5-2.2.2. PAYMENT OF PREVAILING WAGE RATES.

5-2.2.2.1. STATUTORY REQUIREMENTS.

The Project is subject to the provisions of Labor Code § 1720 *et seq*. and the requirements of Title 8 of the California Code of Regulations § 16000 *et seq*., which govern the payment of prevailing wage rates on Public Works projects, including the hauling and delivery of ready-mixed concrete. The Contractor and Subcontractors of any tier shall be governed by and required to comply with these statutes and regulations in connection with the Project. Pursuant to Labor Code § 1771, the Contractor and all Subcontractors of any tier must pay not less than the prevailing wage rates to all workers employed in execution of the Contract. Contractor and Subcontractors must comply with all applicable statutes and regulations, including, but not limited to, Labor Code §§ 1771, 1775, 1777.5, 1813, and 1815.

5-2.2.2.2. WEEKLY PAYMENTS TO EMPLOYEES.

Contractor and all Subcontractors of any tier must pay each worker on the Project, unconditionally and not less often than once each week, the full amounts that are due and payable for the period covered by the particular payday in accordance with the prevailing wage scale determination, regardless of any contractual relationship which may be alleged to exist between the Contractor, Subcontractor, and such laborers. Thus, an employer must establish a fixed workweek and an established payday. On each payday, each worker must receive all sums due at the end of the preceding workweek and must be provided with an itemized wage statement.

5-2.2.2.3. CLASSIFICATIONS.

The County shall require that any class of laborers or mechanics, including apprentices and trainees, which are not listed in the General Wage Determinations, and which are to be employed under this Contract, shall be classified conformably

to such wage determinations. In the event the County does not concur in the Contractor's proposed classification or reclassification of a particular class of laborers and mechanics (including apprentices and trainees) to be used, the question, accompanied by the recommendation of the County, shall be referred to the State Director of Industrial Relations for determination.

5-2.2.2.4. FRINGE BENEFIT CASH EQUIVALENT.

The County shall require, whenever the minimum wage rate prescribed for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly wage and the Contractor is obligated to pay a cash equivalent of such a fringe benefit, an hourly cash equivalent thereof must be established. In the event the interested parties cannot agree upon cash equivalent of the fringe benefit, the questions, accompanied by the recommendation of the County, shall be referred to the State Director of Industrial Relations for determination.

5-2.2.3. PENALTY FOR PREVAILING WAGE RATE UNDERPAYMENT.

Pursuant to Labor Code § 1775, the Contractor must, as a penalty, forfeit not more than Two Hundred Dollars ($200.00) to the State or the Owner for each Calendar Day or portion thereof, for each worker paid less than the prevailing wage rates as determined by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed for the Work by the Contractor or by any Subcontractor, of any tier, in connection with the Work. The difference between prevailing wage rates and the amount paid to each worker each Calendar Day, or portion thereof, for which each worker paid less than the prevailing wage rate, must be paid to each worker by the Contractor.

5-2.2.4. WITHHOLDING.

The County shall upon its own action or upon written request of an authorized representative of the Department of Labor or DIR, withhold or cause to be withheld from the Contractor under this Contract so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the Work, all or part of the wages required by the Contract, the County may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

5-2.2.5. RESPONSIBILITY FOR SUBCONTRACTORS' PAYMENT OF PREVAILING WAGES.

Pursuant to Labor Code § 1774, the Contractor is responsible for ensuring that all Subcontractors of any tier comply with requirements for payment of prevailing wages. Contractor is responsible for Labor Code violations by Subcontractors of any tier. The

Agreement executed between the Contractor and each Subcontractor must contain a copy of the provisions of Labor Code §§ 1771, 1775, 1777.5, 1813, and 1815, at a minimum. Contractor must monitor each Subcontractor's payment of prevailing wage rates. Upon becoming aware of the failure of any Subcontractor of any tier to pay its workers the specified prevailing wage, the Contractor must diligently take action to halt and rectify the failure, including, without limitation, retaining sufficient funds due to the Subcontractor to cover the underpayment. Before making final payment to any Subcontractor, the Contractor must obtain an affidavit from the Subcontractor, signed under penalty of perjury, which states that the Subcontractor has paid the specified, determined prevailing wage rate to its employees for the Project, as well as any amounts due pursuant to Labor Code § 1813. Contractor must provide copies of such affidavits to the Owner and provide Contractor's affidavit that it has paid the specified, determined prevailing wage rate to its employees for the Project, as well as any amounts due under Labor Code § 1813.

5-2.2.6. STATEMENT OF EMPLOYER PAYMENTS.

Within five (5) Calendar Days of the County's request, the Statement of Employer Payments (DSLE Form PW 26) must be completed and submitted to the County by each Contractor and Subcontractor who pays benefits to a third party trust, plan or fund for health and welfare benefits, vacation funds or makes pension contributions. The form must contain, for each worker classification, the fund or trust name, address, administrator, and amount per hour contributed and frequency of contributions. Training fund contributions must also be reported on this form. In February and August of each year during the Project, the Contractor and Subcontractors of any tier must verify changes in wage rates for any trade classifications used on the Project.

5-2.3. PAYROLL RECORDS.

Pursuant to Section 1776 of the Labor Code the Contractor shall keep, make available, and submit to the Engineer upon request, Certified Payroll Records.

5-2.3.1. CERTIFIED PAYROLL RECORDS AND BASIC PAYROLL RECORDS.

The Contractor and Subcontractors of any tier must maintain Certified Payroll Records and "Basic Payroll Records," defined as time cards, front and back copies of canceled checks, cash receipts, trust fund forms, daily logs, employee sign-in sheets, accounting ledgers, tax forms and/or any other record maintained for the purposes of reporting payroll, during the course of the Work and must preserve them for a period of three (3) years after completion of the Project for all trades workers executing the Work of the Contract. Certified Payroll Records must be submitted at the times designated in Section **5-2.3.2** below or upon request as described in Section **5-2.3.3** below. The County reserves the right to require Contractor to routinely submit Basic Payroll Records which may be requested by the County at any time and must be provided within ten (10) Calendar Days following the receipt of the request.

5-2.3.2. SUBMITTAL OF CERTIFIED PAYROLL RECORDS.

Pursuant to Labor Code § 1776, the Contractor and each Subcontractor of any tier must maintain an accurate, weekly payroll record showing the employee full name, address, social security number, work classification, amount paid per hour, straight time, overtime and holiday hours worked each day and weekly totals, the actual per diem wages paid to each person employed for the Work, and the gross/net wages paid for this Project/all projects, as well as the Contractor name and address, Project name and location, and dates of payroll. If payments are made to any third-party trust, funds or plans for health and welfare, pension or vacation trusts, those payments must be stated on the Certified Payroll Record. The basic wage rate paid per hour plus the employer contributions for benefits, including training fund contributions, must at least equal the prevailing wage rate for that classification.

The Contractor must maintain and submit one (1) copy of its Certified Payroll Records and those of its Subcontractors weekly with Contractor's application for payment. The County requires Contractor to submit to the County each week, no later than seven (7) Calendar Days after the payday for the week covered, the Certified Payroll Records of Contractor and its Subcontractors of every tier. If there is no Work on a given week or on a given day, the Certified Payroll Record must indicate "no work" for that week or day(s). The Certified Payroll Records must account for each day of the week including Saturdays, Sundays, and holidays. Contractor and Subcontractors of every tier must write "final" on the last submitted Certified Payroll Record for the Project.

The Certified Payroll Records must be verified by a written declaration made by a person with authority to represent the reporting entity, under penalty of perjury, that the information contained in the payroll record is true and correct and that the reporting entity has complied with the requirements of California Labor Code §§ 1771, 1811, and 1815 for any Work performed by his, her or its employees on the Project.

In addition, the County reserves the right to require the Contractor to provide monthly Certified Payroll Records of local hiring and non-local hiring to ascertain local participation and shall allow the County and County's staff to conduct onsite visits upon request to ascertain local hiring participation.

Contractor agrees that submission of Certified Payroll Records as well as all related or subsequent requests for supporting document made by the County shall be a condition precedent to Contractor's receipt of a progress, final, or retention payment. The County shall withhold any portion of the progress, final, or retention payment up to and including the entire payment until the Certified Payroll Records requirement is met by the Contractor or its Subcontractor. If the Contractor or any Subcontractor is determined to have failed to pay workers in compliance with the applicable prevailing wage sections of the Labor Code, the County shall continue to withhold progress, final, or retention payments until sufficient funds have been withheld for payment of wages to workers and all applicable penalties.

5-2.3.3. MAKING CERTIFIED PAYROLL RECORDS AVAILABLE UPON REQUEST.

Pursuant to Labor Code § 1776, in addition to its obligation to deliver Certified Payroll Records to the Owner on a weekly basis as set forth above, the Contractor must also make payroll records available for inspection at all reasonable hours at the principal office of the Contractor on the following basis: (i) a certified copy of an employee's payroll record must be made available for inspection or furnished to such employee or his/her authorized representative on request; (ii) a certified copy of all payroll records must be made available for inspection or furnished upon request to the Owner, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations; (iii) a certified copy of payroll records must be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public must be made through either the County, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided to the County, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, the requesting party must, prior to being provided the records, reimburse the cost of preparation by the Contractor, Subcontractors and the entity through which the request was made; and the public may not be given access to such records at the principal office of the Contractor; (iv) the Contractor must file a certified copy of the payroll records with the entity that requested such records within ten (10) Calendar Days after receipt of a written request; and (v) any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the County, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor or any Subcontractor, of any tier, performing a part of the Work must not be marked or obliterated. The Contractor must inform the Owner of the location of payroll records, including the street address, city and county and must, within five (5) Working Days, provide a notice of a change or location and address.

5-2.3.4. FORFEITURE FOR FAILURE TO COMPLY WITH WRITTEN RECORD REQUEST LAWS.

The Contractor or Subcontractor shall have **ten (10) Calendar Days** in which to comply, subsequent to receipt of written request regarding Certified Payroll Records or Basic Payroll Records. In the event Contractor or a Subcontractor fails to strictly comply after such ten (10) day period, the Contractor or Subcontractor shall, as a penalty to the State or the Owner, forfeit One Hundred Dollars ($100.00) for each Calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from any portion of the Contract Price then or thereafter due the Contractor. A Contractor is not subject to a penalty assessment pursuant to this paragraph due to the failure of a Subcontractor to comply with this Section.

5-2.4. HOURS OF LABOR.

Pursuant to Section 1810 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. Pursuant to Section 1813 of the Labor Code, the Contractor and any Subcontractors, shall, as a penalty to the Agency, forfeit the prescribed amount per Calendar Day for each worker required or permitted to work more than eight (8) hours in any one (1) Calendar Day and forty (40) hours in any one (1) Calendar Week without being compensated in accordance with Section 1815 of the Labor Code.

5-2.4.1. LIMITS ON HOURS OF LABOR.

Pursuant to Labor Code § 1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to Labor Code § 1811, the time of service of any worker employed at any time by the Contractor or by a Subcontractor, of any tier, upon the Work or upon any part of the Work, is limited and restricted to eight (8) hours during any one Calendar Day and forty (40) hours during any one Calendar Week, except as hereafter provided. Notwithstanding the foregoing provisions, Work performed by employees of Contractor or any Subcontractor, of any tier, in excess of eight (8) hours per day and forty (40) hours during any one (1) week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

5-2.4.2. PENALTY FOR EXCESS HOURS.

Pursuant to Labor Code §§ 1813 and 1815, the Contractor shall pay to the State or the Owner a penalty of Twenty-five Dollars ($25.00) for each worker employed in the execution of the Contract by the Contractor or any Subcontractor, of any tier, for each Calendar Day during which such worker is required or permitted to work more than eight (8) hours in any Calendar Day and forty (40) hours in any one (1) Calendar Week, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

5-2.4.3. CONTRACTOR RESPONSIBILITY FOR COST OF EXCESS HOURS.

Any Work performed by workers necessary to be performed after regular working hours or on Sundays or other holidays must be performed without adjustment to the Contract Price or any other additional expense to the County.

5-2.5. APPRENTICES.

Pursuant to Section 1777.5 of the Labor Code, the Contractor shall comply with all requirements for Apprenticeable occupations.

5-2.5.1. APPRENTICESHIP COMMITTEE CONTRACT AWARD INFORMATION.

Pursuant to Labor Code § 1777.5 and Title 8 California Code of Regulations § 230, Contractor and Subcontractors of any tier who are not already approved to train by an apprenticeship program sponsor must, within ten (10) Calendar Days of signing the

Contract or Subcontract, as applicable, but in any event prior to the first day in which the Contractor has workers employed on the Project, must submit Contract Award information. This information may be submitted on a Public Works Contract Award Information form (DAS form 140). The Contract Award information must be provided to the appropriate local apprenticeship committees whose geographic area of operation include the area of the Project and can supply apprentices to the Project.

5-2.5.2. EMPLOYMENT OF APPRENTICES.

Labor Code § 1777.5 and Title 8 California Code of Regulations § 200 et seq. provide detailed requirements for employing apprentices on Public Works. The responsibility of complying with Section 1777.5 of the Labor Code and the regulations lies exclusively with the Contractor. When Contractor or Subcontractor employs workers in any Apprenticeable Craft or Trade, the Contractor and Subcontractor must employ apprentices in at least the ratio set forth in Labor Code Section 1777.5.

Every apprentice employed to perform any of the Work must be paid the prevailing rate of per diem wages for apprentices in the trade to which such apprentice is registered, and such individual must be employed only for the work of the craft or trade to which such individual is registered.

Only apprentices, as defined in Labor Code § 3077, who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code § 3070 et seq. are eligible to be employed for the Work. The employment and training of each apprentice shall be in accordance with either of the following:

a. The apprenticeship standards and apprentice agreements under which such apprentice is training; or

b. The rules and regulations of the California Apprenticeship Council, including Regulations Section 230.1(c), which requires that apprentices employed on public projects can only be assigned to perform work of the craft or trade to which the apprentice is registered and that the apprentices must at all times work with or under the direct supervision of journeyman/men.

5-2.5.3. APPRENTICESHIP CERTIFICATE AND REQUEST FOR DISPATCH OF APPRENTICES.

a. When the Contractor or any Subcontractor of any tier in performing any of the Work employs workers in any Apprenticeable Craft or Trade, as defined in Section **5-2.5.4** below, the Contractor and such Subcontractor may apply to the Joint Apprenticeship Committee administering the apprenticeship standards of the craft or trade in the area of the site of the Work for a certificate approving the Contractor or such Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected, provided, however, that the approval as established by the Joint Apprenticeship Committee or Committees shall be subject to the approval of the Administrator of Apprenticeship. The Joint Apprenticeship Committee or Committees, subsequent to approving the Contractor

or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or such Subcontractor in order to comply with California Labor Code § 1777.5. There shall be an affirmative duty upon the Joint Apprenticeship Committee or Committees, administering the apprenticeship standards of the crafts or trades in the area of the site of the Work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local Joint Apprenticeship Committees provided they are already covered by the local apprenticeship standards.

b. Contractors who are not already approved to train apprentices must request dispatch of required apprentices from one of the applicable Apprentices Committees whose geographic area of operation includes the site of the Project by giving the committee actual notice of at least forty-eight (48) hours (excluding Saturdays, Sundays and holidays) before the date on which one (1) or more apprentices are required. Contractors and Subcontractors may use DAS Form 142 to make the request for apprentices. However, if a non-signatory Contractor declines to abide by and comply with the terms of a local committee's standards, the Apprenticeship Committee shall not be required to dispatch apprentices to such Contractor. Conversely, if in response to a written request, an Apprenticeship Committee does not dispatch any apprentice to a Contractor who has agreed to employ and train apprentices in accordance with either the Apprenticeship Committee's Standards or the California Apprenticeship Counsel Regulations (Title 8, Section 230 et seq.) within seventy-two (72) hours of such request (excluding Saturdays, Sundays and holidays) the Contractor shall not be considered in violation of Regulations Section 230.1 as a result of failure to employ apprentices for the remainder of the Project, provided the Contractor has made the request in enough time to meet the required ratio. If an Apprenticeship Committee dispatches fewer apprentices than the Contractor or Subcontractor requested, the Contractor or Subcontractor shall be considered in compliance if the Contractor employs those apprentices who are dispatched, provided that, where there is more than one Apprenticeship Committee able and willing to unconditionally dispatch apprentices, a Contractor or Subcontractor who is not a participant in an apprenticeship program has requested dispatch from at least two (2) committees.

5-2.5.4. RATIO OF APPRENTICES TO JOURNEYMEN.

a. The ratio of Work performed by apprentices to journeymen, who shall be employed in the Work, may be the ratio stipulated in the apprenticeship standards under which the Joint Apprenticeship Committee operates, but in no case shall the ratio be less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman, except as otherwise provided in California Labor Code § 1777.5. The ratio of apprentice work to journeyman work shall apply during any day or portion of a day when any journeyman is employed at the site of the Work and shall be computed on the basis of the hours worked during the day by journeymen so employed. Any Work performed by a journeyman in excess of eight (8) hours per day or forty (40) hours per week shall not be used to calculate the ratio. The

Contractor must employ apprentices for the number of hours computed as above before the end of the Contract or subcontract, as applicable. The Contractor must, however, endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the site of the Work. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a Joint Apprenticeship Committee, may order a minimum ratio of not less than one (1) apprentice for each five (5) journeymen in a craft or trade classification.

b. The Contractor or any Subcontractor covered by this Paragraph and California Labor Code § 1777.5, that has agreed to be covered by an Apprenticeship Program's standards, upon the issuance of the approval certificate, or that has been previously approved in such craft or trade, must employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards, but in no event less than the 1-to-5 hourly ratio. Upon proper showing by the Contractor that it employs apprentices in such craft or trade in the State of California on all of its contracts on an annual average of not less than one (1) apprentice to each five (5) journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Contractor from the 1-to-5 hourly ratio as set forth in this Paragraph and California Labor Code § 1777.5.

5-2.5.5. EXEMPTION.

The requirement to employ apprentices shall not apply to contracts of General Contractors, or to contracts of Specialty Contractors not bidding for work through a General or Prime Contractor, involving less than Thirty Thousand Dollars ($30,000.00) or twenty (20) Working Days. The term "Apprenticeable Craft or Trade," as used herein shall mean a craft or trade determined as an Apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

5-2.5.6. CONTRIBUTIONS TO TRUST FUNDS.

The Contractor or any Subcontractor of any tier who performs any of the Work by employment of journeymen or apprentices in any Apprenticeable Craft or Trade shall contribute to the California Apprenticeship Council in the same amount that the Director determines is the prevailing amount of apprenticeship training contributions in the area of the Project. Contractor or any Subcontractor, of any tier, may take as a credit for payments to the Council any amounts paid by the Contractor or Subcontractor to an approved apprenticeship program that can supply apprentices to the Project. Contractors who do not contribute to an apprenticeship program must submit their contributions to the California Apprenticeship Council. Training Fund contributions are due and payable on the 15th day of the month for Work performed during the preceding month. Training contributions to the California Apprenticeship Council shall be paid by check and shall be accompanied by a Completed Training Fund Contribution Form (CAC-2). Contractors who contribute to an apprenticeship program are entitled to a full credit in the amount of those contributions. The Division of Labor Standards Enforcement is authorized to enforce the payment of such contributions to such fund(s)

as set forth in California Labor Code § 227. Such contributions shall not result in an increase in the Contract Price.

5-2.5.7. CONTRACTOR'S COMPLIANCE.

The responsibility of compliance with this Section for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Section are subject to the provisions of California Labor Code § 3081. In the event the Contractor willfully fails to comply with the provisions of this Paragraph and California Labor Code § 1777.5, pursuant to California Labor Code § 1777.7, the Contractor shall: (i) be denied the right to bid on any Public Works Contract for a period of one (1) year from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and (ii) forfeit, as a civil penalty, One Hundred Dollars ($100.00) for each Calendar Day of noncompliance. Notwithstanding the provisions of California Labor Code § 1727, upon receipt of such determination, the County shall withhold such amount from the Contract Price then due or to become due. Any such determination shall be issued after a full investigation, a fair and impartial hearing, and reasonable notice thereof in accordance with reasonable rules and procedures prescribed by the California Apprenticeship Council. Any funds withheld by the County pursuant to this Paragraph shall be deposited in the fund that funded the Project unless otherwise specified by the County Engineer. The interpretation and enforcement of California Labor Code §§ 1777.5 and 1777.7 shall be in accordance with the rules and procedures of the California Apprenticeship Council.

5-2.6. AFFIRMATIVE ACTION/EQUAL EMPLOYMENT OPPORTUNITY.

The Contractor shall comply with all applicable non-discrimination and equal employment laws. The Contractor shall not discriminate in its recruiting, hiring, promotion, demotion or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age or physical handicap in the performance of this Contract and shall comply with the provisions of the California Fair Employment Practice Act (commencing with Section 1410 of the Labor Code), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), as amended, and all administrative rules and regulations issued pursuant to said Acts and Order. See particularly 41 Code of Federal Regulation (CFR) Chapter 60.

Contractor shall require each of its Subcontractors to comply with the preceding Paragraph and shall include in each subcontract language similar to the preceding Paragraph.

Contractor shall permit access to its records of employment, employment advertisement, application forms and other pertinent data and records (including but not limited to certified payroll information) by the County and any Federal or State agency having jurisdiction for the purpose of investigation to ascertain compliance with this Section.

County may assign an affirmative action representative to monitor Contractor and its Subcontractor(s) conduct required by this Section, including the right of entry to the Project

for the purpose of obtaining information from persons performing Work on the Project, provided such inspection does not interfere with the progress of the Work.

Elsewhere in the Contract Documents more specific requirements may be contained covering the same subject matter of this Section. In the case of conflict, the more stringent requirement imposed upon the Contractor shall control.

Transactions of $10,000 or under - Contracts and subcontracts not exceeding $10,000 are exempt from the requirements of this Section. No Contractor or Subcontractor shall procure supplies and/or services in less than usual quantities to avoid applicability of this Section. With respect to contracts and subcontracts for indefinite quantities, this Section applies unless the amount required in any one (1) year under such contracts will reasonably be expected not to exceed $10,000.

Transactions in Excess of $10,000, but less than $50,000 - At County's request, Contractor and associated Subcontractors shall certify that it has in effect an affirmative action plan and agrees to comply with all state and federal laws and regulations regarding Fair Employment Practices. Contractor shall maintain a written copy of its and all Subcontractors' affirmative action plans and furnish County a copy of the said plans upon request. County may require Contractor and Subcontractors to complete an Affirmative Action Compliance Report, on a form furnished by County, setting forth definite goals during the term of this Contract.

Transactions of $50,000 or more - If Contractor or Subcontractors has fifty (50) or more employees and a contract for $50,000 or more, it shall develop and submit to County within thirty (30) days after Award, a written affirmative action compliance program providing in detail specific steps to guarantee equal employment opportunity. Contractor and Subcontractors shall include in its affirmative action program a table of job classifications, which table shall include but need not be limited to job titles, duties and rates of pay.

For the purpose of determining the number of employees, the average of the Contractor's or its Subcontractors' employees from the 12-month period immediately prior to Award, or the total number of employees Contractor or its Subcontractors will have when performing this Contract, whichever is higher, shall be used.

Federally Assisted Construction - If this Project is a federally assisted construction project, then the contract provisions contained in 41 CFR S60-1.4(b) are incorporated herein and Contractor shall likewise incorporate said provisions in each subcontract entered into by Contractor to perform the Work. Federally assisted construction is identified as such in the Notice Inviting Bids.

5-3 INSURANCE

5-3.1. GENERAL.

The County and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Section.

5-3.2. GENERAL LIABILITY INSURANCE.

5-3.2.1. INSURANCE FOR EXISTING STRUCTURES, IF ANY.

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the County shall purchase and maintain, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage, notwithstanding the undertaking of the Work.

5-3.3. CONTRACTOR'S INSURANCE.

5-3.3.1. CERTIFICATES OF INSURANCE.

The Contractor shall provide Certificates of Insurance and endorsements acceptable to the County evidencing compliance with the requirements in this Section by Contractor, its listed Subcontractors, and, upon County's request, other Subcontractors of any Tier, and suppliers at the following times: (1) concurrently with submission to County of the signed Agreement and bonds and, in any event, prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the County's written request. An additional certificate and additional endorsement evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of a minimum of ten (10) years after Final Completion. The certificates will show the County as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies. Each certificate and endorsement is to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificate(s) and endorsement(s) must be in a form approved by County. Upon the County's request, Contractor shall provide copies of all insurance policies required by this Section. The copy of each policy provided shall contain all applicable conditions, definitions, exclusions, list of forms, and endorsements. The policy number shall be included in all certificates, endorsements and riders.

In the event of a material modification, cancellation, expiration, or reduction in coverage, this Contract Agreement shall terminate forthwith, unless the County of Riverside receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements, including all endorsements and attachments thereto evidencing coverage's set forth herein and the insurance required herein is in full force and effect. ***Contractor shall not commence operations until the County has been furnished original Certificate (s) of Insurance and copies of endorsements as required in this Section. An individual authorized by the insurance carrier to do so on its behalf shall sign the original endorsements for each policy and the Certificate of Insurance.*** However, failure to obtain the required documents prior to the Work beginning shall not waive the CONTRACTOR'S obligation to provide them. The COUNTY reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

Contractor shall pass down the insurance obligations contained herein to all tiers of Subcontractors working under this Agreement. Contractor shall require and verify that all Subcontractors maintain insurance meeting all the requirements stated herein, and shall ensure the County of Riverside is an additional insured on insurance required from Subcontractors.

5-3.3.2. DEDUCTIBLES AND SELF-INSURED RETENTIONS.

The Contractor shall disclose to the County any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor. All deductibles and self-insured retentions must be identified in the certificates. Any deductible or self-insured retention in excess of $50,000 must be declared to and approved in writing by the County prior to execution of the Agreement. The deductibles and retentions shall be considered a form of self-insurance.

5-3.3.3. SELF-INSURANCE.

No Contractor shall provide self-insurance for any required coverage without the express written authorization of the County.

5-3.3.4. ADDITIONAL INSURED OBLIGATIONS.

To the fullest extent permitted by law, the Contractor shall cause the Commercial General Liability coverage and excess or Umbrella Liability policy or policies to include (1) the **County of Riverside, the Board of Supervisors and each member thereof**, and their respective officials, employees, commission members, officers, directors, agents, employees, volunteers and representatives, as additional insureds for Claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the **County of Riverside, the Board of Supervisors and each member thereof**, and their respective officials, employees, commission members, officers, directors, agents, employees, volunteers and representatives, as an additional insured for Claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the County's General Liability Insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms:

1. CG 20 10 (11/85); or

2. CG 20 10 (04/13) for ongoing operations and CG 20 37 (04-13) for completed operations; or

3. substitute endorsements providing equivalent coverage, approved in writing by the County.

The coverage shall contain no special limitations on the scope of protection afforded to such additional insureds. Coverage must not be limited to the vicarious or supervisory role of any additional insured. Coverage afforded to additional insureds must be at least as broad as coverage afforded to the Contractor/first Named Insured. If the Contractor/Named Insured maintains higher policy limits of coverage than the limits specified herein, or has broader coverage, or has both, then the insurer shall make available the higher limits and broader coverage to such additional insureds. Any additional insured shall have the right, but not the obligation, to pay any deductible, self-insured retention, premium or other charge due under or required by the policy. Coverage for such additional insureds does not extend to liability to the extent prohibited by Insurance Code Section 11580.4.

5-3.3.5. CONTRACTOR'S REQUIRED INSURANCE COVERAGE.

The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, so as to protect County and claimants under the state insolvency or guarantee fund, or otherwise under such forms and limits satisfactory to the County with a company or companies approved by County, following County's examination of the company's financial, reinsurance, Claims procedures and other data requested by the County. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work, unless a different duration is stated below:

5-3.3.5.1. COMMERCIAL GENERAL LIABILITY.

A. Commercial General Liability insurance for the Project written on an occurrence form for products-completed operations hazard, providing coverage for Claims that may arise out of, pertain to, or relate to Contractor's operations and completed operations under the Contract, whether such operations are by the Contractor, its Subcontractors, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, including:

   1. damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;

   2. personal injury and advertising injury;

   3. damages because of physical damage to or destruction of tangible property, including the loss of use of such property;

   4. bodily injury or property damage arising out of completed operations; and

   5. the Contractor's indemnity obligations under Article 9 - of these General Provisions.

B. The Contractor's Commercial General Liability policy under this Section shall not contain an exclusion or restriction of coverage for the following:

1. Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the Claim.

2. Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.

3. Claims for bodily injury other than to employees of the insured.

4. Claims for indemnity under Article 9 - of these General Provisions arising out of injury to employees of the insured.

5. Claims or loss excluded under a prior Work endorsement or other similar exclusionary language.

6. Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.

7. Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.

8. Claims related to roofing, if the Work involves roofing.

9. Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.

10. Claims related to earth subsidence or movement, where the Work involves such hazards.

11. Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

C. **Minimum Limits of Insurance**. Contractor shall maintain limits of Commercial General Liability and Excess/Umbrella Liability Insurance no less than as follows:

Total Bid	For Each Occurrence[1]	Aggregate for Products/Completed Operations	General Aggregate[2]	Umbrella or Excess Liability[3]
≤$1,000,000	$1,000,000	$2,000,000	$2,000,000	$2,000,000
>$1,000,000 ≤$5,000,000	$1,000,000	$2,000,000	$2,000,000	$10,000,000
>$5,000,000 ≤$25,000,000	$2,000,000	$2,000,000	$4,000,000	$15,000,000
>$25,000,000	$2,000,000	$2,000,000	$4,000,000	$25,000,000

1. Combined single limit for bodily injury and property damage.
2. This limit shall apply separately to the Contractor's Work under this Contract.
3. The Umbrella or Excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

Commercial General Liability insurance coverage, including but not limited to, Premises Liability, Unmodified Contractual Liability, Products and Completed Operations Liability, Personal and Advertising Injury, and Cross Liability Coverage, covering Claims which may arise from or out of Contractor's performance of its obligations hereunder. Policy shall name County of Riverside as Additional Insured. Policy's limit of liability shall not be less than $2,000,000 per occurrence combined single limit. If such insurance contains a General Aggregate limit, it shall apply separately to this Agreement or be no less than two (2) times the occurrence limit.

5-3.3.5.2. COMPREHENSIVE AUTOMOBILE LIABILITY.

Comprehensive Automobile Liability covering vehicles owned, hired, leased, and non-owned vehicles used, whether scheduled or not, written on Insurance Services Office (ISO) Form CA 00 01 (12/93 or later edition) or a substitute form providing equivalent coverage, by the Contractor, with policy limits of not less than $1,000,000 per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage. If such insurance contains a general Aggregate Limit, it shall apply separately to this Agreement or be no less than two (2) times the occurrence limit. Policy shall name County of Riverside as Additional Insured.

A. The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or Umbrella Liability Insurance, provided such primary and excess or Umbrella Insurance policies result in the same or greater coverage as the coverages required under Section 5-3.3.5.1 and this Section 5-3.3.5.2, and in no event shall any excess or Umbrella Liability Insurance provide narrower coverage than the primary policy. The excess policy shall not require the

exhaustion of the underlying limits only through the actual payment by the underlying insurers.

5-3.3.5.3. EXCESS OR UMBRELLA LIABILITY INSURANCE.

Excess or Umbrella Liability Insurance shall be at least as broad as any underlying coverage. Umbrella or excess liability coverage must apply on a primary, non-contributory basis for the benefit of Contractor before the Umbrella or excess insurer calls upon Contractor's primary insurance policy, or Umbrella or excess liability insurance, or any combination of these insurance policies. Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross-liability exclusion and no Contractor's limitation endorsement. The policy shall have starting and ending dates concurrent with the underlying coverages. The Named Insured may determine the layering of primary and excess liability insurance provided that if such layering differs from that described here, the actual coverage program meets the minimum total required limits and complies with all other requirements listed in this Section. Contractor's excess or umbrella liability coverage shall be maintained continuously for a minimum of **ten (10) years** after **Final Completion.**

5-3.3.5.4. WORKERS' COMPENSATION AT STATUTORY LIMITS.

All California employers must provide workers' compensation benefits to their employees under California Labor Code Section 3700. If a business employs one or more employees, then it must satisfy the requirement of the law. Policy shall include Employers' Liability coverage as defined in Section **5-3.3.5.5** below.

5-3.3.5.5. EMPLOYERS' LIABILITY.

Employers' Liability with policy limits not less than $1,000,000 each accident, $1,000,000 each employee, and $1,000,000 policy limit. Contractor shall comply with the applicable sections of the California Labor Code concerning workers' compensation for injuries on the job. Compliance is accomplished in one of the following manners:

1) Provide copy of permissive self-insurance certificate approved by the State of California; or

2) Secure and maintain in force a policy of workers' compensation insurance with statutory limits and Employer's Liability Insurance with a minimal limit of $1,000,000 per accident; or

3) Provide a "waiver" form certifying that no employees subject to the Labor Code's Workers' Compensation provision will be used in performance of this Contract.

Contractor hereby grants to County a waiver of subrogation which any insurer may acquire against the County, its officers, officials, employees, and volunteers, from

Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the County has received a waiver of subrogation endorsement from the insurer.

5-3.3.5.6. JONES ACT.

Jones Act, and the Longshore & Harbor Workers' Compensation Act coverage, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks.

5-3.3.5.7. PROFESSIONAL LIABILITY INSURANCE.

If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than one million $1,000,000 per Claim and $2,000,000 in the aggregate.

5-3.3.5.8. POLLUTION LIABILITY INSURANCE.

Contractor shall procure Pollution Liability insurance, with policy limits of not less than $1,000,000 per Claim and $2,000,000 in the aggregate, providing coverage on a form acceptable to County for liability caused by pollution conditions arising out of the operations of Contractor. Coverage shall apply to bodily injury, property damage (including loss of use of damaged property or of property that has not been physically injured), cleanup costs, and defense (including costs and expenses incurred in the investigation, defense, or settlement of Claims). All activities contemplated in this Contract shall be specifically scheduled on the policy as "covered operations." The policy shall provide coverage for the hauling of waste from the Project Site to the final disposal location, including non-owned disposal sites. Coverage shall be included on behalf of the insured for covered Claims arising out of the actions of independent Contractors. If the insured is using Subcontractors, the policy must include Work performed "by or on behalf" of the insured. The policy shall specifically provide for a duty to defend on the part of the insurer. Such insurance shall include coverage for all operations, including completed operations and professional services. Coverage afforded to **County of Riverside**, **the County Department of Waste Resources, the Board of Supervisors and each member thereof,** and their respective officials, employees, commission members, officers, directors, agents, employees, volunteers and representatives shall be at least as broad as coverage provided to the first Named Insured. Such insurance shall not contain any exclusion for asbestos or lead. Contractor's pollution liability coverage shall be maintained continuously for a minimum of **ten (10) years** after **Final Completion.**

5-3.3.5.9. COMBINED PROFESSIONAL LIABILITY AND POLLUTION LIABILITY INSURANCE.

Coverage under Sections 5-3.3.5.7 and 5-3.3.5.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than $2,000,000 per Claim and $4,000,000 in the aggregate.

5-3.3.5.10. MARITIME LIABILITY INSURANCE.

Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than $2,000,000 per Claim and $4,000,000 in the aggregate.

5-3.3.5.11. MANNED OR UNMANNED AIRCRAFT INSURANCE.

Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than$2,000,000 per Claim and $4,000,000 in the aggregate.

5-3.3.5.12. PROPERTY INSURANCE.

Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and its Subcontractors of every tier and used on the Project, including any tools, Contractor's (or Subcontractors') employee owned tools, machinery, or motor vehicles owned or rented by the Contractor, or the Contractor's agents, suppliers or Subcontractors as well as to any temporary structures, protective fences, scaffolding, and other equipment.

5-3.4. CONTRACTOR'S INSURANCE TERMS AND CONDITIONS

5-3.4.1. PRIMARY COVERAGE.

All policies and endorsements shall stipulate that the Contractor's (and the Subcontractors') insurance coverage shall be primary insurance as respects to **County of Riverside**, **the County Department of Waste Resources, the Board of Supervisors and each member thereof** and their directors, commissioners, officers, employees, agents and volunteers. Any insurance maintained by the **County of Riverside**, **the Board of Supervisors and each member thereof** and their directors, commissioners, officers, employees, agents, and volunteers shall be excess of the Contractor's (and its Subcontractors') insurance and shall not contribute with it.

5-3.4.2. COVERAGE APPLIES SEPARATELY TO EACH INSURED AND ADDITIONAL INSURED.

Coverage shall state that the Contractor's (and its Subcontractors') insurance shall apply separately to each insured or additional insured against whom Claim is made or suit is brought, except with respect to the limits of the insurer's liability. Coverage shall apply to any Claim or suit brought by an additional insured against a Named Insured

or other insured. Nothing in the policy(ies) shall be construed to preclude coverage of a Claim by one insured under the policy(ies) against another insured under the policy(ies). All such Claims shall be covered as third-party Claims, i.e., in the same manner as if separate policies had been issued to each insured. Nothing contained in this provision shall operate to increase or replicate the limits of liability as provided under the policy(ies).

5-3.4.3. ACCEPTANCE OF COVERAGE.

All insurance policies, certificates, endorsements and binders shall be subject to the approval of the County's risk manager as to form and content. The insurance requirements are subject to amendment or waiver only if approved in writing by the County's risk manager. Insurance shall be placed with insurers with an A.M. Best Guide rating of no less than **A:VIII**.

5-3.4.4. CONTINUATION COVERAGE.

For completed operations and other insurance coverages that are required to remain in force after Final Completion, a sworn statement attaching a certificate and endorsements evidencing continuation of such coverage shall be submitted with the final Application for Payment as required by Section 7-3.2 of these General Provisions. The County-approved Certificates of Insurance and endorsements for Contractor and its listed Subcontractors shall be attached to the Agreement.

5-3.4.5. CONTRACTOR'S FAILURE TO PROVIDE REQUIRED INSURANCE.

Failure to maintain required insurance at all times shall constitute a default and material breach. In such event, Contractor shall immediately notify County and cease all performance under this Contract until further directed by the County. In the absence of satisfactory insurance coverage, County may, at its discretion and sole option: (a) procure insurance with collection rights for premiums, attorneys' fees and costs against Contractor by way of set-off or recoupment from sums due Contractor; (b) immediately terminate or suspend Contractor's performance of the Contract; (c) pay Contractor's premiums for renewal of Contractor's coverage; or (d) self-insure the risk, with all damages and costs incurred, by judgment, settlement or otherwise, including attorneys' fees and costs, being collectible from Contractor, by way of set-off or recoupment from any sums due Contractor. Upon demand, Contractor shall repay County for all sums that County paid to obtain, renew, reinstate or replace the insurance, or County may offset the cost against any monies that the County may owe Contractor.

5-3.4.6. VERIFICATION OF COVERAGE.

Upon request of County, Contractor shall provide complete copies of Contractor's and Subcontractor's insurance policies (including, but not limited to, the declarations page, form list and riders), endorsements or certificates required under the Contract Documents, and premium invoices.

5-3.4.7. REASSESSMENT OF INSURANCE REQUIREMENTS.

At any time during the duration of this Contract, the County may require that Contractor obtain, pay for, and maintain more or less insurance depending on the County's assessment of any one or more of the following factors: (1) the County's risk of liability or exposure arising out of, or in any way connected with, Contractor's services under this Contract; (2) the nature or number of accidents, Claims, or lawsuits arising out of, or in any way connected with, Contractor's services under this Contract; or (3) the availability, or affordability, or both, of increased liability insurance coverage.

5-3.4.8. NO LIMITATION.

Contractor's maintenance of insurance as required by the Contract Documents shall not be construed to limit the liability of the Contractor or its Subcontractors of any tier to the coverage provided by such insurance, or otherwise limit the County's recourse to any remedy available at law or in equity.

5-3.4.9. ADDITIONAL CONTRACTOR INSURANCE RESPONSIBILITIES.

5-3.4.9.1. CLAIM FOR RECOVERY.

In the event that the Contractor wishes to make any Claim for recovery under any insurance policy hereunder, it shall, as a pre-condition thereto, give timely notification to County of the event causing the Claim, cooperate with the County, and do all things required of it as an insured under such policy, so as to permit the policy to be complied with and a Claim be made there under. Contractor further agrees that to the extent required under such policy, it shall permit and authorize full subrogation in favor of the insurers of any rights as against any other person, firm or corporation; Contractor further agrees that it shall defend, indemnify and save harmless the County, from any and all costs, charges, expenses and liabilities incurred by County in making any Claim on behalf of Contractor under such insurance policy or policies.

5-3.4.9.2. SUBCONTRACTOR INSURANCE.

A. The Contractor shall include in all subcontracts a requirement that Subcontractors of every Tier shall obtain and maintain, at a minimum, all types of insurance required of Contractor in this Section, but the limits of liability and deductibles shall be in amounts determined by the Contractor, based on the degree of hazardous exposure according to the Work performed by each Subcontractor and the size of each subcontract. The **County of Riverside, the Board of Supervisors and each member thereof**, and their respective officials, employees, commission members, officers, directors, employees, volunteers, agents and representatives shall be named as additional insureds under each policy.

B. Certificates of Insurance and endorsements acceptable to the Contractor for each Subcontractor shall be filed with the County prior to the Subcontractor's commencement of Work. The certificates shall contain a provision that

coverage affordable under the policies will not be canceled unless at least thirty (30) days' prior written notice has been given to the Contractor. The County may, at any time, require that the Contractor provide the County with copies of said policies.

5-3.4.9.3. CONTRACTOR'S RESPONSIBILITY.

It shall be the responsibility of Contractor not to violate nor knowingly permit to be violated any condition of the policies required hereunder, and it shall be Contractor's duty and responsibility to impose upon each Subcontractor and have each Subcontractor impose upon each Sub-subcontractor the same responsibilities and obligations imposed upon Contractor under the insurance provisions provided for herein.

5-3.5. MISCELLANEOUS.

5-3.5.1. COVERAGE.

County makes no representations that the insurance it specified is sufficient to cover all potential Claims.

5-3.5.2. FAILURE TO COMPLY.

Contractor's failure to comply with an insurance provision in this Contract constitutes a material breach upon which County may immediately terminate or suspend Contractor's performance of this Contract or invoke another remedy that this Contract or the law allows. At its discretion, County may obtain or renew the insurance, and County may pay all or part of the premiums. Upon demand, Contractor shall repay County for all sums or monies that County paid to obtain, renew, or reinstate the insurance, or County may offset the cost of the premium against any sums or monies that County may owe Contractor.

5-3.5.3. MODIFICATIONS.

County reserves the right to modify these insurance requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

5-4 PATENT FEES OR ROYALTIES

The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the Work in the Bid prices and Contract Price, and agrees to indemnify and save harmless the County and its duly authorized representative, from all suits at law, or actions of every nature for, or on account of, the use of any patented materials, equipment, devices, or processes.

5-5 SAFETY

5-5.1. GENERAL.

Security and protective devices shall consist of fencing, steel plates, or other devices as specified in the Contract Documents to protect open excavations.

5-5.1.1. ACCIDENT PREVENTION.

Particular attention shall be given to relevant Division of Industrial Safety Construction and Electrical Safety Orders. Said Orders are contained in Title 8 of the California Code of Regulations, Chapter 4, Subchapters 4 and 5. Specific attention shall be taken of the California Occupational Safety and Health Act of 1973 (commencing with Section 6300 of the Labor Code) and the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596) and rules and regulations issued pursuant to said Acts. Specific reference is made to Article 6 of said Construction Safety Orders. The Contractor shall impose these requirements on all Subcontractors involved and enforce compliance therewith. The duties here set forth are nondelegable by Contractor.

5-5.1.2. CONTRACTOR'S RESPONSIBILITY.

Contractor is under the absolute duty in fulfilling his contractual obligations under the Contract to proceed, and cause his Subcontractors to proceed, in a safe, workmanlike manner, with adequate safeguards for the protection of the public, the workmen and persons from time to time inspecting the Work. If, at any time, the Contractor finds any of its Subcontractors are allowing the Work to proceed in an unsafe manner or contrary to the terms of the Contract Documents, the Contractor shall immediately cause such action to stop and immediately take all action necessary to protect workmen, inspectors and the general public and cause the Work to proceed in a safe manner or in accordance with the terms of the Contract Documents.

5-5.1.3. CONTRACTOR'S RESPONSIBILITY FOR WORK.

Until the formal Final Acceptance of the completed Work by the County, the Contractor shall have the charge and care of the Work and shall bear the risk of injury or damage to any part of the Work by the action of the weather or from any other cause, whether or not arising from the execution of the Work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the Work. Contractor shall not be entitled to a time extension arising from Contractor's failure to protect the Work from weather damage, including but not limited to damage from water and/or wind.

5-5.1.4. PERMITS AND LICENSES.

Unless otherwise specified in the Special Provisions and/or Detailed Provisions, all permits and licenses shall be obtained by the Contractor.

5-5.1.5. SANITARY PROVISIONS.

Necessary conveniences, properly secluded from public observation, shall be provided by the Contractor where needed for the use of laborers on the Work. Their location, construction and maintenance shall be subject to the approval of the County. The Contractor shall obey and enforce such sanitary regulations as may be prescribed by the California Department of Health or other authorities having jurisdiction.

5-5.2. SHORING PLAN.

Before excavating any trench five (5) feet (1.5 m) or more in depth, the Contractor shall submit a detailed Working Drawing (shoring plan) showing the design of the shoring, bracing, sloping, or other provisions used for the workers' protection. If the shoring plan varies from the shoring system standards, the shoring plan shall be prepared by a registered Structural or Civil Engineer. The shoring plan shall accommodate existing underground utilities. No excavation shall start until the Engineer has accepted the shoring plan and the Contractor has obtained a permit from the State Division of Industrial Safety. A copy of this permit shall be submitted to the Engineer. If the Contractor fails to submit a shoring plan or fails to comply with an accepted shoring plan, the Contractor shall suspend Work at the affected location(s). Such suspended Work shall not be the basis of a Claim for Extra Work and the Contractor shall not receive additional compensation or Contract time.

5-5.2.1. DIGGING TRENCHES OR OTHER EXCAVATIONS.

In accordance with Public Contract Code § 7104, any Work that involves digging trenches or other excavations extending deeper than four (4) feet below the surface shall comply with the following terms:

1) Contractor shall submit to County, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. No excavation covered under this Section may commence without the County's approval of said plan. If such plan varies from the shoring system standards, the plan shall be prepared by a registered Civil or Structural Engineer.

5-5.3. USE OF EXPLOSIVES.

Explosives may be used only when specified in the Contract Documents. Explosives shall be handled, used, and stored in accordance with all applicable regulations. Prior to blasting, the Contractor shall comply with the following requirements:

a. The jurisdictional law enforcement agency shall be notified 24 hours in advance of blasting.

b. The jurisdictional fire department shall be notified 24 hours in advance of blasting.

c. Blasting activities and schedule milestones shall be included in the Contractor's construction schedule per Section **6-1** of these General Provisions.

The Engineer's approval of the use of explosives shall not relieve the Contractor from liability for Claims caused by blasting operations.

When the use of explosives is necessary for the prosecution of the Work, the Contractor shall use the utmost care not to endanger life or property. All explosives shall be stored in accordance with the provisions of Division 11 Part I, Chapter 3, of the Health and Safety Code of the State of California and other Applicable Laws or regulations.

5-5.4. SECURITY AND PROTECTIVE DEVICES.

5-5.4.1. SECURITY FENCING.

The Contractor shall completely fence open excavations. Security fencing shall remain in place unless workers are present and construction operations are in progress during which time the Contractor shall provide equivalent security.

5-5.4.2. PUBLIC SAFETY.

The Contractor, at its own expense, shall furnish, erect, and maintain such fences, barriers, lights, and signs as are necessary to give adequate warning to the public at all times that the Work is under construction; and the Contractor shall erect such warning and directional signs and employ such flagmen as are required and shall maintain same throughout the construction period. Full compensation for the Work involved in carrying out the precautionary measures above specified shall be considered as included in the prices paid for the various Bid Items of Work and no additional payment will be made thereof.

5-5.5. STEEL PLATE COVERS.

5-5.5.1. GENERAL.

The Contractor shall provide, install, and maintain steel plate covers as necessary to protect from accidental entry into openings, trenches, and excavations.

Surfaces exposed to pedestrian or vehicular traffic shall be non-skid.

5-5.5.2. THICKNESS.

Steel plate covers shall conform to Table 5-5.5.2 below.

TABLE 5-5.5.2

Trench Width	Steel Plate Cover Thickness
Less than 10" (250 mm)	1/2" (12.5 mm)
10" (250 mm) to 1'-11" (580 mm)	3/4" (19 mm)
2' (600 mm) to 2'-7" (790 mm)	7/8" (22 mm)
2'-8" (820 mm) to 3'-5" (1040 mm)	1" (25 mm)

3’-6” (1070 mm) to 5’-3” (1600 mm)	1-1/4” (32 mm)
More than 5’-3” (1600 mm)	See Note 1

***Notes**:*

1) The Contractor shall submit a Working Drawing and calculations based on AASHTO H20-44 Bridge Loading.

5-5.5.3. INSTALLATION.

Steel plate covers shall:

a) Be secured against movement by use of a holding device;

b) Be installed in such a manner as to minimize noise creation when driven over; and

c) Extend a minimum of one (1’) foot beyond trench edges.

Unless otherwise specified in the Contract Documents, steel plate covers shall be installed using either Method 1 or 2 below:

Method 1 - For posted speeds more than 40 miles per hour(mph), the pavement shall be cold milled to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate. Method 1 may also be used for speeds less than forty (40) mph.

Method 2 - For posted speeds less than 40 mph, the approach plate(s) and ending plate (in longitudinal placement) shall be attached to the roadway by a minimum of two (2) dowels drilled at the corners of the plate and drilled two (2) inches into the pavement. Subsequent plates may be butted next to each other. When the steel plates are removed, the dowel holes shall be backfilled.

When Method 2 is used, temporary asphalt concrete (D2-SC 800) shall be used to construct tapers from the steel plate surface to the surface of the existing roadway as follows:

a) For vehicular traffic, with a four (4”) inch run for each one (1”) inch thickness of steel plate.

b) For bike paths or routes, with an eight (8”) inch run for each one (1”) inch thickness of steel plate.

c) The pedestrian way, including crosswalks, shall be placed with a twelve (12”) inch run for each one (1”) inch thickness of steel plate if the plate is installed per Method 2.

Advance traffic warning signs shall be installed as specified in the Contract Documents or shown on the Traffic Control Plan.

5-5.5.4. PAYMENT.

Unless otherwise specified in the Contract Documents, no separate or additional payment will be made for steel plate covers. Payment shall be included in the Contract Unit Price or Lump Sum price in the Bid for the various Bid items that require steel plate covers.

5-5.6. PROVISIONS FOR EMERGENCIES.

Unusual conditions may arise on the Work which will require that immediate and unusual provisions be made to protect the public from danger or loss or damage to life or property, and it is part of the service required of the Contractor to make such provisions and to furnish such protection.

The Contractor shall use such foresight and shall take such steps and precautions as its operations make necessary to protect the public from danger or damage, or loss of life or property.

Whenever work is undertaken pursuant to this Section, Contractor shall promptly file with County a verified report setting forth the nature of the emergency and the action taken by the Contractor by reason of the emergency.

Whenever, in the opinion of the County, an emergency exists against which the Contractor has not taken sufficient precaution for the safety of the public or the protection of utilities or of adjacent structures or property which may be injured or damaged because of the Contractor's Work; and, in the opinion of the County, immediate action shall be considered necessary in order to protect public or private, personal or real property interests, or prevent likely loss of human life or damage; then the County may provide suitable protection to said interests by causing such Work to be done and material to be furnished as, in the opinion of the County, may seem reasonable and necessary. The cost and expense of all such emergency work shall be borne by the Contractor, and if it does not pay said cost and expense upon presentation of the bills therefore, duly certified by the County, then said cost and expense will be paid by the County and shall thereafter by deducted from any amounts due or which may become due said Contractor. Failure of the County, however, to take such precautionary measures, shall not relieve the Contractor of its full responsibility for public safety.

5-6 EXISTING PUBLIC UTILITIES

5-6.1. EXISTING UTILITIES: LOCATION, REMOVAL, RELOCATION, AND PROTECTION.

In accordance with California Government Code § 4215, County shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Project Site, if such utilities are not indicated on the Contract Documents.

The locations of all pipelines, power lines, communication lines and other utility components known to County to exist within the Project limits, are indicated on the Plans and may be the subject of a specific section in the Special Provisions and/or Detailed

Provisions. Size, location and characteristics of such utilities are based upon information made available to County, generally from the owner of the utility in question. The exactness of such information is not guaranteed but may be assumed to have been accomplished with reasonable accuracy.

In addition to the Plans and any such provision regarding utilities, Contractor is under a duty to take into account the location of service laterals or other appurtenances which can be inferred from the presence of facilities such as buildings, meter, junction boxes or similar items in or about the Project limits.

Unless otherwise directed by the Contract Documents, all existing utilities, whether shown or described or not, shall be left in place and Contractor must conduct its operations so that such utilities are protected from damage at all times during the course of the Work; and the Work must be accomplished so as to give such utilities proper protection and support upon completion of the Work by Contractor.

If during the course of the Work, Contractor discovers underground utility components not indicated in the Plans or elsewhere in the Contract Documents, Contractor must immediately notify, in writing, the County and the utility company (public or private) involved, stating with exactness the condition found.

If Contractor encounters a utility not shown or described in the Contract Documents, Contractor shall immediately notify the County in writing and cease all Work which would disturb such utility and its support until given specific instructions as to how to proceed regarding such utility by County.

All Work needed to protect existing utilities shown or described in the Contract Documents, or which can be reasonably inferred from the presence of other visible facilities, is to be done at Contractor's expense.

Contractor's cost of locating and repairing damage not due to the failure of Contractor to exercise reasonable care and removing or relocating utility components and facilities not indicated in the Plans or elsewhere in the Contract Documents, and for equipment on the Project necessarily idled during such Work, shall be paid to Contractor as Extra Work.

County may direct the Contractor to do such repair or relocation work as required. When such repair or relocation work is not elsewhere provided for in these Contract Documents, or reasonably inferred therefrom, Contractor shall be compensated for such work as Extra Work.

a) The Contractor shall make a minimum of two (2) exploratory excavations of all utilities lying wholly or in part within two (2') feet of the Contractor's proposed excavation limits, whether approximately parallel to or crossing the proposed limits to determine the alignment of utilities. All such exploratory excavations shall be performed as soon as practicable after award of the Contract sufficiently in advance of construction to avoid possible delays to the Work. When such exploratory excavations show a utility location different than indicated on the Plans, the Contractor shall notify the Project Manager. After determining the exact location of such utilities, the Contractor shall

backfill the excavations and shall immediately construct either a temporary or permanent resurfacing over the backfill. Temporary resurfacing shall be constructed when the exploratory excavations are made in the area located within the proposed excavations. Permanent resurfacing shall be constructed when the exploratory excavations are made in an area outside the proposed excavations. The permanent resurfacing shall be of the type and thickness specified for resurfacing over the adjacent area or as field conditions may otherwise require, as determined by the Engineer. In either case, the excavations shall be backfilled in accordance with the Plans and Specifications.

b) All costs for making exploratory excavations (including backfilling and resurfacing as specified herein) shall be absorbed or included in the various Bid Items for the Work. The Contractor shall notify the utility owners of the proposed schedule of the Work sufficiently in advance to allow for the overall coordination of any relocation work to be done, and shall cooperate with utility owners in the performance of their Work.

c) In accordance with California Government Code Section 4216 et seq., when Work is to be conducted in an area which is known, or can be inferred from the presence of other visible facilities on or adjacent to the Project site, to contain underground utilities or subsurface improvements, the Contractor shall contact DigAlert of Southern California at least two (2) Working Days, but not more than fourteen (14) Calendar Days, in advance of any construction activity that will or could damage or affect any underground utility or subsurface improvement, and obtain an inquiry identification number. Caltrans and certain other agencies are not required to become a member of DigAlert. The Contractor shall contact non-member agencies directly and request they locate and mark their subsurface installations. Pursuant to Government Contract Code section 4216.2, when any proposed excavation is within 10 feet of a “high priority subsurface installation” the Contractor shall coordinate with the operator. The Contractor shall delineate with white paint or other suitable markings the area to be excavated. The Contractor shall notify DigAlert in the event of change in the Project limits or change in original Work previously shown on the Plans or indicated in the Specifications. When all Work is completed, the Contractor shall remove all markings for underground utilities.

d) Subsurface installations are any underground pipeline, conduit, duct, wire, or other structure, except nonpressurized sewer lines, nonpressurized storm drains, or other nonpressurized drain lines. "Approximate location of subsurface installations" means a strip of land not more than 24- inches on either side of the exterior surface of the subsurface installation. "Approximate location" does not mean depth. When the subsurface installation markings are no longer reasonably visible, the Contractor shall notify DigAlert to remark those subsurface installations that may be affected by excavation to the extent necessary (Government Code Section 4216.3(c)).

5-7 PROTECTION OF EXISTING STREET FACILITIES

The Contractor shall be responsible for the protection of existing signs, fences, concrete curbs, gutters and other facilities or structures. The Contractor shall be responsible to repair or replace any such items which are damaged.

Excavation within the street right of way shall be conducted in a manner to cause the least interruption to traffic. Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways. Hydrants under pressure, valve pipe covers, valve boxes, curb stop boxes, fire or police call boxes, or other utility controls shall be left unobstructed and accessible during construction.

5-8 DIVERSION AND CONTROL OF WATER

Unless otherwise provided in the Agreement, no separate or additional payment will be made for diversion or control of surface or groundwater. All costs incidental to maintaining dry working areas shall be the responsibility of the Contractor and shall be included in the Unit Prices paid for other items of Work.

ARTICLE 6 - PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK

6-1.1. CONSTRUCTION SCHEDULE.

As required by the Special Provisions and/or Detailed Provisions, and this Section, the Contractor shall submit to the County and update at least monthly, or at such times as may be requested by the County, a schedule, which shall show the order and dates in which the Contractor proposes to carry on the various parts of the Work. The County's receipt of such schedule and updates shall not indicate any concurrence by the County in the items or dates described in the schedule or updates.

6-1.2. COMMENCEMENT OF THE WORK.

The Contractor shall begin the Work within ten (10) calendar days after the date of receipt by Contractor of Notice to Proceed from the County ("Date of Commencement") and shall diligently and continuously prosecute the same to completion within the time limit provided in the Agreement.

The Date of Commencement shall not be postponed by the failure of Contractor or of persons or entities for whom Contractor is responsible to perform an obligation. Contractor shall not knowingly, except by agreement or instruction of the County in writing, commence operations on the Project or elsewhere prior to receipt of a Notice to Proceed. Contractor shall not commence any Work at the Project prior to obtaining the insurance required by Section **5-3** of these General Provisions and the Performance Bond and Payment Bond required by the Contract Documents. The Date of Commencement of the Work shall not be changed by the effective date of such insurance or bonds.

6-2 PROSECUTION OF THE WORK

To minimize public inconvenience and possible hazard and to restore street and other work areas to their original condition and state of usefulness as soon as practicable, the Contractor shall diligently prosecute the Work to completion. If the Engineer determines that the Contractor is failing to prosecute the Work to the proper extent, the Contractor shall, upon orders from the Engineer, immediately take steps to remedy the situation. Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer, the Engineer may suspend the Work in whole or part, until the Contractor takes said steps.

If Work is suspended through no fault of the Agency, all expenses and losses incurred by the Contractor during such suspensions shall be borne by the Contractor. If the Contractor fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the Agency may elect to do so, and deduct the cost thereof from monies due the Contractor. Such actions will not relieve the Contractor from liability.

6-2.1. ACCELERATION OF THE WORK.

1) Due to Unexcused Delay.

If County makes a Good Faith Determination based on County's observations of progress in performance of the Work by Contractor that Contractor will not achieve Final Completion of the Work within the Contract Time as adjusted, then Contractor shall, following receipt of a written request by County to accelerate, immediately respond in writing setting forth a detailed plan for accelerating the Work. All measures necessary, including working overtime, additional shifts, Saturdays, Sundays and holidays, to accelerate performance to ensure that the Work is performed within the Contract Time shall be taken by Contractor and the cost thereof shall be paid for by Contractor at Contractor's own expense. County may also take all other necessary measures to ensure no further delays affect achievement of Final Completion of the Work within the Contract Time and the Contractor shall reimburse County, or County may withhold from payment due to Contractor, for losses incurred by County in taking such measures.

2) Due to Excusable Delay.

Contractor shall have the right, exercised in its sole discretion, to accelerate performance of the Work to overcome time lost due to Excusable Delay. Such acceleration, if performed other than at the written direction of County, shall be deemed a voluntary acceleration and the cost of such accelerated performance shall be paid for by Contractor at Contractor's own expense. If County directs in writing that the Work be accelerated to overcome an Excusable Delay that is not concurrent with an Unexcused Delay, then Contractor shall be entitled to a Contract Adjustment to the Contract Price for such acceleration.

3) Delay Claims.

Claims by Contractor relating to disputed Contract Adjustments due to Delay shall be made in accordance with applicable provisions of the Contract Documents.

6-2.2. EXERCISE OF COUNTY RIGHTS.

Notwithstanding any other provision of the Contract Documents to the contrary, County's exercise in accordance with the Contract Documents of any of its rights or remedies permitted by Applicable Laws or the Contract Documents in response to a failure by Contractor or any Subcontractor to comply with the Contract Documents shall not, under any circumstances, entitle Contractor to a Contract.

6-3 TIME OF COMPLETION

6-3.1. GENERAL.

Contractor shall proceed expeditiously with adequate forces and shall achieve Final Completion within the Contract Time, as adjusted for extensions of time duly permitted, authorized and noticed pursuant to this Section.

6-3.1.1. ADJUSTMENTS TO CONTRACT TIME.

Subject to the limitations set forth in this Section and elsewhere in the Contract Documents, the Contract Time shall be extended for Excusable Delays and shall, where appropriate, be shortened for Deleted Work.

6-3.1.2. EARLY COMPLETION.

Nothing stated in these General Provisions or elsewhere in the Contract Documents shall be interpreted as creating any contractual right, express or implied, on the part of Contractor to finish the Work earlier than the Contract Time. Contractor has included in its Contract Price the costs of all Contractor's and its Subcontractors' direct and indirect overhead, including, but not limited to: all staff, temporary facilities, temporary utilities and home office overhead for the entire duration of the Contract Time. These costs have been included in the Contract Price notwithstanding Contractor's anticipation of possibly completing the Work in fewer Working Days than established by the Contract Time. Under no circumstances (including, without limitation, circumstances in which the County has approved in writing of Contractor completing early) shall the County be liable to Contractor for any losses, of any kind, due to the inability of Contractor to complete the Work earlier than the Contract Time, regardless of the cause, including, without limitation, delays due to acts or omissions (intentional or negligent) of the County, Inspectors of Record, County consultants, separate Contractors or others. If the Contractor anticipates completing early, it must obtain in advance County's approval in writing of such early completion. Approval by County of such early completion may be granted or withheld in the County's sole and absolute discretion.

6-3.2. OVERTIME WORK AND WORK AT NIGHT.

The Contractor shall conduct the Work on a five (5) day, forty (40) hour work week with no work on Legal Holidays (as further described in the Agreement). If the Contractor feels it is necessary to work more than the normal forty (40) hour work week, it will make a written request for permission from the County, outlining the reasons for such request. The decision of granting permission for overtime work shall be in the sole discretion of the County; and the decision of the County shall be final. If granted, a condition will be imposed requiring the Contractor to pay the County the cost incurred at overtime rates for additional inspection and engineering time required in connection with the overtime work.

When any Work is performed at night, only such classes of Work shall be done as can be properly inspected. Adequate light must be provided for the safety of the workers and for proper inspection.

6-4 DELAYS AND EXTENSION OF TIME

6-4.1. GENERAL.

If delays are caused by unforeseen causes beyond the control of either the Contractor or the County, such as war, strikes, fire, floods, or other action of the elements that are unreasonable under the circumstances involved and not within the contemplation of the

parties, such delays will entitle the Contractor to an equivalent extension of time for the completion of the Contract but not damages or additional payments over the Contract Price. Furthermore, if the Contractor suffers any delay caused by the failure of the County to furnish the necessary right of way or materials agreed to be furnished by it, or by failure to supply necessary plans or instructions concerning the Work to be done after written request therefore has been made, the Contractor shall be entitled to an extension of time equivalent to the time lost for any of the above-mentioned reasons herein this Section but shall not be entitled to any damages for such delay.

6-4.2. ADJUSTMENTS TO CONTRACT TIME.

6-4.2.1. EXTENSIONS.

Provided that Contractor has complied with the provisions of this Section (including, without limitation, the requirements pertaining to timely delivery of a Notice of Delay and Request for Extension), if, as a result of Excusable Delay to the actual, as-built critical path of activities leading to achievement of Final Completion, Contractor is unable to achieve Final Completion within the Contract Time for Final Completion, then the Contract Time for Final Completion shall be extended, by Change Order, for the length of the proven, resulting delay to Contractor's ability to so complete the Work. The Contract Time shall not be adjusted for Unexcused Delays.

6-4.2.2. REDUCTION.

Contractor shall within ten (10) days after receiving notice of Deleted Work prepare and deliver to County, a time impact analysis of the impact of the Deleted Work upon the Critical Path to determine if the Contract Time should be shortened thereby and if so the duration of the reduction to the Contract Time. If the County and Contractor are unable to agree upon the duration of the shortening, then County shall make a good faith determination of the reasonable amount of time that the Contract Time shall be reduced on account of such Deleted Work.

6-4.2.3. PRESCRIBED CALCULATIONS FOR ADJUSTMENTS TO THE CONTRACT TIME.

6-4.2.3.1. WORK DAY LOST CALCULATIONS.

Contractor may claim an Excusable Delay for a full Working Day only if all Work on a critical path activity is stopped for more than six (6) hours of a normal eight (8) hour Working Day, and for a half-Working Day only if all Work on a critical path activity is stopped for three (3) to six (6) hours of such a normal Working Day. No Excusable Delay may be claimed if all Work on a critical path activity is stopped for less than three (3) hours of such a normal Working Day. Similarly, where Deleted Work results in the projected avoidance of the need to perform more than six (6), or between three (3) and six (6) hours of all Work on a critical path activity on such a normal Working Day, the Contract Time shall be contracted by a full Working Day or half-Working Day, respectively.

6-4.2.4. NOTICE OF DELAY.

1) Submission.

   Contractor shall submit written Notice of Delay to County, if any instruction, request, drawing, specification, action, condition, omission, default or other circumstance occurs that constitutes an Excusable Delay or other matter that may involve or require a Contract Adjustment extending the Contract Time. Such notice shall be provided prior to performance of the Work affected or involved and no later than seven (7) days after the discovery date of such circumstance.

2) Form.

   Notices of Delay shall be provided using forms furnished by County or, if requested by County, using forms furnished by Contractor that are approved by County. Failure by County to request or approve a particular form shall not relieve Contractor of its obligation to provide Notice of Delay in a written form that complies with the requirements herein.

3) Content.

   Each Notice of Delay to be considered complete shall include:

   a) A general statement of the circumstances giving rise to the Notice of Delay (including, without limitation, identification of any related Construction Change Directive);

   b) A Reasonable Order of Magnitude Estimate by Contractor of any related Contract Adjustments extending the Contract Time.

4) Waiver by Contractor.

   Failure by Contractor to provide a complete and timely Notice of Delay under circumstances where a Notice of Delay involving a delay is required shall constitute a waiver by the Contractor of the right to a Contract Adjustment on account of such circumstances and a waiver of any right to further recourse or recovery by reason of or related to such delay.

5) No County Notice.

   Failure by the Contractor to submit a timely or proper Notice of Delay under circumstances in which a Notice of Delay is required shall in no way affect the County's right to a Contract Adjustment shortening the Contract Time on account of such circumstances.

6-4.2.5. REQUEST FOR EXTENSION.

1) Submission.

With respect to any matter that may involve or require an adjustment extending the Contract Time, Contractor shall, within fourteen (14) days after receipt by County of a Notice of Delay, submit to County a written Request for Extension.

2) Form.

Requests for Extension shall be provided using forms furnished by County or, if requested by County, using forms furnished by Contractor that are approved by County. Failure by County to request or approve a particular form shall not relieve Contractor of its obligation to provide Requests for Extension in a written form that complies with the requirements herein.

3) Content.

Each Request for Extension to be considered complete shall include:

a) A detailed description of the circumstances giving rise to the request for Contract Adjustment to the Contract Time and a time impact analysis (a Request for Extension that seeks an extension for more than one (1) delay shall be supported by a separate Time Impact Analysis for each separate delay).

4) Waiver by Contractor.

Failure by Contractor to provide a complete and timely Request for Extension under circumstances where a Request for Extension involving a delay is required shall constitute a waiver by Contractor of the right to a Contract Adjustment on account of such circumstances and a waiver of any right to further recourse or recovery be reason of or related to such delay.

5) Adjustments Shortening Time.

Failure by Contractor to submit a timely or proper Request for Extension under circumstances in which a Request for Extension is required shall in no way affect County's right to a Contract Adjustment shortening the Contract Time on account of such circumstances.

6-4.2.6. RESPONSE BY COUNTY.

After receipt of a timely and complete Request for Extension, County shall investigate the facts concerning the cause and extent of such delay and, depending on whether the Request for Extension is justified, will notify Contractor of its approval or disapproval of all or a portion of Contractor's request. Extensions of time approved by County shall apply only to that portion of the Work affected by the delay, and shall not apply to other portions of Work not so affected.

6-4.2.7. FORMAL NOTICE OF ESSENCE.

Contractor recognizes and acknowledges that timely submission of a formal Notice of Delay and a formal Request for Extension, whether or not the circumstances of a delay

may be known to the County or available to the County through other means, are not mere formalities but are of crucial importance to the ability of the County to promptly identify, prioritize, evaluate and mitigate the potential effects of delay. Any forms of informal notice, whether verbal or written (including, without limitation, statements at regular job meetings or entries in monthly reports, daily logs, job meeting minutes, updated construction schedules or look-ahead schedules), that do not strictly comply with the formal requirements of the Contract Documents, shall accordingly be deemed insufficient to satisfy the notice requirements of this Section.

6-4.3. PAYMENT FOR DELAYS.

Pursuant to Section 7102 of the Public Contract Code, the Contractor will be compensated for damages incurred due to delays for which the Agency is responsible. Such actual costs will be determined by the Engineer. The Agency will not be liable for damages which the Contractor could have avoided by any reasonable means, such as judicious handling of forces, equipment, or plant. The determination of what damages the Contractor could have avoided will be made by the Engineer.

6-4.3.1. ADJUSTMENTS TO CONTRACTOR'S COMPENSATION FOR DELETED WORK.

A. Deleted Work.

The Contract Time and Contract Price shall be reduced by Contract Adjustment for Deleted Work (including, without limitation, Deleted Work associated with a termination by County of a portion of the Contract or a deletion of portion of Work for the convenience of the County or due to a Contractor default) that results in a shortening of the Contract Time.

B. Contract Time.

The Contract Adjustment shortening the Contract Time for Final Completion shall be the number of Working Days that Contractor at the time of contracting would have reasonably expected to expend in performance of the Deleted Work and that, based on the Contractor's original construction schedule prepared on or about the time of contracting, were reasonably expected by Contractor to be critical to Final Completion of the Work within the Contract Time for Final Completion.

C. Contract Price.

The Contract Adjustment reducing the Contract Price shall be the product of the number of Working Days that the Contract Time for Final Completion is shortened pursuant to the preceding Section multiplied times the amount of liquidated damages set forth in Contract Documents, without any additional credit to the County for Allowable Markups.

6-5 SUSPENSION OF THE WORK

6-5.1. GENERAL.

The Work may be suspended in whole or in part when determined by the Engineer that the suspension is necessary in the interest of the Agency. The Contractor shall comply immediately with any written order of the Engineer. Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in Section **6-4.3**.

6-5.1.1. TEMPORARY SUSPENSION OF THE WORK.

The County shall have the authority to suspend the Work wholly or in part, for such period as the County may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the Work, or for such time as the County may deem necessary due to the failure on the part of the Contractor to properly perform the Work. The Contractor shall immediately comply with the order of the County to suspend the Work wholly or in part. The Work shall be resumed when conditions are favorable or methods are corrected, as ordered or approved by the County.

6-6 TERMINATION OF THE CONTRACT FOR DEFAULT

6-6.1. GENERAL.

If, prior to the acceptance of the Work, the Contractor:

a) becomes insolvent, assigns its assets for the benefit of its creditors, is unable to pay its debts as they become due, or is otherwise financially unable to complete the Work,

b) abandons the Work by failing to report to the Work site and diligently prosecute the Work to completion,

c) disregards written instruction from the Engineer or materially violates provisions of the Contract Documents,

d) fails to prosecute the Work according to the schedule approved by the Engineer,

e) disregard laws or regulations of any public body having jurisdiction, or

f) commits continuous or repeated violations of regulatory or statutory safety requirements, then the Agency will consider the Contractor in default of the Contract.

Notices, and other written communications regarding default between the Contractor, the Agency, and the Surety shall be submitted.

6-6.2. NOTICE TO CURE.

The Agency will issue a written Notice to Cure the default to the Contractor and its Surety. The Contractor shall commence satisfactory corrective actions within five (5) Working Days after receipt.

6-6.3. NOTICE OF TERMINATION FOR DEFAULT.

If the Contractor fails to commence satisfactory corrective actions within five (5) Working Days after receipt of the Notice to Cure, or to diligently continue satisfactory and timely correction of the default thereafter, then the Agency will recommend to the Board that the Contractor be found in default of the Contract and upon such finding by the Board:

a) will terminate the Contractor's right to perform under the Contract by issuing a written Notice of Termination for default to the Contractor and its Surety,

b) may use any materials, equipment, tools or other facilities furnished by the Contractor to secure and maintain the Work site, and

c) may furnish labor, equipment, and materials the Agency deems necessary to secure and maintain the Work site.

The provisions of this subsection shall be in addition to all other legal rights and remedies available to the Agency.

6-6.4. RESPONSIBILITIES OF THE SURETY.

Upon receipt of the written Notice of Termination for default, the Surety shall immediately assume all rights, obligations and liabilities of the Contractor under the Contract. If the Surety fails to protect and maintain the Work site, the Agency may do so, and may recover all costs incurred. The Surety shall notify the Agency that it is assuming all rights, obligations and liabilities of the Contractor under the Contract and all money that is due, or would become due, to the Contractor shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.

Within fifteen (15) Working Days of receipt of the written Notice of Termination for default, the Surety shall submit to the Agency a written plan detailing the course of action it intends to take to remedy the default. The Agency will review the plan and notify the Surety if the plan is satisfactory. If the Surety fails to submit a satisfactory plan, or if the Surety fails to maintain progress according to the plan accepted by the Agency, the Agency may, upon forty-eight (48) hours written notice, exclude the Surety from the premises, take possession of all material and equipment, and complete the Work in any way the Agency deems to be expedient. The cost of completing the Work by the Agency shall be charged against the Surety and may be deducted from any monies due, or which would become due, the Surety. If the amounts due under the Contract are insufficient for completion, the Surety shall pay the Agency, within thirty (30) Calendar Days after the Agency submits an invoice, all costs in excess of the remaining Contract Price.

6-6.5. PAYMENT.

The Surety will be paid for completion of the Work in accordance with Section **7-3** less the value of damages caused to the Agency by acts of the Contractor.

6-6.6. COUNTY'S RIGHTS UPON TERMINATION OF CONTRACT.

When any of the reasons specified in the preceding Section exists, the County may, in addition to and without prejudice to any other rights or remedies of the County, notify the Contractor not to resume or to discontinue all Work, or any part thereof, by written Notice of Default. The County shall advise the Performance Bond Surety of the Notice of Default and that they will be given fifteen (15) Calendar Days to arrange for completion of the Work in accordance with the Contract Documents by another Contractor or Contractors satisfactory to the County. Should the Surety fail to effect satisfactory arrangements within said fifteen (15) Calendar Day period, the County shall have the right to issue a Notice of Termination and to:

A. Exclude the Contractor from the Project site;

B. Take possession of the Project site and of all materials, equipment, tools, and construction equipment, and machinery thereon owned by the Contractor;

C. Suspend any further payments to Contractor;

D. Accept assignment of subcontracts pursuant; and

E. Finish the Work by whatever reasonable method the County may deem expedient.

6-7 TERMINATION OF THE CONTRACT FOR CONVENIENCE

6-7.1. GROUNDS.

The County may, at any time, terminate the Contractor's performance of the Work, in whole or in part, for the County's convenience without regard to Contractor's fault or breach, and without prejudice to any other right or remedy of County, upon fourteen (14) Calendar Days written notice to the Contractor.

6-7.2. IMMEDIATE CONTRACTOR ACTION.

Upon receipt of written notice from the County of such termination for the County's convenience, the Contractor shall, unless the notice directs otherwise, do the following:

A. Cease performance of the Work to the extent specified in the notice;

B. Cooperate with the County to secure the site and demobilize in a safe and orderly fashion;

C. Take actions necessary, or that the County may direct, for the protection and preservation of the Work;

D. Except for Work directed to be performed in the notice, incur no further costs and enter into no further subcontracts and purchase orders;

E. If requested by the County, assign to the County, in the manner and to the extent directed, all of the right, title and interest to the Contractor under the subcontracts, and the County shall have no liability for acts, omissions, or causes of action resulting therefrom which accrued prior to the date of termination and assignment, which liability shall remain with the Contractor; and

F. Turn over to the County, as soon as possible, but not later than thirty (30) Calendar Days after receipt of such termination notice, the originals of all of the Contractor's records, files, documents, drawings, and any other items relating to the Project, whether located on the Project site, at the Contractor's office, or elsewhere.

6-7.3. CONTRACTOR WAIVER OF CLAIMS.

In the event that the County terminates Contractor's performance of the Work for convenience, Contractor agrees it shall not be entitled to and waives any Claims for damages, including, but not limited to, unabsorbed home office overhead, corporate overhead, loss of anticipated profits on account thereof, lost opportunity costs, or overhead on Work not performed, or any consequential damages and, as the sole right and remedy of Contractor, the County shall pay Contractor in accordance with Section **6-7.4** below. The provisions of the Agreement, which by their nature survive Final Acceptance of the Work, shall remain in full force and effect after such termination to the extent provided in such provisions.

6-7.4. COMPENSATION.

Upon termination for convenience, Contractor shall be entitled to be paid the full cost of all Work properly done by Contractor prior to the date of termination not previously paid for, less sums already received by Contractor on account of the portion of the Work satisfactorily performed, but in no event shall the amounts paid hereunder exceed the portion of Work completed in accordance with the Contract Documents. In no event shall Contractor be entitled to recover any damages or Claims waived pursuant to Section **6-7.3** above.

6-8 LIQUIDATED DAMAGES

The Contractor shall complete the Work called for under the Contract in all parts and requirements within the number of Working Days specified in the Agreement. Liquidated damages shall apply as stated in the Agreement.

The County will furnish the Contractor a weekly statement showing the number of Working Days charged to the Contract for the preceding week, the number of Working Days specified for completion of the Contract, and the number of Working Days remaining to complete the Contract. The Contractor will be allowed one (1) week in which to file a written protest setting forth in what respects the weekly statement is incorrect, otherwise the statement shall be deemed to have been accepted by the Contractor as correct.

Contractor to refer to specific Legal Holiday dates listed in the Agreement.

ARTICLE 7 - MEASUREMENT AND PAYMENT

7-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE OF WORK

7-1.1. GENERAL.

All days referred to in this Section are Calendar Days, unless otherwise specified. The compensation described in the Agreement shall be complete and full payment to the Contractor for furnishing all materials, labor, tools, equipment and related items necessary to complete the Work; and for all obligations imposed upon the Contractor pursuant to the Contract Documents. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective Work or material.

The amount of Work to be done or materials to be furnished by the Contractor as stated in the Bid Proposal (except for Lump Sum items) are only estimates and are not to be taken as an expressed or implied statement that the actual amount of Work or materials will correspond to the estimate. The County reserves the right to increase or decrease or to entirely eliminate certain items from the Work or materials if found desirable or expedient. The County is not to be held responsible for the accuracy of the estimate of quantities. The Contractor shall judge for itself, after considering all circumstances and conditions, the costs and quantities of materials involved in the Work. The Contractor will be allowed no Claims for anticipated profits, loss of profits or for any damages of any sort because of any difference between the estimated and the actual amounts of Work done, or materials furnished or used in the completed Project. The Contractor shall not be entitled to any compensation for Bid Items which the County, in its sole discretion, elects to eliminate during the Work. If an item of the Work exceeds the quantity of the bid estimate, Contractor shall not be entitled to Extra Work.

The Contractor shall not at any time assert that there was any misunderstanding in regard to the nature of the Work or the kind or amount of materials to be furnished for the Work. The Contractor shall not ask, demand, sue for, or seek to recover compensation in excess of the costs or charges for the Work as stated in the Agreement.

7-1.2. METHODS OF MEASUREMENT.

Materials and items of Work which are to be paid for on basis of measurement shall be measured in accordance with methods stipulated in the particular Sections involved.

7-1.2.1. CERTIFIED WEIGHTS.

When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. The Contractor shall furnish the Engineer with duplicate licensed weighmaster's certificates showing actual net weights. The Agency will accept the certificates as evidence of weights delivered.

7-1.2.2. MEASUREMENT AND COMPUTATION OF QUANTITIES.

Unless otherwise stated, all items of the Work to be paid for at a Unit Price, per unit of measurement will be measured by the County in accordance with United States Standard Measures. A ton shall mean 2,000 pounds, avoirdupois. Except as otherwise expressly provided in the Specifications, the methods of measurement and computation of quantities will be determined by the County.

The weights of metalwork, and other metal parts to be paid for by weight will be determined by the County on the basis of handbook weights, scale weights, or manufacturer's catalog weights, or in the absence of any of the foregoing, on the basis of estimated weights; provided, that weights of nonmetallic coatings will be excluded.

7-2 LUMP SUM WORK

Items for which quantities are indicated "Lump Sum", "LS", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of Work and all Work appurtenant thereto.

When required by the Contract Documents or requested by the Engineer, the Contractor shall submit to the Engineer within fourteen (14) days after issuance by County to Bidder of the Notice of Intent to Award and prior to commencement of the Work, a detailed schedule, to be used only as a basis for determining progress payments on a Lump Sum contract or designated Lump Sum Bid item. This schedule shall equal the Lump Sum Contract Price or Bid item price and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the Lump Sum.

7-3 PAYMENT

7-3.1. GENERAL.

The unit and Lump Sum prices to be paid shall be full compensation for the items of Work and all appurtenant Work, including furnishing all materials, labor, equipment, tools, and incidentals.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract. This includes rejected material not unloaded from vehicles, material rejected after it has been placed, and material placed outside of the Plan lines. No compensation will be allowed for disposing of rejected or excess material.

Payment for Work performed or materials furnished under an Assessment Act Contract will be made as provided in the particular proceedings or legislative act under which such Contract was awarded.

Whenever any portion of the Work is performed by the Agency at the Contractor's request, the cost thereof shall be charged against the Contractor and may be deducted from any amount due or becoming due from the Agency.

Whenever immediate action is required to prevent injury, death, or property damage, and precautions which are the Contractor's responsibility have not been taken and are not reasonably expected to be taken, the Agency may, after reasonable attempt to notify the Contractor, cause such precautions to be taken and shall charge the cost thereof against the Contractor, or may deduct such cost from any amount due or becoming due from the Agency. Agency action or inaction under such circumstances shall not be construed as relieving the Contractor or its Surety from liability.

Payment shall not relieve the Contractor from its obligations under the Contract; nor shall such payment be construed to be accepted of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to the Agency. Responsibility of ownership shall remain with the Contractor who shall be obligated to store any fully or partially completed Work or structure for which payment has been made; or replace any materials or equipment required to be provided under the Contract which may be damaged, lost, stolen or otherwise degraded in any way prior to completion of the Work, except as otherwise specified in Section **6-6**.

Warranty periods shall not be affected by any payment.

In the event that a stop payment notice is filed with the County in an amount equal to one hundred and twenty-five percent (125%) of the total of the amount claimed, the stop payment notice will be withheld by the County until the stop payment notice has been released. Alternatively, the Contractor may file with the County a bond, on a form approved by the County, executed by one or more corporate California Admitted Surety Insurers, in an amount equal to one hundred and twenty-five percent (125%) of the Claim stated in the stop payment notice conditioned for the payment of any sum which the stop payment notice claimant may recover on the Claim together with its costs of suit in the action. Upon the County's acceptance of such bond, the County shall not withhold money from the Contractor on account of the stop payment notice. The Surety(ies) upon the stop payment notice release bond shall be different than, and jointly and severally liable to the stop payment notice claimant with, the Payment Bond Surety(ies).

Not later than thirty-five (35) Calendar Days from the date of Final Acceptance, the five percent (5%) deducted and retained from each progress estimate (see Section **7-3.3**) by the County will be paid to the Contractor, except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment or as may be authorized by the Contract or required by Applicable Law to be further retained.

7-3.2. PAYMENT TERMS AND PAYMENT METHODS

The County's payment system issues payments on scheduled pay dates based on payment terms. The County's standard payment terms are Net 30. If prompt payment discount terms or other proposed payment terms are not agreed to in writing, the County Auditor-Controller's Office (ACO) requires the scheduled pay date be set to thirty (30) Calendar Days from the invoice date for all payment methods except E-Payables. For Progress Payments, the invoice date is the day after the last day of work for the period being paid. The County considers payment as being made on the day a check is dated or the date of an

electronic funds transfer. Any applicable prompt payment discounts are automatically deducted from the full payment amount.

California Public Construction Prompt Payment Regulations do not require the County to pay interest penalties if payment delays are due to a due date falling on a Saturday, Sunday or Legal Holiday, disagreement between the County and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the Contract. The County and the Contractor shall resolve Claims involving disputes, and any interest that may be payable in accordance with Section **8-1**.

Awarded Contractors may choose to sign up for any combination of the payment methods described below, and specify which one they want utilized for each payment.

Manual Warrant [Check]. This is the default delivery method in which a physical check is printed on the scheduled pay date, or the prior business day if that falls on a weekend or holiday, and is placed in the mail the following business day. With this method, the Contractor has the option to request the check be held at our office for pick up.

ACH/EFT. Automated Clearing House (ACH) is an Electronic Funds-Transfer (EFT) network for processing transactions directly from one account to another. If a vendor requests this payment delivery method they must initially complete an ACH Enrollment Form and prenoting process that can take up to eight (8) weeks before the first ACH payment. Once set up—two (2) days prior to the scheduled pay date, EFT instructions are sent by the County to its bank after which the funds are direct deposited into the vendor's bank account on the scheduled pay date. Email ACOVendorProcessing@rivco.org for set up instructions.

E-Payables. E-Payables are electronic MasterCards for which credit card information is transmitted to the vendor via secure email or fax, which the vendor processes through their credit card terminal or Accounts Receivable system to receive the funds similar to a point of sale transaction. E-Payables do not have a scheduled pay date, and are instead set to pay in the next pay cycle as soon as approved for payment by the County ACO. E-Payables have a pay cycle that runs every morning at 7:00 AM that transmits payment information to the County's bank, which in turn sends the secure emails containing the credit card details to vendors the same day by 8:00 AM. This payment method can be set up and ready for use within 24-hours by emailing ACO_epayables@rivco.org.

Vendors should refer to their bank or credit card terminal provider to inquire about any merchant fees that may be assessed on ACH/EFT transactions or E-Payables credit card transactions. The County does not charge additional fees to the vendor for accepting payment electronically.

7-3.3. PROGRESS PAYMENTS AND FINAL PAYMENT.

7-3.3.1. PROGRESS PAYMENTS.

On or about the last day of each month, the County shall make an estimate in writing of the total amount of Work done by the Contractor to the time of such estimate and the value thereof. The County shall retain five percent (5%) of such estimated value of the Work or Progress Payment for the fulfillment of the Contract by the Contractor.

For project durations of less than two (2) months, the Contractor will be given the option to receive full payment in one Lump Sum. If Lump Sum payment is not requested and Work extends beyond one (1) month, on or about the last day of each month, the County shall make an estimate in writing of the total amount of Work done by the Contractor to the time of such estimate and the value thereof. In accordance with Public Contract Code section 7201(b)(1), the County shall retain 5 percent (5%) from any progress payment for the fulfillment of the Contract by the Contractor.

In accordance with Public Contract Code Section 22300 and other Applicable Law, the Contractor may substitute securities for any monies retained to ensure performance under the Contract. Such substitution shall be made only upon a separate Agreement between the County Board of Supervisors and the Contractor which contains terms and conditions in compliance with all laws applicable to monies withheld under the Contract.

After deducting all previous payments and all sums to be kept or retained under the provisions of the Contract or Applicable Law, the County shall make monthly progress payments to the Contractor. No such estimate or payment shall be required to be made when, in the judgment of the County, the Work is not proceeding properly. No payment shall be required to be made by the County unless and until all required submittals have been delivered to the County, including but not limited to the following: certified payroll information (at a frequency specified in Section **5-2.3**, if Project is a Prevailing Wage Contract), construction schedule updates as listed in Section 6-1.1 and National Pollution Discharge and Elimination System permit requirements and frequencies as stated in the Special Provisions and/or Detailed Provisions, if applicable.

7-3.3.2. FINAL PAYMENT.

The County, after completion of the Work and submittal of any final documents or reports required by the Contract Documents, shall make a final estimate in writing to the County Board of Supervisors of the amount of Work done and the value of such Work; and pursuant to order of the Board of Supervisors the County shall pay the sum found to be due after deducting therefrom all previous payments and all amounts to be kept and retained under the provisions of the Contract or Applicable Law. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. The withheld retention funds shall not be due and payable to the Contractor until the expiration of thirty-five (35) Calendar Days after the date of Final Acceptance of a completed Contract by the Board of Supervisors and recordation of the Notice of Completion.

The Contractor agrees that no certificate given or payments made under the Contract except the final payment and approval by the Board of Supervisors shall be conclusive evidence of the performance of the Contract. No payment shall be construed to be an acceptance of any defective Work or improper materials.

The Contractor agrees that payment of the final amount due under the Contract will be withheld until the Warranty Bond guarantee of Contractor's correction obligations for the Work is accepted by the County in approved form.

The Contractor's acceptance of final payment shall release the County, including its officers, employees, agents and Contractors, from any and all Claims from the Contractor for further or additional compensation related to the Work, except disputed Contract Claims in stated amounts made in writing accordance with the requirements of the Contract Documents and identified by the Contractor as unsettled prior to acceptance of final payment.

7-3.3.3. DELAYED PAYMENTS.

Subject to Applicable Law, all the monies due the Contractor under the Contract will be paid by the Treasurer of the County of Riverside, prepared and approved as required by law; and it is understood that any delay in the preparation, approval and payment of these demands will not constitute a breach of the County's obligations under this Contract.

Per Public Contract Code Section 20104.50 any local agency which fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted payment request from a Contractor on a Construction Contract shall pay interest to the Contractor equivalent to the legal rate–currently ten percent (10%) per annum. Refer to Section **7-3.2** for Payment Terms.

7-3.4. DELIVERED MATERIALS.

Unless included in the Bid Item List, or unless otherwise called for in the Special Provisions and/or Detailed Provisions, no payment will be made for materials or equipment delivered but not incorporated in the Work.

7-3.5. PAYMENT AND COMPENSATION FOR ALTERED QUANTITIES

When alterations in plans or quantities of Work are ordered and performed, the Contractor agrees to accept payment in full at the Contract Unit Price for the actual quantities of Work done; and no additional payment will be made for anticipated profits.

7-4 PAYMENT FOR EXTRA WORK

7-4.1. GENERAL.

Payment for completed extra work up to the Contract amount shall be added to the monthly progress payment made in accordance with Section **7-3** of these General Provisions.

Only an executed Contract Change Order changes the Contract amount.

County will prepare a Contract Change Order based on any alterations or approved extra work.

It is understood that multiple requests for extra work may be approved and later combined on one (1) Contract Change Order when payments reach approximately eighty percent (80%) of the current Contract amount.

If the Contract amount will be exceeded, progress payments will be temporarily suspended until a Contract Change Order is fully executed.

The General Manager – Chief Engineer shall have the authority to approve changes or additions in the work in accordance with Public Contract Code 20142. Contract Change Orders above that limit will require Board of Supervisors' approval.

7-4.2. COUNTY REQUESTED EXTRA WORK

The County reserves and shall have the right to revise the details of the contemplated Work, or to add Work of a different character or function, and have the Contractor perform such revised or added Work as "Extra Work", when such Extra Work is considered by the County to be appurtenant to the satisfactory completion of the Project. "Extra Work" is defined as added Work of a different character or function and for which no basis for payment is prescribed; or that Work which is indeterminate at the time of advertising and is specifically designated as Extra Work. The signing of the Contract by the Contractor will be deemed to be an Agreement on his part to perform Extra Work, as and when ordered by the County. If required Extra Work results in delay to the Work, the Contractor will be given an appropriate extension of time.

7-4.3. PROCEDURE FOR CONTRACTOR REQUESTED EXTRA WORK

Extra work may not be done by the Contractor without prior request and proper written approval by the County. Upon decision of the County to have Extra Work performed, the County will so inform the Contractor, acquainting it with the details of the new work. The Contractor shall thereupon present in writing a price for said Work to the County, whose written approval shall be secured before Work is started; except that the County may order the Contractor to proceed with Extra Work in advance of the submission of such prices provided that preliminary estimates show that the cost will not exceed $1,000.

Prices for Extra Work shall be prepared by the Contractor using one (1) or both of the following methods, as requested by the County, and submitted to the County for approval:

1) For a stated Unit Price or Lump Sum amount based upon current prevailing fair prices for materials, labor, plant, overhead and profit.

2) On a cost plus markup basis (force account by the Contractor). The following markups shall be applied to all Authorized Time and Material labor, materials, and equipment utilized to complete any extra work:

Labor – 24 percent

Materials – 15 percent

Equipment Rental – 15 percent

In addition, a labor surcharge shall be applied to all labor rates for any Authorized Time and Material work completed. The labor surcharge percentage to be applied to the regular and overtime hourly wages paid shall be percentages that are in effect at the time of the award of contract, as published by the California Department of Transportation in the document titled "Labor Surcharge and Equipment Rental Rates". These labor surcharge percentages shall be utilized throughout the entire duration of the contract.

When the County and the Contractor, by advance agreement, determine that a special service or an item of extra work cannot be performed by the forces of the Contractor or those of any of his subcontractors, such service or extra work item may be performed by a specialist. Invoices for such service or item of extra work on the basis of the current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with the established practice of the special service industry to provide such complete itemization. In those instances, wherein a Contractor is required to perform extra work necessitating a fabrication or machining process in a fabrication or machine shop facility away from the job site, the charges for that portion of the extra work performed in such facility may, by agreement, be accepted as a specialist billing. To the specialist invoice price, less a credit to the County for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added 15 percent in lieu of the percentages provided above.

For the use of equipment moved in for the work and used exclusively for extra work paid for on an Authorized Time and Material basis, the Contractor will be paid the rental rates published by the California Department of Transportation (Caltrans). The rental period shall begin at the time the equipment is unloaded at the site of the extra work, shall include each day that the equipment is at the site of the extra work, excluding Saturdays, Sundays, and legal holidays unless the extra work is performed on such days, and shall terminate at the end of the day on which the County directs the Contractor to discontinue the use of such equipment.

The rental time to be paid for equipment and hours paid for labor per day will be in accordance with the following:

Actual Hours Worked	Hours to be Paid
0 – 4	4
5	5
6	6
7	7
8	8
Over 8	Hours in operation based on Overtime Rates

Upon receipt of the Contractor's price, the County will make an analysis thereof and, in its discretion, adopt one (1) of the following procedures:

1) Accept the Contractor's price for Lump Sum or Unit Price amount in the original or amended form and direct it to proceed with the Work; or direct it to perform the Work on a cost plus markup basis as previously mentioned in this section.

2) Have the Work performed by County's forces or by separate Contract.

3) Direct the Contractor to proceed with the Work and accept payment therefore in the amount as adjudicated later in a court of law.

The price agreed to by the Contractor for the Extra Work shall be full compensation to the Contractor for all labor, materials, equipment or other costs related to the Extra Work.

7-4.4. CHANGES.

County is authorized to make changes in the Work in accordance with the provisions of this Section.

7-4.4.1. CONTRACT ADJUSTMENTS

Contract Adjustments shall only be permitted as follows: (1) the Contract Price shall only be adjusted by means of a Change Order or Unilateral Change Order for Extra or Deleted Work; and (2) the Contract Time shall be adjusted by means of a Change Order or Unilateral Change Order for Excusable Delay or Extra or Deleted Work. All Contract Adjustments to the Contract Price shall conform, without limitation, to the requirements of this Section. All Contract Adjustments to the Contract Time shall conform, without limitation, to the applicable requirements of Section 8-1 (relating to Claims).

A. Exclusive Rights.

The rights expressly set forth in the Contract Documents for Contract Adjustments constitute Contractor’s exclusive rights for additional compensation or extensions of time and are intended to be in lieu of and wholly replace any other such rights and remedies that the Contractor has under Applicable Laws for recovery or relief

on account of loss or delay in connection with performance of the Work, it being the intent of the County and Contractor that if circumstances arise for which the Contract Documents do not provide to the Contractor an express right to a Contract Adjustment, then such omission of an express right shall conclusively be deemed to mean that no right to a Contract Adjustment was intended; and, consistent with that intent, no right to a Contract Adjustment on account of such circumstances shall by any means, legal or equitable, of interpretation, construction, inference, implication or application be considered, found or adjudged to exist.

B. Written Authorization.

Any Change performed by Contractor pursuant to any direction other than a duly authorized and executed Change Order, Unilateral Change Order or Construction Change Directive shall be at Contractor's own expense.

C. Prompt Performance.

Subject to the procedures set forth in this Section and elsewhere in the Contract Documents, all Changes shall be performed promptly and without delay.

7-4.4.2. SIGNATURES AND AUTHORIZATIONS.

A. Parties.

A Change Order shall be executed by the County and the Contractor. A Unilateral Change Order shall be executed by the County. Construction Change Directives shall be executed in accordance with Section 7-4.4.5 below.

B. Form.

Change Orders, Unilateral Change Orders and Construction Change Directives shall be executed using forms furnished by County or, if requested by the County, using forms furnished by the Contractor that are approved by the County.

C. Authorization.

1) Writing of Essence.

It is of the essence to the Contract between Contractor and County that all changes must be authorized in advance, in writing, as required by this Section. Accordingly, no verbal directions, course of conduct between the parties, express or implied acceptance of changes or of the Work, or Claim that the County has been unjustly enriched (whether or not there has been such enrichment) shall be the basis for a Contract Adjustment if Contractor has not obtained advance written authorization in the manner required by this Section.

7-4.4.3. CHANGE ORDERS.

A. Purpose.

The purpose of a Change Order is to establish the terms of the County's and Contractor's mutual agreement to a Contract Adjustment.

B. Content.

A Change Order is a written instrument, prepared by the County, stating:

1. Extra or Deleted Work;

2. Excusable Delay;

3. the amount of the Contract Adjustment, if any, to the Contract Price; and/or

4. the extent of the Contract Adjustment, if any, to the Contract Time.

7-4.4.4. UNILATERAL CHANGE ORDERS.

A. Purpose.

The purpose of a Unilateral Change Order is to adjust the Contract Sum and/or Contract Time if the County and Contractor cannot agree on the adjustment only in the following instances: 1) to recover costs to Owner for Contractor defaults: 2) for withholds and deductions allowed under the Contract Documents; 3) final quantity adjustments for Unit Price Work that reconciles original estimated quantities in the Bid Item List, with final actual quantities used; or 4) an increase or decrease in the Contract Time, consistent with the Contract Documents.

B. Good Faith Determination.

The County's determination in a Unilateral Change Order of a Contract Adjustment shall be based upon a good faith determination by County of the Contract Adjustment that is appropriate under the circumstances and consistent with the terms of the Contract Documents.

C. Claim by Contractor.

If Contractor disputes any portion of the County's good faith determination of a Contract Adjustment that is set forth in a Unilateral Change Order, Contractor shall file, within thirty (30) Calendar Days after issuance of the Unilateral Change Order by County, a Claim pursuant to Section 8-1. The amount of the Contract Adjustment requested in the Claim shall not exceed the difference between the amount (either in terms of dollar amount or number of Working Days) of the Contract Adjustment requested by Contractor and the amount (either in terms of dollar amount or number of Working Days) of the Contract Adjustment granted in the Unilateral Change Order. Except as expressly provided in the Contract, Contractor shall have no reserved right, and hereby waives any such right that may exist under Applicable Laws, to seek in such Claim a Contract Adjustment or

recovery that is based upon any amount (either in terms of dollar amount or number of Working Days) that is in excess of such difference.

D. Waiver by Contractor.

Failure by the Contractor to submit a Claim pursuant to Section **8-1**, within thirty (30) Calendar Days after issuance of a Unilateral Change Order by County shall, in accordance with the Contract Documents, constitute a waiver by Contractor of the right to further recourse or recovery based on an assertion that the amount of the Contract Adjustment on account of the change or delay described in such Unilateral Change Order should be different than the amount of the County's Good Faith Determination of the Contract Adjustment as set forth in such Unilateral Change Order.

7-4.4.5. CONSTRUCTION CHANGE DIRECTIVES.

A. Purpose.

The purpose of a Construction Change Directive is to: (1) direct the performance of a Change that does not involve a Contract Adjustment; or (2) direct performance of Work or a Change with respect to which there exists a dispute or question regarding the terms of a Contract Adjustment.

B. No Contract Adjustment.

A Construction Change Directive that directs the performance of Work or a Change that does not involve a Contract Adjustment to the Contract Price or Contract Time may be authorized by either the Engineer or the County's Project Manager and shall be promptly performed by Contractor so as to not cause delay to any other portion of the Work. A Construction Change Directive directing performance of a Change that does not contain any statement indicating that a Contract Adjustment is requested or required shall be conclusively presumed to be a Change and no Contract Adjustment increasing the Contract Price or Contract Time will be made on account thereof.

C. Agreed Basis for Compensation for a Contract Adjustment.

A Construction Change Directive that contains a complete or partial Agreement by the County and Contractor with respect to the Contractor's right to, or the basis for compensation for a Contract Adjustment shall be authorized in accordance with, conform to the requirements of and be binding upon County and Contractor as provided for herein.

1. Complete Agreement.

Each Construction Change Directive involving Extra or Deleted Work with respect to which there is complete Agreement on the terms of the Contract Adjustment shall include:

a. Statement of Agreement.

A statement that the County and Contractor are in agreement on all of the terms of the Contract Adjustment related to performance of such Change and set forth a full description of the terms of the Contract Adjustment, including, without limitation, its effect on the Contract Price and Contract Time.

b. Legal Effect.

i. Upon Contractor.

The agreed terms of the Contract Adjustment with respect to which there is a statement of full agreement on the terms of the Contract Adjustment for a change in Work shall be final and binding upon Contractor. Any right or Claim by Contractor for any additional compensation or extension of time relating directly or indirectly to such change shall be conclusively deemed waived by Contractor, even if the circumstances giving rise to such additional compensation or extension of time were not suspected by or known to the Contractor at the time of execution of the Construction Change Directive and if suspected or known would have been considered by Contractor to have been material to Contractor's Agreement to the Contract Adjustment set forth in the Construction Change Directive.

ii. Upon County.

In recognition of the fact that Construction Change Directives may be issued under circumstances in which the County may not have had the access to pertinent information required for the County to fully evaluate the circumstances giving rise to the Change, it is agreed that neither the issuance nor execution of, nor any statement contained in, nor any course of conduct in connection with, a Construction Change Directive (including, without limitation, a Construction Change Directive that constitutes a full agreement by County and Contractor on the basis for compensation for a Contract Adjustment) shall be interpreted as a waiver, release or settlement of any of County's rights relating to the subject matter of the Construction Change Directive, or as creating or implying any right of Contractor to a Contract Adjustment, if it is found by County upon further investigation that circumstances existed, not known to County at the time of executing the Construction Change Directive, demonstrating that the Contractor was not in fact entitled to a Contract Adjustment or was entitled to a Contract Adjustment on different terms than those agreed to in the Construction Change Directive.

D. Partial Agreement.

Each Construction Change Directive involving Extra or Deleted Work with respect to which there is only agreement on a portion of the terms of a Contract Adjustment shall comply with the following:

1. Agreed Terms.

   The Construction Change Directive shall state those terms of the Contract Adjustment as to which there is agreement.

   a. Legal Effect.

      Except to the extent of any additional open (i.e., non-agreed) terms stated or reserved in the Construction Change Directive, such agreement shall have the same legal effect set forth herein.

   b. Time and Materials.

      In the event that County and Contractor agree in the Construction Change Directive to the "time and materials" method of calculation set forth herein, but do not agree upon a maximum price, then the total cost to County for the Work covered by the Construction Change Directive shall under no circumstances exceed a price that is reasonable, competitive and fair to County given the amount and type of Work involved.

2. Open Terms.

   The Construction Change Directive shall state those terms of the Contract Adjustment that are "open" or "disputed"; meaning those terms as to which the County and Contractor did not reach agreement.

   a. Legal Effect.

      A Reasonable Order of Magnitude Estimate constitutes neither (i) a guarantee by Contractor that the amount of the Contract Adjustment to the Contract Price or Contract Time that may be associated with the Extra or Deleted Work covered by such Construction Change Directive may not exceed the Reasonable Order of Magnitude Estimate nor (ii) authorization or agreement by County to a Contract Adjustment based on the amounts set forth in such Reasonable Order of Magnitude Estimate.

E. Disputed Contract Adjustment.

   Each Construction Change Directive involving a Contract Adjustment with respect to which there is a dispute or partial agreement shall, if Contractor is ordered to do so in a Construction Change Directive signed by the Engineer, be performed by Contractor without delay. Except as otherwise provided elsewhere in this Section, with respect to any open terms as to which the County and Contractor have not

reached agreement, both County and Contractor shall be deemed to have reserved their respective rights and defenses.

F. Other Notices.

With respect to any Contract Adjustment or portion of a Contract Adjustment that is not fully resolved in a Construction Change Directive, neither issuance nor execution of such Construction Change Directive shall be interpreted as relieving Contractor of its obligation to comply with the requirements of these General Provisions relative to timely submission of notices required by the Contract Documents, including, without limitation, Notice of Change, Change Order Request, Notice of Delay or Request for Extension.

7-4.4.6. PROCEDURES.

A. Notice of Change.

1. Submission.

Contractor shall submit a written Notice of Change to County, if any instruction, request, drawing, specification, action, condition, omission, default or other circumstance occurs that constitutes Extra or Deleted Work or other matter that may involve or require a Contract Adjustment (additive or deductive). Such notice shall be provided prior to commencement of performance of the Work affected and no later than three (3) days after the discovery date of such circumstance.

2. Form.

Notices of Change shall be provided using forms furnished by County or, if requested by County, using forms furnished by Contractor that are approved by County. Failure by County to request or approve a particular form shall not relieve Contractor of its obligation to provide a Notice of Change in a written form that complies with the requirements specified herein.

3. Content.

Each Notice of Change in order to be considered complete shall include:

a. a general statement of the circumstances giving rise to the Notice of Change (including, without limitation, identification of any related Construction Change Directive);

b. a Reasonable Order of Magnitude Estimate by Contractor of any related Contract Adjustments (additive and deductive) to the Contract Price; and

c. if such circumstances involve a right to adjustment of the Contract Time due to Excusable Delay that has not been waived, Contractor shall include, if not previously provided, a complete and timely Notice of Delay.

4. Waiver by Contractor.

Failure by Contractor to provide a complete and timely Notice of Change under circumstances where a Notice of Change involving a change is required shall constitute a waiver by Contractor of the right to a Contract Adjustment on account of such circumstances and a waiver of any right to further recourse or recovery by reason of or related to such change.

5. Deductive Adjustments.

Failure by Contractor to submit a timely or proper Notice of Change under circumstances in which a Notice of Change is required shall in no way affect County's right to any deductive Contract Adjustment on account of such circumstances.

B. Change Order Request.

1. Submission.

With respect to any matter that may involve or require a Contract Adjustment (additive or deductive) of the Contract Price, Contractor shall, within fourteen (14) days after receipt by the County of a Notice of Change, submit to the County a written Change Order Request.

2. Form.

Change Order Requests shall be provided using forms furnished by County or, if requested by County, using forms furnished by Contractor that are approved by County. Failure by County to request or approve a particular form shall not relieve Contractor of its obligation to provide a Change Order Request in a written form that complies with the requirements stated herein.

3. Content.

Content of Each Change Order Request to be considered complete shall include:

a. a detailed description of the circumstances for Extra or Deleted Work;

b. a complete, itemized cost breakdown (additive and deductive) of the Allowable Costs that form the basis for the Contractor's request for Contract Adjustment, including: (a) if the pricing is based on time and materials charges, all of Contractor's and each Subcontractor's Allowable Costs (including, without limitation, quantities, hours, Unit Prices, and rates) and Allowable Markups, and (b) if the pricing is in the form of a Lump Sum

price a detailed breakdown of the Lump Sum price into its component and individual items of Allowable Costs and Allowable Markup; and

c. if such circumstances involve a right to a Contract Adjustment of the Contract Time due to Excusable Delay that has not been waived, Contractor shall include, if not previously provided, a complete and timely Request for Extension.

4. Waiver by Contractor.

Failure by Contractor to provide a complete and timely Change Order Request under circumstances where a Change Order Request involving a change is required shall constitute a waiver by Contractor of the right to a Contract Adjustment on account of such circumstances and a waiver of any right to further recourse or recovery by reason of or related to such change.

5. Deductive Adjustments.

Failure by Contractor to submit a timely or proper Change Order Request under circumstances in which a Change Order Request is required shall in no way affect County's right to any deductive Contract Adjustment on account of such circumstances.

7-4.4.7. FORMAL NOTICE OF ESSENCE.

Contractor recognizes and acknowledges that timely submission of a formal Notice of Change and Change Order Request, whether or not the circumstances of the Change may be known to the County or available to the County through other means, is not a mere formality but is of crucial importance to the ability of County to promptly identify, prioritize, evaluate and mitigate the potential effects of Changes. Any form of informal notice, whether verbal or written (including, without limitation, statements in Requests for Information, statements at regular job meetings or entries on monthly reports, daily logs or job meeting minutes), that does not strictly comply with the formal requirements herein, shall therefore be insufficient.

7-4.5. BASIS FOR ESTABLISHING COSTS.

7-4.5.1. BASIS OF CALCULATION.

A. Changes Not Involving Time.

Contract Adjustments to the Contract Price on account of Extra or Deleted Work shall be calculated according to one of the following methods:

1. Lump Sum.

By mutual acceptance of a Lump Sum proposal from Contractor based solely on Allowable Costs and Allowable Markups that is properly itemized and supported by sufficient substantiating data to permit evaluation.

2. Unit Prices.

   By the Contract Unit Prices set forth in the Bid, the Stipulated Unit Prices established by the County in the Contract Documents or such other Unit Prices as are subsequently and mutually agreed to in writing between the County and Contractor, with no amount added thereto for Allowable Markups.

3. Force Account Work.

   For Changes with respect to which County elects to make a unilateral and final determination by the sum of all the following:

   a. Materials and Equipment.

      The reasonable value of materials and equipment documented as having been actually incorporated into the Work, which reasonable value may be less but shall never be more than Contractor's actual Allowable Costs. Materials and equipment used in force account work will be marked up by 15% as stated in Section 7-4.3 of these General Provisions.

   b. Labor.

      Labor estimate will be calculated utilizing Prevailing Wages as set out by the Department of Industrial Relations. Refer to Section 5-2.2 of these General Provisions. A labor surcharge and markup of 24% shall be applied in accordance with Section 7-4.3 of these General Provisions.

4. Time and Materials.

   a. Deleted Work.

      With respect to Deleted Work, if none of the methods provided for in Subparagraphs (1) through (3), above, is applicable, then, in addition to the reduction, if any, that may be due to Owner (pertaining to Contract Adjustments shortening the Contract Time due to Deleted Work) and any additional reductions or credits to which County may be entitled, the Contract Price shall be reduced by the greater of either:

      i. the value assigned to the Deleted Work in the Schedule of Values attached to the Contract or provided in accordance with the Special Provisions and/or Detailed Provisions, inclusive of all estimated markups by Contractor and any Subcontractor for overhead and profit set forth in the Schedule of Values (or, if insufficient detailed information on costs, overhead and profit for the Deleted Work is explicitly assigned in the Schedule of Values, as derived from the cost, bidding and/or estimating information that formed the basis for the establishment of the values set forth in such Schedule of Values); or

ii. a reasonable estimate of the value of the Deleted Work (inclusive of all costs, overhead and profit) as of the date that the Construction Contract was executed by County and Contractor.

B. Changes Involving Time.

Contract Adjustments that are based on an extension of the Contract Time for a shortening of the Contract Time due to Deleted Work shall be calculated in the manner stated in these Contract Documents.

7-4.5.2. TIME AND MATERIALS DOCUMENTATION.

Without limitation to any other provisions of the Contract Documents, Contractor's right to reimbursement of Allowable Costs incurred by Contractor or Subcontractors in the performance of a Change for which the Contract Adjustment is calculated, shall be conditioned on Contractor's compliance with the following conditions with respect to documentation of the Extra Work that is involved in the performance of the Change:

A. Labor.

At the close of each day on which such Extra Work is performed, Contractor shall submit to County, and, if requested, to the Inspector of Record, an Extra Work report, on forms provided by County, that sets forth with respect to each and all of the actual hours spent in performance of the Extra Work on the Working Day that the Extra Work was performed with the following: the names of the workers, their classifications, hours worked and hourly rates. Such forms shall include a written certification by Contractor's Project Manager or Superintendent at the time of submission that the information contained therein is complete and accurate.

B. Materials, Equipment.

At the close of each Working Day on which such Extra Work is performed, Contractor shall submit to County, and, if requested, to the Inspector of Record, an Extra Work report, on forms provided by County, that sets forth with respect to each and all of the materials and equipment used or consumed in the performance of the Extra Work on the Working Day that the Extra Work was performed, the following: a list of the materials and equipment, prices or rates charged, in the case of equipment a description of the type of equipment, identification number, and hours of operation (including loading and transportation), and copies of delivery tickets, invoices or other documentation confirmatory of the foregoing.

C. Other Expenditures.

At the close of each Working Day on which such Extra Work is performed, Contractor shall submit to County, and, if requested, to the Inspector of Record, an Extra Work report, on forms provided by County, that sets forth a list of other expenditures constituting Allowable Costs incurred in performance of the Extra

Work on the Working Day that the Extra Work was performed, along with documentation verifying the amounts thereof in such detail as County may require.

D. Subsequent Documentation.

Documentation not available on any Working Day that a portion of the Extra Work is performed shall be submitted to the County as soon as they are available but not later than twenty-one (21) days after the earlier of the day of delivery or incorporation of the particular item of Extra Work at the Project.

E. Subcontractor Costs.

Extra Work performed by Subcontractors on a time and materials basis shall be documented in the same manner as required of the Contractor. If the County approves of a Lump Sum price for a Subcontractor's performance of Extra Work, then Contractor shall submit in lieu of the documentation otherwise required, such documentation as may be requested by the County confirming the Extra Work performed on any given Working Day.

F. Authentication.

In addition to the foregoing, County may require that Contractor comply with other reasonable requirements pertaining to observation and verification of time and materials work and authentication of time and materials tickets and invoices by persons designated by County for such purpose.

G. Waiver by Contractor.

The failure of Contractor to submit authentication of costs in the manner required shall, if County elects in its reasonable discretion to treat it as such, constitute a waiver by Contractor of any right to a Contract Adjustment for the Allowable Costs incurred for performance of that portion of the Extra Work for which Contractor has failed to provide such authentication.

7-4.5.3. ALLOWABLE COSTS.

The term "Allowable Costs" (1) means the costs that are listed in this Section; and (2) excludes costs that do not constitute Allowable Costs under Section 7-4.5.4, below:

A. Labor.

Straight-time wages and, if specifically authorized by County in writing, overtime wages for employees employed at the Project, including wages for employees of Subcontractors performing engineering or fabrication detailing at locations other than at the Project. The use of a labor classification which would increase the Allowable Costs for Extra Work will not be permitted unless Contractor establishes the necessity for the use of such labor classification. Overtime wages and salaries shall only constitute an Allowable Cost to the extent permitted by the Contract

Documents and only as specifically authorized by County in writing setting forth the amount of overtime anticipated, which amount shall be deemed the maximum amount of overtime reimbursable as an Allowable Cost. As part of the Allowable Costs permitted, Contractor shall be entitled to be reimbursed wages paid to a "time and materials clerk" employed by Contractor to track and document Changes that are authorized or permitted to be performed on a time and materials basis, provided that the time expended by such employee is verified by contemporaneously maintained time sheets maintained by such clerk showing the actual time spent tracking and documenting the performance of Changes separately from other tasks or functions performed by such clerk.

B. Benefits.

To the extent based on wages reimbursable herein, net actual employer costs of payroll taxes (FICA, Medicare, SUTA, FUTA), insurance (as adjusted for experience modifiers, premium discounts, dividends, rebates, expense constants, assigned risk pool costs, net cost reductions due to policies with deductibles for self-insured losses, assigned risk rebates, or the like), health and welfare, pension, vacation, apprenticeship funds and benefits required by lawful collective bargaining agreements.

C. Materials.

Costs of materials used or consumed in the Work. Such costs for Extra Work shall be at a price that is competitive to the price charged for similar materials delivered within the general vicinity of the Project by other Subcontractors, suppliers, manufacturers and distributors. The cost for any such item that is not new shall mean "fair market value" based on the estimated price a reasonable purchaser would pay to purchase the used material at the time it was used or consumed for the Work, which fair market value must be declared by Contractor and approved by County prior to such use or consumption.

D. Taxes.

Sales taxes on the costs of the materials described herein.

E. Equipment Rental.

Rental charges for necessary machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others. No charge shall be allowed or credit required for items which have a replacement value of Two Hundred and Fifty Dollars ($250) or less. The allowable rental rates shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, loading, transportation, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. If equipment used for Extra Work is used intermittently and, when not in use, could be returned to its rental source at less expense to County than holding it at the Project, it shall be returned, unless Contractor elects to keep it at the Project at no expense to County. Under no circumstances shall the aggregate rentals

chargeable for any item of equipment exceed the following percentages of the fair market value of the item at the time of its first use for the Work, which fair market value must be declared by Contractor and approved by County prior to the first use of such item in or for the Work: (1) if the item is owned by the Contractor or any company affiliated with Contractor, the aggregate rentals shall not exceed seventy-five percent (75%) of such fair market value; and (2) if the item is not owned by the Contractor or any company affiliated with Contractor, the aggregate rentals shall not exceed one hundred percent (100%) of such fair market value. All equipment shall be acceptable to County, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and manufacturer's approved modifications shall be used to classify equipment, and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer. The cost of major repairs or overhauls of rented equipment or machinery shall be deemed a cost of business of the lessor of such equipment or machinery and shall not be reimbursable as an Allowable Cost.

F. Subcontractors.

Payments made by Contractor to Subcontractors; provided, however, that: (1) such payments are not otherwise precluded from reimbursement by the terms of the Contract Documents; (2) such payments are for Work performed in accordance with the requirements of the Contract Documents; (3) such payments are for amounts properly due and owing by Contractor under the terms of the governing Contract between Contractor and such Subcontractor; and (4) in the case of payments for Extra Work performed by a Subcontractor pursuant to a Change Order executed between Contractor and a Subcontractor the Change Order was executed under circumstances in which the Subcontractor was entitled under the terms of its Contract with Contractor to receive the amount of additional compensation agreed to in the Change Order.

G. Bonds.

Costs of bonds required to be furnished by Contractor (not Subcontractors) under the terms of the Contract Documents; provided, however, that such additional costs chargeable for Extra Work or credited for Deleted Work shall not exceed two percent (2%) of the costs described herein.

7-4.5.4. COSTS NOT ALLOWED.

Allowable Costs shall not include any of the costs associated with any of the following (whether incurred by Contractor or a Subcontractor):

1) superintendent(s);

2) assistant superintendent(s);

3) project engineer(s);

4) project manager(s);

5) scheduler(s);

6) estimator(s);

7) drafting or detailing (except as otherwise permitted herein);

8) vehicles not dedicated solely to the performance of the Work;

9) small tools with a replacement value not exceeding two hundred and fifty dollars ($250);

10) office expenses, including staff, materials and supplies;

11) on-Project and off-Project trailer and storage rental and expenses;

12) site fencing not added solely due to the performance of Extra Work;

13) utilities, including gas, electric, sewer, water, telephone, telefax and copier equipment;

14) computer and data-processing personnel, equipment and software;

15) federal, state or local business, income and franchise taxes;

16) insurance (including, without limitation, General Liability, Automobile and Worker's Compensation);

17) without limitation to Contractor's right to liquidated damages, losses, of any kind, incurred by Contractor or a Subcontractor, of any tier, that arise from or relate to delay (including Excusable Delay or Unexcused Delay) or acceleration to overcome the effects of such delay; and

18) costs and expenses of any kind or item not specifically and expressly included herein.

7-4.6. MARKUP.

7-4.6.1. ALLOWABLE MARKUPS.

Allowable Markups consist of the percentages set forth provided for by this Section. Allowable Markups are deemed to cover, without limitation, the following: (1) direct and indirect overhead (including, without limitation, consumables, small tools, and cleanup) and profit of the Contractor; (2) direct and indirect overhead (including, without limitation, consumables, small tools, and cleanup) and profit of the Subcontractors, of every Tier; and (3) all costs that are not reimbursable to Contractor, above. Subject to the exclusions and limitations set forth elsewhere in the Contract Documents, Allowable Markups include and are limited to the following:

A. Self-Performed Work.

1. Deleted Work.

With respect to all or that portion of Deleted Work involving self- performed Work, County shall be entitled to a credit equal to five percent (5%) of the amount of the credit for the savings to Contractor for the self-performed Work as calculated herein.

B. Installation Subcontractors (First-Tier).

1. Deleted Work.

With respect to all or that portion of Deleted Work that was to have been performed by a first-Tier Installation Subcontractor, the Contract Price shall be reduced. In addition, a credit shall be due from Contractor of five percent (5%) of the amount of the total credit due.

C. Installation Subcontractors (Second-Tier).

1. Deleted Work.

With respect to all or that portion of Deleted Work that was to have been performed by a second-Tier Installation Subcontractor, the Contract Price shall be reduced. In addition, a credit shall be due from Contractor of five percent (5%) of the amount of the total credit due.

D. Other Subcontractors.

1. Deleted Work.

With respect to all or that portion of Deleted Work that was to have been performed by such other Subcontractor who is not an Installation Subcontractor or who is an Installation Subcontractor below the second-Tier, the Contract Price shall be reduced. In addition, a credit shall be due from Contractor of five percent (5%) of the amount of the total credit due.

7-4.6.2. REVIEW OF MARKUPS.

It is Contractor's responsibility to review information submitted by Subcontractors to ensure that all markups comply with the requirements of the Contract Documents. Payment by the County of markups that exceed Allowable Markups shall not be considered as a waiver by County of the right to require repayment by Contractor of any markup charged that is in excess of Allowable Markups and such excess amounts shall be promptly paid by Contractor to County.

7-4.6.3. EXCLUSIONS AND LIMITATIONS.

Allowable Markups are not permitted:

1) on agreed Unit Prices;

2) on materials, products or equipment furnished by County;

3) on damages, at the Established Daily Rate if any, payable to Contractor;

4) to a Subcontractor who contracts to perform a Change that is in fact wholly performed by another Subcontractor ("wholly performed" means that all of the Change, other than supervision or minor labor or materials, are furnished by such other Subcontractor); or

5) on any cost or compensation with respect to which the Contract Documents state that there shall be "no Allowable Markup", "no markup for overhead and profit" or words of similar meaning.

7-5 PAYMENT FOR CHANGES REQUESTED BY THE CONTRACTOR

If such changes are approved by the Engineer pursuant to Section 7-4.4, approval will only be made based upon a reduction in cost or no additional cost to the Agency.

7-6 NET CALCULATIONS

If any single Change or collection of Changes in the same or related portions of the Work, or in multiple portions of Work covered by a single bulletin or instruction by County, involve both Change and Extra or Deleted Work, and if the added Allowable Costs resulting from the Change exceed the reduction calculated (excluding any Allowable Markup to the Contractor), then the calculation of Allowable Markups to Contractor shall be based on and limited to the resulting net increase in the Allowable Costs.

7-7 UNIT PRICES

Unless otherwise stated in the Contract Documents, Unit Prices stated in the Contract Documents or subsequently agreed upon by County and Contractor shall be deemed to include and encompass all costs of performance, overhead and profit, including, without limitation, all Allowable Costs and Allowable Markups.

7-8 DISCOUNTS

For purposes of determining Allowable Costs of a Change, all trade discounts, rebates, refunds, and returns from the sale of surplus materials and equipment shall accrue and be credited to County, and Contractor shall take all necessary steps to ensure that such discounts, rebates, refunds, and returns are secured.

7-9 PROMPT PRICING

It is fundamental to the County's objective of controlling costs that performance of Changes on a time and materials basis of compensation and without a not-to-exceed price be curtailed. Contractor recognizes that prompt pricing by Contractor is critical to this objective. Accordingly, in addition to and without limitation on any of the County's other rights or remedies, including,

without limitation, its right to enforce a waiver, it is agreed that if Contractor fails to timely submit a complete Change Order Request, with respect to any circumstance, event or occurrence constituting a Change then: (1) any delay to the performance of the Work associated with the performance, delayed performance or nonperformance of such Change shall be conclusively deemed to be an Unexcused Delay; and (2) the County shall have the option, exercised in its sole discretion, to unilaterally fix and determine the amount of the Contract Adjustment to the Contract Price for such Change based on the "estimating guide" method set forth herein, which determination shall be conclusively final and binding upon Contractor.

7-10 FULL RESOLUTION

Except as otherwise stated in the Contract Documents, the signing of a Change Order by Contractor and the County shall be conclusively deemed to be a full resolution, settlement and accord and satisfaction with respect to any and all loss and delay, whether known or unknown at the time of execution of the Change Order, related to the subject matter of the Change Order, including, without limitation, all rights to recovery of costs, expenses or damages for delay, disruption, hindrance, interference, extended or extraordinary (direct and indirect) overhead, multiplicity of changes, loss of productivity, labor, wage or material cost escalations, inefficiency, legal expenses, consultant costs, interest, lost profits or revenue, bond and insurance costs, changes in taxes and other similar and related losses. The foregoing provisions shall, whether or not they are expressly stated or referenced on the face of a Change Order, be deemed to be part of the terms of the Change Order and shall be deemed to supersede and govern over any other provision contained in any proposal, estimate or other documents attached to or referenced in such Change Order that conflicts.

Any right or Claim by Contractor for any additional compensation or extension of time relating directly or indirectly to a Change described in a fully executed Change Order shall be conclusively deemed waived by Contractor, even if the circumstances giving rise to such additional compensation or extension of time were not suspected by or known to the Contractor at the time of execution of the Construction Change Directive and if suspected or known would have been considered by Contractor to have been material to Contractor's Agreement to the Contract Adjustment set forth in the Change Order.

7-11 RESERVED RIGHTS

Change Orders shall be executed by Contractor without any express reservation of rights by Contractor to reserve for the future the assertion of any right of recovery from the County for loss or delay arising out of or relating to the subject matter of the Change Order. Execution of a Change Order, Unilateral Change Order or Construction Change Directive shall not be interpreted as a waiver, release or settlement of any rights or Claims that the County may have for any of the following: (1) Defective Work; (2) liquidated damages or actual losses for Delay; or (3) recoupment by County (by way of withholding of funds, set off or recovery from Contractor) of amounts paid by County for costs or markups on costs that the County discovers, following payment of such amounts to Contractor, do not constitute proper charges to County, or that constitute charges that are not properly substantiated, under the terms of the Contract Documents.

7-12 NO "TOTAL COST" CALCULATIONS

Contractor represents and warrants that it has the ability to generate and maintain complete and accurate cost accounting records that, if required, will reflect the actual costs of the Work incurred or avoided for multiple Changes and, on an event-by-event basis, the effect of multiple and concurrently occurring or caused Delays on the progress of the Work. Accordingly, Contractor agrees that all Change Order Requests and Claims shall be itemized in a manner that, with reasonable mathematical certainty and without reliance upon probabilities or inferences, segregates on a discrete, event-by-event basis the direct, actual Allowable Costs associated with each individual Change or Delay. Unless otherwise agreed to by County in writing in the exercise of its sole discretion, Change Order Requests and Claims shall not be based, in whole or in part, upon any methodology (such as "total cost" or "modified total cost" methodologies) that purports to establish Contractor's entitlement to additional compensation inferentially based, solely or principally, on the difference between Contractor's total costs for the Work or a portion of the Work and its original Bid.

7-13 MULTIPLE CHANGES

The County reserves the absolute right to make whatever Changes, including, without limitation, Deleted Work, that it determines, in its sole discretion, are necessary or otherwise desirable. Under no circumstances shall the individual or cumulative number, value or scope of such Changes, or their individual and cumulative impact on the Work, become a basis for Contractor to assert any Claim for breach of Contract, abandonment, rescission, termination, cardinal change or reformation of the Agreement, nor shall such circumstances be the basis for Contractor, or any of the Subcontractors, of any Tier, to assert a right of recovery of any loss if such right is not permitted by, or is in excess of that allowed under, the Contract Documents.

7-14 CONTINUOUS PERFORMANCE

Subject to Contractor's rights, no dispute or disagreement with respect to any Changes or delay, including, without limitation, disputes over Contractor's right to or the terms of a Contract Adjustment, shall relieve or excuse Contractor from the obligation to proceed with and maintain continuous, expeditious and uninterrupted performance of the Work, including performance of any disputed Changes.

ARTICLE 8 - CLAIMS

8-1 CLAIMS

8-1.1. SUBMISSION OF CLAIMS.

All Claims by Contractor shall be submitted to the County in accordance with the procedures set forth in the Contract Documents. This Article **8** - is intended to comply with the provisions of Public Contract Code Section 9204.

Click the following link for the full text of Public Contract Code Section 9204:

http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PCC&sectionNum=9204

8-1.2. ACCRUAL OF CLAIM.

A. Changes.

A Claim by Contractor involving a Contract Adjustment due to Changes or Extra or Deleted Work arises upon issuance of a written decision denying, in whole or in part, Contractor's Change Order Request. Such Claim shall be prepared and submitted in accordance with the requirements of this Article **8** -.

B. Other Claims.

Claims by Contractor, other than those described in this Article **8** -, that arise at the time that County receives written notice by Contractor of Contractor's intent to file the Claim. Such notice of intent shall be given no later than five (5) Days after the discovery date relative to such circumstances (even if Contractor has not yet experienced a loss or delay due to such circumstances) and shall state the event or condition giving rise to the Claim and its probable effect, if any, upon the Contract Price and Contract Time.

Failure by Contractor to submit a Notice of Intent to file Claim in accordance with this subsection shall constitute a waiver by Contractor of the right to further recourse or recovery upon such Claim.

8-1.3. CONTENT OF CLAIMS.

A Claim must include the following:

1) a statement that it is a Claim and a request for a decision on the Claim;

2) a detailed description of the act, error, omission, unforeseen condition, event or other circumstance giving rise to the Claim;

3) supporting documentation as follows: (a) if the Claim involves a Contract Adjustment due to Changes or Extra or Deleted Work, documentation demonstrating that a

complete Notice of Change and Change Order Request were timely and properly submitted as required by Section **7-4.4.6**; (b) if the Claim involves an adjustment to the Contract Time, documentation demonstrating that a complete Notice of Delay and Request for Extension were timely and properly submitted as required by Section **6-4.2**; (c) if the Claim does not involve a Contract Adjustment on the basis of Changes or Extra or Deleted Work, documentation demonstrating that a Notice of Intent to file the Claim was timely and properly submitted as required;

4) a detailed justification for any remedy or relief sought by the Claim, including, without limitation, all of the following: (a) a detailed cost breakdown in the form required for submittal of Change Order Requests, which complies with the prohibition on "total cost" calculations; and (b) job cost records substantiating the actual costs that have been incurred; and

5) a written certification, signed by a responsible managing officer or principal of Contractor's organization who has the authority to sign contracts on behalf of Contractor and who has personally investigated the matters alleged in the Claim, in the following form:

"I hereby certify under penalty of perjury that I am a managing officer or principal of (Contractor) and that I have reviewed the Claim presented herewith on Contractor's behalf and/or on behalf of (Subcontractor(s)) and that the following statements are, to the best of my knowledge after diligent inquiry into the circumstances of such Claim, true and correct:

a. the facts alleged in or that form the basis for the Claim are true and accurate;

b. I do not know of any facts or circumstances, not alleged in the Claim, that by reason of their not being alleged render any fact or statement alleged in the Claim materially misleading;

c. I have, with respect to any request for money or damages alleged in or that forms the basis for the Claim, reviewed the job cost records (including those maintained by Contractor and by any Subcontractor, of any Tier, that is asserting all or any portion of the Claim) and confirmed with reasonable certainty that the losses or damages alleged to have been suffered by Contractor and/or such Subcontractor were in fact suffered in the amounts and for the reasons alleged in the Claim;

d. I have, with respect to any request for extension of time or claim of delay, disruption, hindrance or interference alleged in or that forms the basis for the Claim, reviewed the job schedules (including those maintained by Contractor and by any Subcontractor, of any Tier, that is asserting all or any portion of the Claim) and confirmed that the delays or disruption alleged to have been suffered by Contractor and/or such Subcontractor were in fact experienced for the durations, in the manner, and with the consequent effects on the time and/or sequence of performance of the Work, as alleged in the Claim; and,

e. Contractor has not received payment from County for, nor has Contractor previously released County from, any portion of the Claim.

8-1.4. NONCOMPLIANCE.

Failure by Contractor to comply with the statement above, shall give County the right, without obligation, to deny the Claim or return the Claim without any response.

8-1.5. SUBMISSION OF CLAIMS.

A. Time for Filing.

All Claims and supporting documentation and certifications required to be submitted by Contractor must be submitted to the County within thirty (30) days after the Claim arises (as "arises" is defined above). No Claims by Contractor are permitted after Final Payment.

B. Condition Precedent.

Contractor's strict compliance with the requirements of this Article 8 as to a Claim shall be considered a condition precedent to Contractor's right to initiate or seek determination of its rights in any legal proceedings with respect to such Claim.

8-1.6. RESPONSE TO CLAIMS BY CONTRACTOR.

A. Claims under $50,000.

Claims by Contractor that are less than Fifty Thousand Dollars ($50,000) shall be responded to by County by issuance of a good faith determination of the Claim in writing within forty-five (45) days of receipt of the Claim, unless County requests additional information or documentation of the Claim within thirty (30) days of receipt of the Claim, in which case County shall respond to the Claim after receipt of the further information or documentation by issuing its good faith determination of the Claim within the longer of either (1) fifteen (15) days, or (2) the period of time taken by Contractor in producing the additional information or documentation. Provided, however, that if the County requires approval from the Board of Supervisors prior to the issuance of its good faith determination, and the Board of Supervisors does not meet within forty-five (45) days of the date of Contractor's Claim, the County's response will be due three (3) days following the next duly noticed meeting of the Board of Supervisors after the forty-five (45) period has expired.

B. Claims over $50,000.

Claims by Contractor that are over Fifty Thousand Dollars ($50,000) shall be responded to by County by issuance of a good faith determination of the Claim in writing within forty-five (45) days of receipt of the Claim, unless County requests additional information or documentation of the Claim within thirty (30) days of receipt of the Claim, in which case County shall respond to the Claim after receipt of the further information or documentation by issuing its good faith determination within the longer

of either (1) thirty (30) days, or (2) the period of time taken by Contractor in producing the additional information or documentation. Provided, however, that if the County requires approval from the Board of Supervisors prior to the issuance of its good faith determination, and the Board of Supervisors does not meet within forty-five (45) days of the date of Contractor's Claim, the County's response will be due three (3) days following the next duly noticed meeting of the Board of Supervisors after the forty-five (45) period has expired.

8-1.7. MEET AND CONFER.

If Contractor disputes County's good faith determination of a Claim by Contractor, or if County fails to respond within the prescribed time set forth above, Contractor may so notify County, in writing, within fifteen (15) days of Contractor's receipt of County's good faith determination, or within fifteen (15) days of County's response due date in the event of a failure to respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand, County shall schedule a meet and confer conference within thirty (30) days of such demand for discussion of settlement of the dispute. If either County or Contractor determines that the meet and confer process has not been successful, it shall have the right to declare the meet and confer process closed by written notice to the other party so stating. Any unresolved disputes shall be collectively submitted to nonbinding mediation after the completion of the Work.

8-1.8. CLAIMS BASED ON DIFFERING SITE CONDITIONS.

A. Contractor Responsibility.

Save and except as hereinafter provided for Contract Adjustments due to Differing Site Conditions, Contractor agrees at Contractor's own expense to assume the risk and costs of Extra Work and delay due to concealed or unknown conditions, surface or subsurface, at the Project.

B. Differing Site Conditions.

Differing Site Conditions are those conditions at the Project which are not otherwise reasonably ascertainable by Contractor in the performance of its obligations under the Contract Documents (including, without limitation, conditions not reasonably ascertainable by Contractor from documents or information described and available to Contractor for its review prior to the Bid) that constitute: (1) hazardous materials that constitute hazardous waste, as defined in California Health and Safety Code §25117, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of Applicable Laws; (2) subsurface or concealed conditions at the Project or concealed conditions at the Project which differ materially from those indicated by the Contract Documents or other information that was either reviewed by Contractor or that Contractor was given the opportunity to review prior to the Bid; or (3) unknown physical conditions at the Project or concealed conditions at the Project of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

C. Notice of Change.

If Contractor encounters conditions it believes constitute Differing Site Conditions, then Contractor shall, before such conditions are disturbed, give Notice of Change as required below, stating, without limitation, a detailed description and precise location of the conditions encountered.

D. Investigation by County.

Upon receipt of notice from Contractor as required, County shall promptly investigate Contractor's report of Differing Site Conditions.

E. Change Order Request.

If Contractor intends to seek a Contract Adjustment based upon Differing Site Conditions, it shall submit a complete and timely Change Order Request, setting forth its request for a Contract Adjustment.

F. Contract Adjustments.

If, following Contractor's compliance with its obligations, County finds that Differing Site Conditions exist, then, unless the Contractor's right to Contract Adjustment has been waived, a Contract Adjustment shall be made for the resulting Change and Delay, in such amount and duration as County determines by issuance of a good faith determination are reasonable and permitted by the Contract Documents.

G. Waiver by Contractor.

Failure by Contractor to strictly comply with the requirements herein pertaining to Contract Adjustment based on a Claim for Differing Site Conditions shall constitute a waiver by Contractor of the right to further recourse or recovery upon such Claim.

H. Final Completion.

No Claim by Contractor for additional compensation for Differing Site Conditions shall be allowed if asserted more than five (5) days after the Contractor discovered or should have discovered the Differing Site Condition.

8-1.9. CONTINUOUS WORK.

Contractor shall, notwithstanding the existence of a Claim by Contractor that is disputed by County, maintain continuous performance, without interruption, suspension or slowing, of the Work and its other obligations (1) pending issuance by County of a good faith determination of the Claim and (2) thereafter in compliance with the terms of such good faith determination.

8-2 NOTICE OF THIRD-PARTY CLAIMS

County shall provide notification to Contractor within a reasonable time after receipt of any third-party Claim relating to the Contract. County shall be entitled to recover from Contractor its reasonable costs of providing such notification.

8-3 GOVERNMENT CODE CLAIMS

Nothing in the Contract, including this Section, waives or modifies Contractor's obligation to present a timely Claim under Government Code Section 900 et seq. Notwithstanding Contractor's participation in dispute resolution proceedings or other Claims procedures under the Contract, such proceedings are in addition to Contractor's obligation to present a written Government Code Claim, which is a prerequisite to filing a lawsuit for money or damages against County

8-4 WAIVERS OF RIGHTS BY CONTRACTOR

County and Contractor acknowledge that it is in the interest of both parties that changes, delays, and Claims be identified, quantified, evaluated, and finally resolved promptly, contemporaneously with the circumstances from which they arise, and that there be certainty with respect to the finality of any resolution of related disputes. On those premises, and in further recognition of the fact that it would be extremely difficult or impossible to quantify, demonstrate, or prove the harm to County if any of the foregoing premises is not achieved due to failure by Contractor to comply with the requirements of the Contract Documents concerning Timely Notice or Submission of Notices and Claims relating to Changes, Delay, and Contract Adjustments, County and Contractor agree that failure by Contractor to conform to such requirements of the Contract Documents shall, in and of itself, constitute sufficient cause and grounds, without the necessity of County demonstrating and actual harm or prejudice, for imposing upon Contractor a full and unconditional waiver by Contractor of its right to a Contract Adjustment and of its rights and recourse for recovery of any related loss by any legal process otherwise provided for under Applicable Laws.

8-5 GOOD FAITH DETERMINATIONS

Wherever in the Contract Documents it is provided that the County may or shall make a determination or decision in the exercise of good faith (including, without limitation, provisions for a good faith determination by County), any such determination or decision that the person exercising such right on behalf of County believes in good faith to be a proper exercise of County's rights and has a reasonable basis in fact, whether or not such determination is in fact proper, reasonable or correct or adjudged to be so, shall be complied with by Contractor without Delay to Contractor's performance of the Work. However, unless the Contract Documents expressly provides otherwise, neither such good faith determination or decision nor Contractor's compliance therewith shall be interpreted as precluding the Contractor from exercising its rights to seek adjudication of its rights in the manner permitted by the Contract Documents or Applicable Laws.

8-6 ESCROW BID DOCUMENTS

If the Contract Documents obligate Contractor to submit escrow bid documents, then submission by Contractor of its escrow bid documents shall constitute a warranty and representation by Contractor that it has no other written documents or electronic files containing any information that Contractor was required to include, but failed to include, as part of its performing such

obligation and Contractor agrees it shall have no right to submit for consideration by County, or offer into evidence in legal proceedings, in support of a request for Contract Adjustment or a Claim any such documentation or electronic files that Contractor so failed to include in its escrow bid documents.

ARTICLE 9 - CONTRACTOR'S INDEMNITY OBLIGATIONS

9-1 GENERAL

To the fullest extent permitted by law, the Contractor assumes liability for and agrees, at the Contractor's sole cost and expense, to promptly and fully indemnify, protect, hold harmless and defend (even if the allegations are false, fraudulent, or groundless), the County of Riverside, the Riverside County Department of Waste Resources and all of their respective officials, officers, directors, employees, commission members, representatives and agents ("Indemnitees"), from and against any and all Claims, allegations, actions, suits, arbitrations, administrative proceedings, regulatory proceedings, or other legal proceeds, causes of action, demands, costs, judgments, liens, stop notices, penalties, liabilities, damages, losses, anticipated losses of revenues, and expenses (including, but not limited to, any fees of accountants, attorneys, experts or other professionals, or investigation expenses), or losses of any kind or nature whatsoever, whether actual, threatened or alleged, arising out of, resulting from, or in any way (either directly or indirectly), related to the Work, the Project or any breach of the Contract by Contractor or any of its officers, agents, employees, Subcontractors, Sub-subcontractors, or any person performing any of the Work, pursuant to a direct or indirect contract with the Contractor ("Indemnity Claims"). Such Indemnity Claims include, but are not limited to, Claims for:

A. Any activity on or use of the County's premises or facilities;

B. Any liability incurred due to Contractor acting outside the scope of its authority pursuant to the Contract, whether or not caused in part by an Indemnified Party;

C. The failure of Contractor or the Work to comply with any Applicable Law, permit or orders;

D. Any misrepresentation, misstatement or omission with respect to any statement made in the Contract Documents or any document furnished by the Contractor in connection therewith;

E. Any breach of any duty, obligation or requirement under the Contract Documents, including, but not limited to any breach of Contractor's warranties, representations or agreements set forth in the Contract Documents;

F. Any failure to coordinate the Work with County's Separate Contractors;

G. Any failure to provide notice to any party as required under the Contract Documents;

H. Any failure to act in such a manner as to protect the Project from loss, cost, expense or liability;

I. Bodily or personal injury, emotional injury, sickness or disease, or death at any time to any persons including without limitation employees of Contractor;

J. Damage or injury to real property or personal property, equipment and materials (including, but without limitation, property under the care and custody of the Contractor or the County) sustained by any person or persons (including, but not limited to, companies, corporations, utility company or property owner, Contractor and its employees or agents, and members of the general public);

K. Any liability imposed by Applicable Law including, but not limited to criminal or civil fines or penalties;

L. Any dangerous, hazardous, unsafe or defective condition of, in or on the Site, of any nature whatsoever, which may exist by reason of any act, omission, neglect, or any use or occupation of the Site by Contractor, its officers, agents, employees, or Subcontractors;

M. Any operation conducted upon or any use or occupation of the Site by Contractor, its officers, agents, employees, or Subcontractors under or pursuant to the provisions of the Contract or otherwise;

N. Any acts, errors, omission or negligence of Contractor, its officers, agents, employees, or Subcontractors;

O. Infringement of any patent rights, licenses, copyrights or intellectual property which may be brought against the Contractor or County arising out of Contractor's Work, for which the Contractor is responsible; and

P. Any and all Claims against the County seeking compensation for labor performed or materials used or furnished to be used in the Work or alleged to have been furnished on the Project, including all incidental or consequential damages resulting to the County from such Claims.

9-2 EFFECT OF INDEMNITEES' ACTIVE NEGLIGENCE

Contractor's obligations to indemnify and hold the Indemnitees harmless **exclude** only such portion of any Indemnity Claim which is attributable to the active negligence or willful misconduct of the Indemnitee, provided such active negligence or willful misconduct is determined by agreement of the parties or by findings of a court of competent jurisdiction. In instances where an Indemnitee's active negligence accounts for only a percentage of the liability for the Indemnity Claim involved, the obligation of Contractor will be for that entire percentage of liability for the Indemnity Claim not attributable to the active negligence or willful misconduct of the Indemnitee(s). Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Article **9** -. Subject to the limits set forth herein, the Contractor, at its own expense, shall satisfy any resulting judgment that may be rendered against any Indemnitee resulting from an Indemnity Claim. The Indemnitees shall be consulted with regard to any proposed settlement.

9-3 INDEPENDENT DEFENSE OBLIGATION

The duty of the Contractor to indemnify and hold harmless the Indemnitees includes the separate and independent duty to defend the Indemnitees, which duty arises immediately upon receipt by Contractor of the tender of any Indemnity Claim from an Indemnitee. The Contractor's obligation to defend the Indemnitee(s) shall be at Contractor's sole expense, and not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determines that the Contractor is not liable. This duty to defend shall apply whether or not an Indemnity Claim has merit or is meritless, or which involves Claims or allegations that any or all of the Indemnitees were actively, passively, or concurrently negligent, or which otherwise asserts that the Indemnitees are responsible, in whole or in part, for any Indemnity Claim. The Contractor

shall respond within thirty (30) Calendar Days to the tender of any Indemnity Claim for defense and/or indemnity by an Indemnitee, unless the Indemnitee agrees in writing to an extension of this time. The defense provided to the Indemnitees by Contractor shall be by well qualified, adequately insured and experienced legal counsel acceptable to the County.

9-4 INTENT OF PARTIES REGARDING SCOPE OF INDEMNITY

It is the intent of the parties that the Contractor and its Subcontractors of all tiers shall provide the Indemnitees with the broadest defense and indemnity permitted by Applicable Law. In the event that any of the defense, indemnity or hold harmless provisions in the Contract Documents are found to be ambiguous, or in conflict with one another, it is the parties' intent that the broadest and most expansive interpretation in favor of providing defense and/or indemnity to the Indemnitees be given effect.

9-5 WAIVER OF INDEMNITY RIGHTS AGAINST INDEMNITIES

With respect to third party Claims against the Contractor, to the fullest extent permitted by law, the Contractor waives any and all rights to any type of express or implied indemnity against the Indemnitees.

9-6 SUBCONTRACTOR REQUIREMENTS

In addition to the requirements set forth hereinabove, Contractor shall ensure, by written subcontract agreement, that each of Contractor's Subcontractors of every tier shall protect, defend, indemnify and hold harmless the Indemnitees with respect to Indemnity Claims arising out of, in connection with, or in any way related to each such Subcontractors' Work on the Project in the same manner in which Contractor is required to protect, defend, indemnify and hold the Indemnitees harmless. In the event Contractor fails to obtain such defense and indemnity obligations from others as required herein, Contractor agrees to be fully responsible to the Indemnitees according to the terms of this Article 9 -.

9-7 NO LIMITATIONS OR WAIVER OF RIGHTS

Contractor's obligations under this Article 9 - are in addition to any other rights or remedies which the Indemnitees may have under the law or under the Contract Documents. Contractor's indemnification and defense obligations set forth in this Article 9 - are separate and independent from the insurance provisions set forth in the Contract Documents, and do not limit, in any way, the applicability, scope, or obligations set forth in such insurance provisions. The purchase of insurance by the Contractor with respect to the obligations required herein shall in no event be construed as fulfillment or discharge of such obligations. In any and all Claims against the Indemnitees by any employee of the Contractor, any Subcontractor, any supplier of the Contractor or Subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the obligations under this Article 9 - shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor or any supplier of either of them, under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts. Failure of the County to monitor compliance with these requirements imposes no additional obligations on the County and will in no way act as a waiver of any rights hereunder.

9-8 WITHHOLDING TO SECURE OBLIGATIONS

In the event an Indemnity Claim arises prior to final payment to Contractor, the County may, in its sole discretion, reserve, retain or apply any monies due Contractor for the purpose of resolving such Indemnity Claims; provided, however, the County may release such funds if the Contractor provides the County with reasonable assurances of protection of the Indemnitees' interests. The County shall, in its sole discretion, determine whether such assurances are reasonable.

9-9 SURVIVAL OF INDEMNITY OBLIGATIONS

Contractor's obligations under this Article 9 - are binding on Contractor's and its Subcontractors' successors, heirs and assigns and shall survive the completion of the Work or termination of the Contractor's performance of the Work.

ARTICLE 10 - WATERING

10-1 DESCRIPTION

The Work shall include providing a water supply for all water required for the Work. The application of the water shall be subject to the approval of the County at all times and shall be applied in the necessary amounts and at the necessary locations subject to the approval of the County.

At least one (1) mobile unit of at least 1,000-gallon capacity for applying water shall be available on the Project at all times.

Water for compacting embankment material and for dust control shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses with nozzles that will ensure a uniform application of water.

ARTICLE 11 - PUBLIC CONVENIENCE, TRAFFIC CONTROL, AND DETOURS

11-1 GENERAL.

The Contractor shall so conduct its operations as to offer the least possible obstruction and inconvenience to the public and it shall have under construction no greater length or amount of Work than it can prosecute properly with due regard to the rights of the public.

Unless otherwise provided in the Contract Documents, all public traffic shall be permitted to pass through or near the Work with as little inconvenience and delay as possible.

Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately at the Contractor's expense.

Construction operations shall be conducted in such a manner as to cause as little inconvenience and annoyance as possible to abutting and nearby property owners.

Convenient access to driveways, houses and buildings along or near the Work shall be maintained and temporary approaches to crossings or intersecting highways shall be provided and kept in good condition.

11-2 MATERIALS STORAGE

Storing or stockpiling of excavated material, imported backfill material or construction materials on any street or highway will not be permitted except as approved in advance in writing by the County.

SPECIAL PROVISIONS

FOR

THE CONSTRUCTION OF

2026 ON-CALL SITE IMPROVEMENTS

AT

RIVERSIDE COUNTY LANDFILLS

MAY 2026

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SECTION 1 - GENERAL

1.1 INTRODUCTION

A. These Special Provisions are for the site improvements at the Badlands Sanitary Landfill (BA) and Lamb Canyon Sanitary Landfill (LC) in Riverside County, California. This Project is designated as 2026 On-Call Site Improvements (Project).

B. LC is located at 16411 State Highway 79 (aka Lamb Canyon Road), Beaumont, CA 92223. The site location and vicinity map are included in Project Drawings.

C. BA is located at 31125 Ironwood Avenue, Moreno Valley, CA 92555. The site location and vicinity map are included in Project Drawings.

D. All Work to be implemented under this Contract shall consist of furnishing equipment, superintendence, labor, skills, materials, and all other items necessary for the execution of the Project and shall conform to the Contract Documents for this Project.

E. Required Bid Items (Non-Optional) for BA include: demolition, excavation, and engineered fill for the Northwest Berm; construction of reinforced concrete and shotcrete structures; construction of a metal flume drain; grind and overlay with new asphalt concrete; construction of an asphalt concrete roadway; construction of asphalt speed humps; construction of asphalt drainage structures; application of thermoplastic striping; construction of a concrete masonry block splash wall; construction of a grouted riprap channel; construction of a two foot (2ft) tall berm; and construction of a three foot (3ft) tall berm.

F. Required Bid Items (Non-Optional) for LC include: Saw-cut and demolish shotcrete drainage structures; earthwork excavation, hauling, and stockpiling; construction of reinforced shotcrete drainage structures and concrete block masonry walls; silt fencing; and applying greenwaste.

G. Optional on-call Bid Items for BA include but are not limited to: excavation and hauling sediment out of the Southwest, Western Stockpile, and the P2S1 Basins; excavation and hauling of landfilled refuse to the active face; and engineered compacted landfill cover over any excavated landfilled refuse areas.

H. Optional on-call Bid Items for LC include saw-cut, remove, and replace damaged sections of asphalt concrete roadway and concrete; the construction of new asphalt concrete roadway; earthwork with engineered fill material; construct asphalt concrete drainage structures; furnish and install CMB/2”- 4” rock material; construction of earthen berm using engineered fill; and corrugated 24” and 36” HDPE pipes at LC landfill site.

I. Major features of Work are detailed in Detailed Provisions Section 01 1100 – Summary of Work. Typical sections for each required Bid Item and estimated areas of installation are as shown in Project Drawings.

J. Additional on-call work may be requested at the sole discretion of the County on a Time and Materials (T&M) basis. The County shall provide Work Orders as written advance notice for the intent to begin construction of authorized on-call work, using all or a part of the quantities listed in **Exhibit A** of the Construction Agreement or as shown in the Project Drawings. The items will be requested primarily in preparation for rain events in the forecast or as a result of rain-related damage where repairs or new drainage construction is required. Optional on-call Bid Items and authorized T&M work may also be utilized to either adjust or augment the existing surface drainage systems as the landfills are filled and topography changes, and may also be used for other items as directed by the County. The Contractor shall mobilize within one (1) week of acknowledgement of the Work Order, unless otherwise mutually agreed upon by the County and Contractor.

K. Optional on-call Bid Items shall be utilized at the sole discretion of the County as they are subject to circumstances encountered in the field. Contractor will not be compensated in any way for Optional on-call Bid Items that are not used on the Project.

L. The County has included estimates of the total in place quantities and provided typical construction details in these Contract Documents for the Optional on-call Bid Items. However, the final quantity and construction item design is dependent on an as-need basis. The estimated quantity is for bidding purposes only and actual quantities may vary.

M. The County reserves the right to delete any Optional on call Bid Item and decrease the Contract Price by the scheduled amount for the item deleted. The County reserves the right to increase or decrease quantities of any Optional on call Bid Item and increase or decrease the Contract Price by the scheduled amount. No additional compensation shall be made to the Contractor for any deletion, increase, or decrease of quantities for any Optional on call Bid Item.

N. In no event shall the Contractor be entitled to be paid any different amount based upon the Contract Documents, Standard Specifications, Greenbook, Caltrans Requirements, or any other source. The County shall request the Optional on-call Bid Item(s) by submitting a Work Order providing exact material and estimated dimensional details for each item for each request within the set range of materials and dimensions listed in the Contract Documents. If County requests Optional on-call Bid Items outside of the range of dimensions or characteristic of work detailed in the Contract Documents, the work shall be executed under Detailed Provisions Section 01 2900 – Payment Procedures .

O. The Contractor shall be aware that the BA and LC Landfills are active landfill sites. The Contractor's Work relating to the Project shall not impede or interrupt daily landfill operations. Additionally, the Contractor shall be aware that other landfill improvement projects may be constructed concurrently with On-Call Site Improvements. Full cooperation of the Contractor and its forces is required to assure safe working conditions. Therefore, it is necessary to emphasize that the County will have full authority to eject any of the Contractor's employees or Subcontractors who do not immediately abide by the landfill site rules (See **Appendix A** – Landfill Site Safety Rules) or the directions of the County at all times throughout the duration of the Project.

1.2 INTENT AND INTERPRETATION OF THE CONTRACT DOCUMENTS

A. The Contract Documents constitute the entire and integrated Agreement between the parties hereto and supersede all prior negotiations, representations, or Agreements, either written or oral.

B. The Contract Documents shall not be construed to create a contractual relationship between any parties other than the County and the Contractor. No Contract between the County and a Third Party shall be construed to create any duty on the part of the County or such Third Party to the Contractor. The Contractor is not an intended or incidental beneficiary of any promises made in the County's Contract with a Third Party, if any.

C. The Contract Documents are intended to be complementary. What is required by one part of the Contract shall be as binding as if required by all. Should any conflict or inconsistency be found in the Contract Documents, the County shall resolve any such conflict or inconsistency in accordance with Section **1.3** – Order of Precedence of Contract Documents of these Special Provisions.

D. Where the words "similar", "typical" (or their equivalents) are used in the Contract, they shall mean nearly corresponding or having a likeness. Such words shall not be construed to mean that all parts of the Work referred to are identical or substantially identical, or that such elements of the Work are connected identically or substantially identically to the rest of the Work. The Contractor has the responsibility to determine all details of the Work in relation to their location and connection to other parts of the Work. Words importing the singular number may also be applied to the plural of persons and things; words importing the plural may be applied to the singular; and words importing the male gender may be extended to females also.

E. The organization of the Technical Specifications into divisions and provisions and the organization of the Project Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

1.3 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

A. Precedence of Contract Documents requirements are set forth under Detailed Provisions Section 01 4300 – Quality Assurance and Control incorporated herein as if set forth in full.

1.4 CLARIFICATION OF DRAWINGS AND DETAIL DRAWINGS

A. Where, on any drawing, a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply also to other similar portions of the Work. Where ornament or other details are indicated by starting only, such details shall be continued throughout the courses of parts in which it occurs and shall apply to all other similar parts of the Work, unless otherwise indicated.

B. With regard to drawings, the following shall apply:

1. Written dimensions shall be followed; drawings may not be to scale.
2. Figure dimensions on drawings shall govern over scale dimensions; and detail drawings shall govern over general drawings

SECTION 2 - COUNTY

2.1 AUTHORITY

A. Unless the County, in writing, indicates otherwise, the authority to (1) commit to or bind the County to any Change Orders or change in Contract Work, Contract Price and/or Contract Time; or (2) sign the Contract or Change Orders rests solely with the County Board of Supervisors or their designee.

B. The County Board of Supervisors or their designee shall assign a Project Manager who shall have the authority to administer the Contract including, but not limited to:

1. Receiving all correspondence and information from the Contractor;
2. Issuing Field Directives;
3. Issuing request for Change Proposals;
4. Responding to Requests for Information;
5. Reviewing the Schedule of Values, project schedules, submittals, testing and inspection reports, substitution requests, and other documentation submitted by the Contractor;
6. Negotiating Change Proposals and Change Orders;
7. Recommending Change Orders for approval by the County Board of Supervisors or their designee;
8. Issuing decisions with respect to Requests for Change Orders and Claims;
9. Processing payment requests submitted by the Contractor, and recommending payment;
10. Monitoring the quality of the Work, rejecting noncompliant Work, and recommending acceptance of the Work;
11. Transmitting executed Change Orders, amendments, and other Contract correspondence to the Contractor, and
12. Performing all other Contract administrative functions.

C. All correspondence, questions, and/or documentation shall be submitted to the Project Manager.

D. The Project Manager may designate technical representatives to perform functions under the Contract, such as review and/or inspection and acceptance of supplies and services, including construction, and other functions of a technical or administrative nature.

2.2 INFORMATION SUPPLIED BY COUNTY

A. Unless otherwise specifically provided in the Contract, surveys and site information provided by the County are intended to describe the general physical characteristics of the Project Site. The County does not represent that this information is complete or sufficient for the Contractor's performance of the Work.

B. At the Pre-Construction Meeting, the County shall furnish the Contractor with four (4) complete copies of the Contract Documents (including half-size and full-size sets of the Project Drawings). The cost of additional requested copies shall be deducted from payment to the Contractor.

C. All drawings, models, and specifications furnished by the County are solely for use on this Contract and are not to be used by the Contractor on any other work or project.

2.3 WORK BY COUNTY OR SEPARATE CONTRACTORS

A. The County reserves the right to perform Work not included in the Contract or to produce other Contracts in connection with this Project.

2.4 SUSPENSION AND RESUMPTION OF OPERATIONS

A. The Contractor shall suspend construction operations when, in the County's sole and absolute discretion, the conditions for such operations are unsatisfactory due to rain, wind, or any other condition the County deems unsatisfactory. The Contractor shall not be compensated monetarily for any such delays caused by the suspension of operations. Working Days shall be charged as appropriate, as stated in Article 6 of the General Provisions.

B. Whenever operations have been suspended, the effect of rain, wind, or other adverse conditions shall be assessed by the County before approval to resume construction is given. Equipment will not be allowed to travel on the landfill site until the ground has dried sufficiently to prevent excessive rutting and to allow the equipment to be operated satisfactorily. If rutting occurs, the Contractor shall re-level, scarify, and re-compact the materials to whatever depth is required to repair the damage to pre-existing conditions as directed by the County at the Contractor's expense. If temporary access and internal haul roads need repair, the Contractor shall repair them as required at the Contractor's expense.

2.5 TESTS AND INSPECTIONS

A. General:

1. The Contractor shall comply with requests by the County and the Testing/Inspection Provider's staff to alter the Work sequence or uncover materials to facilitate testing, inspection, or observation, or for the collection of samples or data. The Contractor shall provide the County and the Testing/Inspection Provider's staff with safe and suitable access to the work area for testing, inspection, or observation.

2. It is understood that observation and testing of a material at the time of its incorporation into the Work shall in no way be considered as a guarantee of continued acceptance of material presumed to be similar to that upon which observations and tests have been made, and that observation and testing performed by the County and the Testing/Inspection Provider's staff shall not relieve the Contractor or its suppliers of the responsibility for quality control or to fully comply with the requirements of the Contract Documents.

B. Earthwork Testing:

1. Earthwork testing shall be performed by the County and/or the Testing/Inspection Provider in accordance with the Contract Documents. If testing indicates that any area of a completed layer does not meet the requirements of the Technical Specifications, the Contractor shall perform corrective action, followed by re-testing of the same area by the County and/or the Testing/Inspection Provider in accordance with the Contract Documents. The Contractor shall remove, re-work, and bring into compliance any area that the County considers to be unsatisfactory. The area shall be restored to the complete satisfaction of the County. The Contractor shall be solely responsible for any and all costs, including re-testing, and all delays associated with and resulting from any required re-working of a soil layer due to non-compliance. See Detailed Provisions Section 31 2300 – Earthwork.

C. Materials and Installation:

1. Material and installation procedures to be used in the Work shall be subject to observation (including special inspections) and testing by the County or by an agency or laboratory approved by the County. The Contractor shall furnish without change, any samples that may be requested or required for testing. Manufacturer's warranties, guarantees, instruction sheets, and parts lists that are furnished with materials used in construction shall be submitted to the County for review and approval/acceptance before the respective items are incorporated into the Work. See Detailed Provisions Sections 01 3300 – Submittal Procedures,

01 4300 Quality Assurance and Control, 03 0505 – Concrete Testing, 04 2200 – Concrete Unit Masonry, 07 9200 – Joint Sealants, 31 2300 – Earthwork, 31 3700 – Riprap, 32 0116 – Asphalt Paving Rehabilitation, 32 1123 – Aggregate Base Course, 32 1216 – Asphalt Paving, and 33 0533 – Corrugated High-Density Polyethylene (HDPE) Drainage pipes and Appurtenances.

SECTION 3 - CONTRACTOR

3.1 CONTRACTOR REPRESENTATIONS

The Contractor makes the following representations to the County:

A. Before submission of its Bid, the Contractor has:

1. Carefully reviewed the Contract Documents and visited and examined the Project Site. If deemed "mandatory" as indicated in the "Notice to Contractors", attended the pre-bid site review meeting conducted by the County;

2. Become familiar with the general and local conditions in which the Work is to be performed and satisfied itself as to the nature, location, character, quality and quantity of the Contract Work, including, but not limited to: the labor, materials, equipment, goods, supplies, work, services and other items to be furnished and all other requirements of the Contract Documents, as well as the surface and reasonably ascertainable subsurface conditions and other matters that may be encountered at the Project Site or affect performance of the Contract Work or the cost or difficulty thereof;

3. Become familiar with and satisfied itself as to the conditions bearing upon transportation, disposal, handling, and storage of materials; and

4. Become familiar with and satisfied itself as to the availability of labor, water, electric power, roads, and uncertainties of traffic, weather, or similar physical conditions at the Project Site. Any failure of the Contractor to take the action described in this provision or elsewhere in the Contract Documents will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the County;

B. The Contract Price is reasonable compensation for the Work and the Contract Time is adequate for the performance of the Work as represented by the Contract, site visit, and the general conditions (including but not limited to: weather, project location, and soil) known or reasonably anticipated for the Project. All cost for complying with the Work or other requirements of the Contract Documents are included in the Bid, no additional compensation shall be paid by the County;

C. The Contractor is financially solvent, able to pay its debts as they mature, and possesses sufficient working capital to complete the Work and perform the Contractor's obligations required by the Contract; and

D. The Contractor is able to furnish plants, tools, material, supplies, equipment, and labor required to complete the Work and perform the obligations required by the Contract and has sufficient experience and competence to do so.

3.2 CONTRACTOR'S QUALIFICATIONS

A. In addition to the Bidder's Qualifications that are listed under the "Notice To Contractors" of these Contract Documents, the Contractor shall have, or be able to obtain, all the personnel, equipment, and materials necessary to perform the Work specified in the Scope of Work and be able to keep the needed equipment at the Project Site for the duration of the Work. The Bidder may meet these requirements by using Subcontractors, or forming a partnership, joint venture, or other legal arrangement. If the qualifications are met by the formation of a partnership, joint venture or other legal arrangement; then each separate legal entity shall be required to sign the Contract and accept joint and several liabilities. The Contractor, or the Contractor's personnel shall hold appropriate certificates, licenses, and permits necessary to perform the Work described in the Scope of Work.

B. The Contractor shall present all licenses held, the certificate numbers, and in whose name the license is issued in their bid response. In the Contractor's Proposal, the Contractor shall present specific projects, dates, locations, clients, project costs, a project summary description, and the Contractor's role in the projects. The Contractor shall present a reference list of clients that includes a contact person and phone number. The Contractor shall also possess a **Class A** Contractor's License.

C. The Contractor shall demonstrate that his Project Manager, equipment operators, and other responsible individuals performing Work on site have appropriate experience and capability. The Contractor shall present personal resumes that document education, training, work experience, and licenses and certificates held in the Bid response.

3.3 SPECIALTY ITEMS

A. Pursuant to Section 3-3 "Subcontractors" of the General Provisions of these Contract Documents, the Contractor shall perform, at the Project Site and with its own forces, Work of a value amounting to not less than fifty percent (50%) of the remainder obtained by subtracting from the original Contract Price the sum of any items designated herein as "Specialty Items". Where an entire item is subcontracted, the value of Work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of Work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, such as Schedule of Values for partial subcontracted items, and will be subject to acceptance and approval by the County.

3.4 GENERAL DUTIES

A. The Contractor shall give sufficient supervision to the Work, using its best skill and attention. The Contractor is hereby given notice that the County will be relying on the accuracy, competence and completeness of the Contractor's Work. The Contractor shall supervise and be solely responsible for the proper performance of the Work in accordance with the Contract, including the construction means, methods, techniques, sequences, procedures, and for coordination of all portions of the Work.

B. Unless specified elsewhere in the Contract, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction machinery, utilities, transportation, and other facilities and services (including federal and state tax, industrial insurance, social security liability and all other applicable taxes) necessary for the proper execution and completion of the Work.

C. The Contractor shall also provide sufficient staffing and supervision to process Requests for Information, Change Proposals, Submittals, Change Orders, close-out documentation, and to perform all other requirements of the Contract and all Work.

D. The Contractor shall lay out its Work from baselines and benchmarks indicated in the Contract Documents and shall be responsible for the accuracy of all field measurements used in the layout.

3.5 DUTY TO INSPECT CONTRACT DOCUMENTS

A. The Contractor shall carefully examine the Contract Documents and check the conditions, dimensions, and instructions that may affect the execution of the Work. These conditions include, but are not limited to, the following:

1. Applicable health and safety regulations;
2. Traffic control, transportation and access conditions;
3. Availability of utilities;
4. Surface and subsurface conditions;
5. Location, availability, and condition of construction materials;
6. Climate;
7. On-site soil characteristics of soil to be used in construction including, but not limited to: size and type variation, location of excavation, stockpile areas, etc.;
8. General construction conditions at the Project Site;
9. Work trade coordination: Contractor shall coordinate the work trades and construction items to be supplied, delivered, set in place, and constructed. Such portions of Contractor and Subcontractors Work as all

or in part embedded, built-in, attached to, or supported by the Work shall be performed in a manner that shall not hinder construction and Work progress.

B. The Contractor shall immediately notify the County, in writing, of any:

1. Error, inconsistency, or omission in the Contract Documents that a reasonable Contractor knew or, through the exercise of reasonable diligence, should have discovered under the same and similar circumstances;

2. Requirements in the Contract Documents that conflict with any local, state, and federal laws, regulations and/or permits, licenses, and easement conditions that a reasonable Contractor knew or, through the exercise of reasonable diligence, should have discovered under the same and similar circumstances.

C. The Contractor should not proceed with the Work in question until the Contractor receives written direction from the County.

D. If the Contractor proceeds with the Work in question without written direction from the County, the Contractor shall be responsible for any costs or damages associated with:

1. Fines or penalties;

2. Demolition, tear out, removal, cleanup, remediation, or fixing the Work in question; and

3. Delay, disruption, and loss of productivity.

E. The Contractor's failure to timely discover and immediately report such reasonably ascertainable errors, inconsistencies, or omissions and conflicts in regulatory requirements, permits, licenses or easements to the County shall preclude the Contractor's recovery of costs and time resulting from the Contractor's failure to timely discover and/or immediately notify the County of such errors, inconsistencies, or omissions.

3.6 DEVIATION FROM CONTRACT

A. The Contractor shall not make an alteration, variation, addition, deviation, or omission from the requirements of the Contract without the written consent of the County.

B. Any such alteration, variation, addition, deviation, or omission by the Contractor shall not result in any extra compensation or extension of time.

C. The County shall have the right to treat any alteration, variation, addition, deviation, or omission from the requirements of the Contract as a contract breach if prior written consent is not obtained from the County, which may be

justification for the County to withhold payment, stop Work, or terminate the Contract for default.

3.7 COMMUNICATIONS

A. The Contractor must designate, in writing, its Contractor's Representative who is responsible for administering the Contract and has the authority to bind and obligate the Contractor in the performance of the Work.

B. Communication with the Contractor shall be through the Contractor's Representative.

C. The Contractor must designate, in writing, the name(s) of the Contractor's supervisory staff (project manager, superintendent, safety officer, etc.) that shall have the authority to conduct and supervise construction operations for this Project, including, but not limited to: supervision, maintenance, traffic control, survey, health and safety, dust control, materials storage, and storm water compliance.

D. The Contractor shall notify the County immediately if the Contractor's Representative and/or Contractor's supervisory staff change and identify the name(s) of the new staff and effective date of the change.

3.8 INSURANCE REQUIREMENTS

A. Contractor and their Subcontractors shall procure and maintain Workers Compensation, Commercial General Liability, Vehicle Liability, and Environmental Impairment insurance in accordance with Section 5-3 of the General Provisions. In addition, the following shall apply to this Project:

1. Professional Liability Insurance – Contractor's design consultant(s) shall procure and maintain the following required insurance policies, at their sole cost and expense, at all times during the duration of the Contract:

    a. Workers' Compensation – Statutory
    b. General Liability - $1,000,000
    c. Professional Liability - $1,000,000
    d. Automobile Liability - $1,000,000

3.9 CONTRACTOR'S SUPERVISION AND EMPLOYEES

A. Contractor has an obligation to provide qualified and competent people to administer the Contract and perform all the Work.

B. During the performance of the Work the Contractor shall have supervisory staff on-site and available to administer, manage and coordinate the Work. The County shall not be responsible for the acts or omissions of the supervisory staff or their assistants.

C. The Contractor shall, at all times, enforce good order among all persons furnishing labor or materials on-site and shall only employ workers skilled in the Work assigned. If requested by the County, Contractor shall provide the County with copies of licenses, registrations, and certifications.

1. The County shall have the right to require the Contractor to remove staff from the Project Site who (1) do not have the appropriate qualifications and experience to meet or uphold the requirements of the Contract or (2) do not comply with the Contractor's Health and Safety Plan and/or the safety rules for the Project Site. The County shall also have the right to order the Contractor to replace staff who demonstrate unprofessional behavior.

2. Failure by the County to require removal of any of the Contractor's staff shall not be deemed an admission that any such staff are satisfactory, nor shall such failure relieve the Contractor from any contractual responsibility.

3.10 CONTRACTOR'S DUTY WHEN COUNTY PERFORMS WORK ON PROJECT

A. The Contractor shall coordinate its Work with the County and other County Contractors and, at the County's request, participate in meetings for the purpose of coordinating the Contractor's Construction Schedule with those of other Contractors at no additional cost to the County. To the extent a direct conflict exists with regard to access to the Project Site, if the Contractors cannot work out a resolution that has no impact on Contract Price, Contract Time, the County shall issue written direction to resolve the conflict.

B. The Contractor shall not cut, excavate, alter, impair, or otherwise engage in work activity that inhibits the Work of any other Contractors without the prior written consent of the County.

C. If any part of the Contractor's Work depends, for proper execution or results, upon the prior Work of the County or any other Contractor, the Contractor shall, before performing the affected Work, inspect and give prompt written notice of any apparent discrepancies of defects in the prior Work that renders it unsuitable for the reception of Contractor's Work. Contractor's failure to so inspect and to give such prompt notice shall constitute acceptance of the prior Work as fit for reception of its Work, except as to defects not then reasonably discovered.

3.11 MATERIALS AND EQUIPMENT FURNISHED BY COUNTY

A. Unless otherwise specifically provided in the Contract Documents, if the Contract requires that the Contractor install materials and equipment provided

by the County, in the absence of a reasonably apparent defect, such materials and equipment shall be considered compliant with the Contract Documents.

1. If the Contractor discovers defects in the County-furnished material or equipment the Contractor shall immediately notify the County in writing.
2. After such discovery, the Contractor shall not proceed with Work involving such County materials and equipment unless otherwise authorized in writing by the County.
3. Contractor's failure to provide immediate written notice of any defects in material or equipment shall constitute acceptance of such materials and equipment as fit for incorporation into the Work.
4. Contractor shall be responsible for any damages or delays resulting from Contractor's failure to provide timely written notice or Contractor's improper incorporation of such defective materials or equipment into the Work.

3.12 PROJECT RECORD DOCUMENTS

A. The Contractor shall keep a copy of the Contract Documents at the Project Site.

B. The Contractor shall keep at the Project Site an accurate, readable, and orderly set of drawings and specifications, updated as the job progresses to show all approved changes, addenda, options, submittals, correspondence, directives, alternates, and all actual deviations from the original Contract Documents.

C. Project Record Documents shall be maintained by Contractor in hard copy and electronic format meeting the requirements specified in Detailed Provisions Section 01 7700 – Closeout Procedures.

D. In addition to all approved changes, submittals, options, alternates, and all actual deviations from the original Contract Documents, the Project Record Documents shall be marked as follows:

1. Record all materials used where options, alternates and/or Change Orders were indicated, specified and/or authorized.
2. Accurate measurements referenced to two (2) permanent structures shall be recorded to show the exact location and changes in direction of all underground services and utilities, as well as their approximate depth below finished grade;
3. Update the Project Record Documents with information about each item of capital equipment or other fixed asset installed, including type of equipment, make, model, serial number, and acquisition cost;

4. Update the Project Record Documents identifying each item of capital equipment or other fixed asset removed from the Project, including type of equipment or fixed asset, make, model, serial number and description of location from which it was removed.

5. Record all other requirements as specified in the Detailed Provisions.

E. The Project Record Documents shall be kept up-to-date and be available for review by the County at all times, including but not limited to: at each Weekly Progress Meeting. The County may waive the requirement for weekly progress meetings until such time the County believes that holding weekly progress meetings becomes necessary. Failure to have records up-to-date shall be sufficient reason for the County to withhold payments to the Contractor until all such information is recorded.

3.13 PROTECTION OF ADJACENT LANDFILL OPERATIONS, STRUCTURES, UTILITIES, AND IMPROVEMENTS

A. The Riverside County Sanitary Landfills are active facilities, thus, all construction Work relating to this Project shall not impede or interrupt daily landfill business and operations.

B. Contractor shall protect from damage all existing structures, equipment, improvements, utilities, trees and vegetation not shown in the Contract Documents to be removed or modified at or near the Project Site. Contractor shall repair, at no cost to the County, any such damage resulting from failure to comply with the requirements of the Contract or failure to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly, the County may have the necessary Work performed and deduct or charge the cost to Contractor or exercise its rights under the Performance and Payment Bond. In the event there are insufficient funds remaining, excluding retention, the Contractor shall pay the County for the costs associated with protection and repairing the damages.

C. At a minimum, the Contractor shall furnish, install, and maintain four (4’) foot tall construction/safety fencing as necessary along the limits of the Project Site or portions thereof as directed by the County, to limit access to the construction zone and to prevent debris, rocks, and equipment from interfering with the access roads and landfill operations adjacent to the Project Site. See Detailed Provisions Section 01 5000 – Temporary Facilities and Controls for fencing requirements.

3.14 PERMITS, LAWS AND REGULATIONS

A. Except those permits, easements, and variances specified in the Contract as having been previously obtained by the County, all permits, licenses, easements and variances necessary for the execution of the Work shall be

secured and paid for by the Contractor. The Contractor shall identify and apply for such permits and licenses at the earliest possible time so as to avoid any delay to the Contract Work arising from the permitting and/or licensing process. No actions taken by the County to aid the Contractor in securing any permit or license shall relieve the Contractor of any obligations to secure any such permit or license.

B. The Contractor shall maintain all stamped permit sets of documents at the Project Site during construction, in good condition and as required by local ordinances.

C. Required permits and compliance requirements may include, but are not limited to:

1. Compliance with South Coast Air Quality Management District (SCAQMD) Rule 403, Fugitive Dust Control: The Contractor is responsible for implementing the necessary mitigation measures to ensure compliance with regulatory thresholds relating to air quality including, but not limited to: SCAQMD Rule 403 Fugitive Dust Control Requirements. The County shall have the authority to immediately suspend all construction operations if, in the County's opinion, the Contractor fails to adequately provide for dust control. See Detailed Provisions Section 01 5600 – Project Environmental Controls.

2. State Water Resources Control Board's (SWRCB) National Pollution Discharge and Elimination System (NPDES) Permit: The County complies with the SWRCB General Industrial Activities NPDES permit through regular inspections, monitoring and implementation of Best Management Practices (BMPs) as described in the Storm Water Pollution Prevention Plans (SWPPPs) for the Badlands and Lamb Canyon Sanitary Ladfills. Contractor shall be responsible for compliance with each SWPPP for the Project Site. After notification of award and prior to start of any Work, the Contractor shall prepare and submit to the County a project-specific Storm Water Pollution Prevention Plan (SWPPP) for Bid Items BA-1 through BA-15 and LC-1 through LC-6, outlining procedures to reduce pollutants (directly or indirectly related to the Contractor's activities) in storm water runoff. The project-specific SWPPP will be included as part of the respective BA and LC SWPPPs in compliance with the County's NPDES permit. See Detailed Provisions Section 01 5600 – Project Environmental Controls.

D. The Contractor shall perform all Work hereunder in full compliance with local, state and federal laws, ordinances, resolutions and regulations, and with permit, license, easement, and variance conditions pertaining to the conduct of the Work. The Contractor shall defend, indemnify, and hold the County harmless from any assessment of fines, penalties, or damages arising from

violations of the same by the Contractor or Subcontractors. The Contractor shall pay and provide proof of payment for any assessments of fines, penalties or damages. The Contractor shall cooperate with all governmental entities regarding inspection of the Work and compliance with such requirements.

E. Taxes. The Contractor is required to pay all applicable taxes. No adjustment will be made in the amount to be paid by the County under the Contract because of any change in law or regulations covering any applicable taxes, or because of any misunderstanding by the Contractor as to its liability for or the amount of any taxes.

3.15 CONTRACTOR'S OVERALL RESPONSIBILITY FOR PROTECTION OF WORK, PROPERTY, AND PERSONS

A. The Contractor shall be responsible for conditions of the Project Site, including safety of all persons and property, during performance of the Work. The Contractor shall maintain the Project Site and perform the Work in a manner which meets all statutory and common law requirements or other specific contractual requirements for the provision of a safe place to work and which adequately protects the safety of all persons and property on or near the Project Site. This obligation shall apply continuously and shall not be limited to normal working hours. The County's inspection of the Work or presence at the Project Site does not and shall not be construed to include review of the adequacy of the Contractor's safety measures in, on or near the location of the Work.

B. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs, including adequate safety training, in connection with the Work. The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

C. Unless otherwise required in the Contract Documents the Contractor shall protect and be responsible for any damage of loss to the Work or to the materials and equipment associated with the Work until the final acceptance of the required bid items. The Contractor remains responsible for any damage or loss caused directly or indirectly by the acts or omissions of the Contractor, Subcontractors, Suppliers, or third parties authorized or allowed on the Project Site by the Contractor until Final Acceptance.

D. The Contractor shall also be solely and completely responsible for damages arising from the Work that affect areas adjacent to the Project Site.

E. The Contractor shall repair or replace without cost to the County any damage or loss that may occur, except damages or loss caused by the acts or omissions of the County.

F. The Contractor shall erect and maintain adequate signs, fencing, barricades, lights or other measures and persons to protect the Work until Final Acceptance.

3.16 PROTECTION OF PERSONS

A. The Contractor shall take all reasonable precautions for the safety of all employees working on this Contract and all other persons who may be affected by such Work. The Contractor shall designate a responsible member of its organization at the Project Site whose duty shall be to manage and coordinate the safety programs and to prevent accidents of the Contractor and Subcontractors.

B. Except as otherwise stated in the Contract, if the Contractor encounters, at the Project Site, material reasonably believed to be Hazardous Material including but not limited to asbestos, lead, or polychlorinated biphenyl (PCB), that Contractor shall immediately stop Work in the area affected and give Notice of the condition to the County. Work in the affected area shall not be resumed without written direction by the County.

C. The Contractor shall maintain in a reasonable number of conspicuous and accessible places at the Project Site all materials necessary for giving first aid to the injured. The Contractor shall establish, publish and make known to all employees procedures for ensuring immediate transport to a hospital or a doctor's care, of persons who may have been injured at the Project Site. Employees shall not be permitted to work on the Project Site before the Contractor has: (1) provided all materials necessary for giving first aid at the Project Site; and (2) established and made known procedures for transport of injured persons to a hospital or doctor's care. The Contractor shall ensure that at least one of its employees on site has adequate training in first aid.

D. In order to protect the lives and health of persons performing Work under this Contract, the Contractor shall comply with all CalOSHA rules and regulations and any violation of these safety requirements applicable to the Work may be considered a breach of this Contract.

3.17 HEALTH AND SAFETY PLAN

A. The Contractor shall prepare and provide to the County a written site-specific "Health and Safety Program" demonstrating the methods by which all applicable safety requirements of this Contract will be met. The Contractor shall ensure its Subcontractors and Suppliers have a written Health and Safety Plan/Program or formally adopt the Contractor's site-specific "Health and Safety Plan". The Contractor shall designate a Safety Officer who shall be responsible for proper implementation of the "Health and Safety Plan". The Contractor shall submit a copy of its "Health and Safety Plan" and the

Subcontractor's Health and Safety Plan/Program to the County within fourteen (14) Calendar Days following issuance of the Notice of Intent to Award per Administrative Provisions, Section **3.2**. The County's review of such plans shall not be deemed to constitute approval or acceptance thereof and shall not relieve or diminish the Contractor's sole responsibility for the Project Site's safety. See Detailed Provisions Section 01 3500 – Health and Safety.

3.18 STORAGE OF CONTRACTOR'S PROPERTY

A. The Contractor's tools and equipment and building materials to be incorporated into the Project may be stored at the Project Site, but all such storage shall be subject to the requirements of the Contract. Any repairs, patching or cleaning of the Project Site that may be necessary to restore the Project Site to its previous condition due to storage of the Contractor's materials, tools or equipment, or other aspects of the Contractor's Work, shall be the responsibility of the Contractor. See Detailed Provisions Section 01 1400 – Work Restrictions.

SECTION 4 - ADMINISTRATION OF CONTRACT

4.1 TIME OF ESSENCE

A. All time requirements set forth in the Contract Documents are of the essence.

4.2 TIME OF COMPLETION AND LIQUIDATED DAMAGES

Contract Time for Completion and Liquidated Damages requirements are set forth under **Section 5** of the Construction Agreement and incorporated herein as if set forth in full.

A. The Contractor shall diligently and continuously prosecute the Project to Final Acceptance before the expiration of **eighteen (18) calendar months** from the date of the Contractor's receipt of the Notice to Proceed. One month before the end of the contract, the County shall prepare a punch list for the contractor to complete to achieve Final Completion / Final Acceptance of the Project.

B. The Liquated Damage amounts, set forth in this Section, will be assessed for Contractor's failure to achieve completion for the following Project milestones (See Detailed Provisions Section 01 2900 – Payment Procedures):

1. Final Acceptance – The Liquated Damages reduction to the Contract Price for failure to reach Final Acceptance for the Project is **One Thousand Dollars ($1,000) per day** for each additional Working Day required to properly complete the Work in excess of the established contractual date for achieving Project Final Acceptance.

For all Bid Items and authorized T&M work, the County shall provide a minimum of one (1) week written advance notice for the intent to begin construction via a Work Order. The maximum number of working days to complete Bid Items or authorized T&M work shall be included in the one-week written notice and agreed upon by the County and Contractor prior to start of work. The County may schedule Bid Items to be constructed at both landfill sites simultaneously.

In case the Work Order construction items called for and all the conditions and requirements of the Contract Documents are not completed within the number of working days specified in the Work Orders, liquidated damages of One Thousand Dollars ($1,000) per day for each additional working day required to properly complete the work in excess of the allowed number of working days shall be paid by the Contractor to the County. The County may also deduct this amount from payments due to the Contractor. Liquidated damages for Optional On-Call Bid Items shall be as negotiated by the County prior to start of the work.

4.3 WORK PROGRESS

A. The Contractor shall be required to:

1. Prosecute the Work diligently with adequate forces;

2. Plan, coordinate, and layout the Work in advance so as to avoid delay;
3. Achieve Final Acceptance in accordance with the requirements of Contract Documents; and,
4. Complete all Contract closeout requirements in accordance with all applicable Contract requirements within the time period established by the County.

4.4 PROJECT SCHEDULE

A. Unless otherwise specified, within fourteen (14) Calendar Days after issuance of the Notice Of Intent To Award the Contract per Administrative Provisions, Section 3.2, the Contractor shall submit to the County a Project Baseline Schedule in accordance with Detailed Provisions Section 01 3200 – Construction Progress Documentation. Contractor shall not be allowed to mobilize at the Project Site until the aforementioned project schedule has been submitted by the Contractor and accepted by the County.

B. By reviewing project schedules and providing written comments, the County is not approving or adopting the Contractor's plan, schedule, means, methods, techniques, sequences, or procedures required to perform the Work. Review and comment by the County of project schedules prepared by the Contractor shall not relieve the Contractor from the sole responsibility for the accuracy of a project schedule, and its compliance with all Contract requirements, and its responsibility to meet all required Contract completion dates. Failure by the County to indicate items on the project schedule that do not conform with the Contract requirements shall not alter or waive the Contract requirements or relieve the Contractor from complying with all Contract requirements.

C. The Contractor shall not be entitled to, nor shall the County be required to make payment for any Contract Work until the Project Baseline Schedule complies with all Contract requirements.

D. The Contractor shall schedule the Contract Work so that the Contract Work is completed within the Contract Time. Float in the Project Schedule shall be defined as the period of time measured by the number of Working Days each non-critical path activity may be delayed before it and its succeeding activities become part of the Critical Path.

E. The Contractor shall regularly enter the actual progress of the Work and Contract Time extensions approved by the County on the Project Schedule. Updated Project Schedules shall reflect actual progress and completion within the Contract Time and shall be provided to the County with each Application for Payment in format(s) as required by the Contract. Applications for Progress Payments will be considered by the County and the Contractor will not be paid until the Contractor complies with these requirements. The

updated Project Schedule shall be used to assist the County in verifying the appropriate payment.

F. If, in the opinion of the County, the Contractor falls behind in its progress of the Work due to acts or omissions of the Contractor, Subcontractors, and/or Suppliers, the Contractor shall take all necessary steps to improve its progress and bring its progress back in-line with the accepted Project Baseline Schedule, without additional cost to the County. In this circumstance the Contractor shall, as necessary, increase the number of shifts, overtime operations, and/or days of Work, both on and off the Project Site, and submit for acceptance any supplementary schedule updates as the County deems necessary to demonstrate how the accepted rate of progress will be regained. Failure of the Contractor to comply with the requirements under these provisions shall be grounds for a determination by the County that the Contractor is not prosecuting the Work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the County may pursue any right it has under the law or the Contract, including but not limited to default termination.

4.5 SUBMITTALS

A. Submittals include shop drawings, setting and erection drawings, schedules of materials, product data, samples, certificates and other information prepared for the Work by the Contractor or a Subcontractor as set forth in Detailed Provisions Section 01 3300 – Submittal Procedures ("Submittals"). The Contractor shall perform no portion of the Work requiring Submittals until the Submittals have been reviewed and returned by the County with one of the following annotations: (1) "no exceptions taken", (2) "exceptions as noted", (3) "revise and resubmit", or (4) "rejected".

B. Prior to furnishing the Submittals to the County, the Contractor shall: (1) review all Contractor and Subcontractor Submittals for accuracy, completeness, and compliance with the Contract; (2) coordinate all Submittals with all Contract Work by other trades and with field measurements; and (3) indicate approval on the Submittals as a representation that it has complied with its obligation to review and coordinate Submittals. Where required by law or by the Contract. Submittals shall be stamped by an appropriate licensed professional. Submittals lacking required stamps or evidence of Contractor review and approval will be returned without review by the County for resubmission. Submittals shall be sequentially numbered.

C. When submitting information, the Contractor shall identify and state reasons for any alteration, variation, addition, deviation, or omission from the Contract. The Contractor shall not perform Work that alters, varies, adds, deviates, or omits Work without prior specific written acceptance by the County.

D. The Contractor shall provide Submittals with reasonable promptness and in such sequence as to facilitate the timely completion of the Contract. The Contractor shall prepare and keep current, for review by the County, a schedule of Submittals which is coordinated with the Contractor's Project Schedule and allows the County the specified time for review.

E. The County shall review the Contractor's Submittals and respond in writing with reasonable promptness within the review timeframes specified in Detailed Provisions Section 01 3300 – Submittal Procedures so as not to unreasonably delay the progress of the Work. Unless otherwise agreed, no delay to the Contractor's Work shall be attributable to the failure by the County to respond to a Submittal until twenty (20) days after the Submittal is received by the County, and then only if failure by the County to respond is unreasonable and affects the Contract completion date.

F. If the Contractor is required to resubmit a Submittal, any revisions on resubmittals shall be specifically identified in writing and the resubmitted Submittal shall be sequentially alpha denoted and note revisions in numerical order. The cost of the review of the initial Submittal and the first revised Submittals shall be borne by the County. The costs for all additional revised Submittals shall be charged to the Contractor. The cost of review shall include, without limitation, administrative, design, and engineering activities directly related to review of Submittals. The County may deduct these costs from any amounts due to the Contractor.

G. The County shall review the Contractor's Submittals only for conformance with the design of the Work and compliance with the Contract. Review of the Submittals are not conducted to verify the accuracy of dimensions, quantities, or calculations, the performance of materials, systems, or equipment, or construction means, methods, techniques, sequences, or procedures, all of which remain the Contractor's responsibility. Failure by the County to take exception to a Submittal shall not relieve the Contractor from any duty, including its responsibility for errors or omissions in Submittals, its duty to make Submittals and duty to perform the Work according to the requirements of the Contract. The County's review of a Submittal shall not alter or waive the requirements of the Contract unless the County has issued prior written approval of such change or alteration of the Contract requirements.

H. The Contractor's failure to identify any error, deviation, or omission and subsequent acceptance of the Submittal by the County shall not relieve the Contractor from complying with the Contract requirements.

4.6 REQUESTS FOR INFORMATION

A. If the Contractor determines that some portions of the drawings, specifications or other Contract Documents require clarification or interpretation by the

County because of an apparent error, inconsistency, omission, or lack of clarity in the Contract, the Contractor shall promptly submit a Request for Information (RFI) and, unless otherwise directed, shall not proceed with the affected Work until the County has responded to the RFI. The Contractor shall plan its Work in an efficient manner so as to allow for timely responses to RFIs.

B. RFIs shall only be submitted by the Contractor on an RFI form provided by the County or in a form acceptable to the County (See Detailed Provisions Section 01 3100 – Project Management and Coordination). The Contractor shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed by the County. In the RFI, the Contractor shall set forth its own interpretation or understanding of the requirement along with reasons why it reached such an understanding.

C. The County will review RFIs to determine whether they meet the requirements identified above in Paragraph B to qualify as an RFI. If the County determines that the document is not an RFI it will be returned to the Contractor unreviewed as to content. When appropriate the Contractor may resubmit the RFI on the proper form, with all required information and in the proper manner.

D. The County shall respond in writing within seven (7) working days to Contractor's RFI in accordance with Detailed Provisions Section 01 3100 Project Management and Coordination.

   1. At the request of the County, the Contractor shall prioritize its RFIs, identify a date by which the Contractor prefers the RFI be answered, and reasons for such priority.

   2. If the Contractor submits an RFI on an activity less than thirty (30) days prior to the commencement of that activity, the Contractor shall not be entitled to any time extension or adjustment in Contract Price due to the time it takes the County to respond to the RFI provided that the County responds within thirty (30) days. No delay to the Contractor's Work or damages to the Contractor shall be attributable to the failure by the County to respond to the RFI until thirty (30) days after the County's receipt of the RFI, and then only if failure by the County to respond is unreasonable and affects the Contract completion date.

E. The County's response to an RFI shall not be considered a change to the Contract requirements. To the extent the Contractor believes that the County's response to the RFI constitutes changed Work impacting Contract Price or Contract Time, the Contractor shall submit a Contractor's Request for Change Order to the County (See Detailed Provisions Section 01 3100 – Project Management and Coordination).

4.7 TESTS, INSPECTIONS, AND ACCESS TO THE WORK

A. The Contractor shall document and maintain an adequate testing and inspection program and perform such tests and inspections as are necessary or required to ensure that the Work conforms to the requirements of the Contract. The Contractor shall maintain all documentation related to testing and inspection and make such documentation available to the County at its request. Contractor shall be responsible for inspection and quality assurance of all its Work and all Work performed by any Subcontractor. Unless otherwise provided, Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the County, or with the appropriate authority. If any governmental, regulatory, or permitting authority requires any portion of the Work to be inspected, tested, or approved, the Contractor shall make all arrangements for and cooperate with such inspections, tests, and approvals so as not to delay completion of the Contract Work. Unless otherwise noted, the Contractor shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the County at least two (2) days' Notice of: (1) when the Work is ready to be tested and inspected and (2) when and where tests and inspections are to be made. Contractor shall maintain complete inspection records and make them available to the County upon request.

B. The Contractor shall cooperate with the County in the performance of any tests and inspections of the Work. The Contractor has the duty to coordinate all tests and inspections in a manner, which does not negatively impact Contractor's compliance with the Contract.

C. If any Work required to be inspected, tested, or approved is covered without such inspection, testing or approval being obtained, it must, if requested by the County, be uncovered for observation, and such uncovering shall be at Contractor's expense.

D. Upon request by the County any Work, not otherwise required to be inspected or tested, shall be uncovered by the Contractor. If the Work is found to comply with the Contract or if any non-compliance was not caused by the Contractor, Subcontractor, or Supplier, the County will (1) pay the costs of testing and inspection; (2) pay the costs associated with the uncovering and recovering of the Work; and (3) adjust the Contract Time to the extent the inspection and repair impacted the Project Schedule and delayed completion of the Work, otherwise the Contractor shall bear such costs as well as all costs or correction and the Contractor shall not be entitled to an adjustment in Contract Time.

E. The County may, at any reasonable time and at its own cost, conduct inspections and tests as it deems necessary to ensure that the Work is in accordance with the Contract. The County shall promptly notify Contractor if an inspection or test reveals that the Work is not in accordance with the

Contract. The County inspection and tests are for the sole benefit of the County and do not:

1. Constitute or imply acceptance;
2. Relieve Contractor of responsibility for providing adequate quality control measures;
3. Relieve Contractor of responsibility for risk of loss or damage to the Work, materials, or equipment;
4. Relieve Contractor of its responsibility to comply with the requirements of the Contract; or,
5. Impair the County's right to reject defective or nonconforming items, or to avail itself of any other remedy to which it may be entitled.

F. Neither observations by an inspector retained by the County or part of County staff, the presence or absence of such inspector at the Project Site, nor inspections, tests, or approvals by others, shall relieve the Contractor from any requirement of the Contract. Inspectors are not authorized to change any term or condition of the Contract.

G. Contractor shall promptly furnish, without additional charge, all facilities, labor, material, and equipment reasonably needed for performing such safe and convenient inspections and tests as may be required by the County. The County may charge Contractor any additional cost of inspection or testing, or when prior rejection makes re-inspection or retest necessary. The County shall perform its inspections and tests in a manner that will cause no undue delay in the Work.

4.8 CORRECTION OF WORK OR DAMAGED PROPERTY

A. If material, equipment, workmanship, or Work proposed for, or incorporated into the Work, does not meet the Contract requirements or fails to perform satisfactorily, the County shall have the right to reject such Work by giving the Contractor written Notice that such Work is either defective or non-conforming.

1. The County, at its option, shall require the Contractor, within a designated time period as set forth by the County, to either:

a. Promptly repair, replace or correct all Work not performed in accordance with the Contract at no cost to the County; or

b. Provide a suitable corrective action plan at no cost to the County.

2. Once the corrective action plan is reviewed and returned by the County with the annotation "no exception taken" or "exceptions as noted" by the County, the Contractor shall implement a corrective action plan. Review and providing comments on the corrective action plan is not an

acknowledgement by the County that such plan is adequate to remedy the defective or non-conforming Work. If the corrective action plan does not remedy the defective or non-conforming Work, the Contractor shall remain responsible for remedying of the defective or non-conforming Work to the County's satisfaction.

3. The Contractor shall also be responsible for all repairs to any property and Work damaged by the Contractor.

4. Under no circumstances shall the Contractor be entitled to additional time or money for the correction of defective or non-conforming Work or for the repair of damaged property. The County shall not be responsible for any costs to prepare corrective action plans, correct Work or repair damaged property.

B. If the Contractor does not repair, replace or correct and/or remove defective or non-conforming Work or repair damaged property as required by the County, the County or County's designee may repair, replace or correct and/or remove it and deduct the cost of such effort from any payment due to the Contractor. Under this provision, the County reserves the right to make use of the Contractor's plant and equipment for this repair, replacement, correction or removed Work. If the remaining payments due to the Contractor are not sufficient to cover the County's cost of remedying the defective or non-conforming Work, the Contractor shall pay the difference to the County.

C. The County may elect to retain Work if the County determines that such defective or non-conforming Work is not of sufficient magnitude or importance to make the Work dangerous or undesirable or that removal of such Work is impractical or will create conditions, which are dangerous or undesirable. Just and reasonable value for such defective or non-conforming Work will be determined by the County and appropriate deductions will be made in the payments due or to become due to the Contractor. The County's exercise of the rights under this provision shall be without prejudice to any other remedy the County may have and shall not constitute a termination of the Contract.

D. The Contractor shall be liable for all damages and costs incurred by the County caused by the Contractor's or its Subcontractors' and Suppliers' defective or non-conforming Work or workmanship, including, but not limited to: all special, incidental, or consequential damages incurred by the County. The Contractor agrees to indemnify and hold the County harmless from any personal injury or property damage caused by the Contractor or its Subcontractors defective or non-conforming Work or workmanship.

4.9 SUBSTITUTION OF PRODUCTS AND PROCESSES

A. Substitutions requested by the Contractor will be subject to the County's prior written acceptance and at the County's sole discretion.

B. Requests for substitution must specifically identify:

1. Material, equipment, and labor costs included in the Contractor's Bid associated with the original item to be substituted;
2. All costs for material, equipment, labor associated with the proposed substitution, including any impact costs;
3. Proposed change to the Contract Price and/or Contract Time; and,
4. Compatibility with or modification to other systems, parts, equipment or components of the Project and Contract Work.

C. Contractor shall provide all documentation supporting its request as requested by the County.

D. All costs of any redesign or modification to other systems, parts, equipment or components of the Project or Contract Work, which result from the substitution, shall be borne by the Contractor.

E. When the County approves a substitution proposed by the Contractor, the Contractor shall guarantee the substituted article or materials to be equal to, or better than, those originally specified and shall be compatible with all other systems, parts, equipment or components of the Project and Contract Work. The County has the right to order an unaccepted, substituted article removed and replaced without additional cost to the County.

F. The County has a right to a deductive Change Order if the substituted product or process is less costly than the contractually required product or process.

G. If the County does not accept the substitution proposal the Contractor shall proceed, without delay or cost to the County, with the Contract Work as originally specified.

H. See Detailed Provisions Section 01 6000 – Product Requirements.

4.10 LABOR SURCHARGE

A. The labor surcharge percentage to be applied to the regular and overtime hourly wages paid shall be the percentages that are in effect at the time of the award of the Contract, as published by the California Department of Transportation (Caltrans). A copy of said labor surcharge rates are available on Caltrans' website.

4.11 EQUIPMENT RENTAL

A. The equipment rental rates to be applied shall be the rates that are in effect at the time of the award of the contract, as published by the California Department of Transportation (Caltrans). A copy of said equipment rental rates are available on Caltrans' website.

END OF SECTION

DETAILED PROVISIONS

FOR

THE CONSTRUCTION OF

2026 ON-CALL SITE IMPROVEMENTS

AT

RIVERSIDE COUNTY LANDFILLS

APRIL 2026

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 1100: SUMMARY OF WORK

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SECTION 01 1100
SUMMARY OF WORK

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Project Information.
2. Project Description.
3. Definitions
4. Work by County and Others
5. Project Signs
6. Warranty
7. Available Information
8. Project Utility Sources

1.02 PROJECT INFORMATION

A. Project Title:

1. **2026 ON-CALL SITE IMPROVEMENTS AT RIVERSIDE COUNTY LANDFILLS.**

B. Site Addresses:

1. Badlands Landfill (BA): 31125 Ironwood Avenue, Moreno Valley, CA 92555 (located within unincorporated Riverside County).
2. Lamb Canyon Landfill (LC): 16411 State Highway 79 (aka Lamb Canyon Road), Beaumont, CA 92223 (located within unincorporated Riverside County).

C. Owner: County of Riverside.

D. Operator: Riverside County Department of Waste Resources.

1.03 PROJECT DESCRIPTION

A. General:

1. The descriptions in this Section are not intended to provide or be construed as a complete summary of the Contract Documents. The following only identifies in broad terms the general nature of the Work to be performed by the Contractor and its Subcontractors.
2. Contractor shall perform and complete all Work in accordance with the requirements set forth in the Contract Documents.

3. This Section should read as if "Provide and Install" were included at the front of sentences, as applicable.

   a. Responsibility for the providing and the installing of every element of the Work is borne by the Contractor, unless otherwise noted.

B. Outline of Work:

1. **ON CALL SITE IMPROVEMENTS**:

   a. The work to be performed by Contractor shall conform to the requirements of the Contract Documents, including but not limited to the Administrative Provisions, General Provisions, Special Provisions, Project Drawings, Referenced Specifications and Documents, and these Detailed Provisions. The major features of the work to be performed shall include, but are not limited to:

      1) Provide and implement a Site Safety Plan.

      2) Comply with each site's specific Storm Water Pollution Prevention Plan (SWPPP), and prepare and submit project-specific SWPPP for Bid Items LC-1 through LC-6.

      3) Mobilize and stage construction equipment.

      4) Construction site drainage features and erosion control improvements.

      5) Cleanup site and demobilize equipment.

      6) Bid Items (Typical sections as shown in the Project Drawings or as directed by the County). Optional on call Bid Items are designated as such within the sections of the Detailed Provisions. These Bid Items, both Required and Optional on call Bid Items include but are not limited to the following:

         (a) Demolition shall include salvage, remove, relocate, recycle, hauling, and stockpile material encountered during construction: guardrail section, and 3"-6" Rock Channel at BA as per Detailed Provisions Section 02 4100 – Demolition as shown on Project Drawings.

         (b) Excavation, over excavation and/or placing of engineered fill for utility trenching, foundation and site grading per Detailed Provisions Section 31 2300 - Earthwork as shown on Project Drawings.

         (c) Excavate and haul sediment from BA Southwest Sedimentation Basin, Western Stockpile Sedimentation Basin, and the Phase 2, Stage 1 Sedimentation Basin.

         (d) Cold Plane a two-inch (2") thick asphalt concrete section then overlay with new AC of existing roadway at BA at locations shown on Project Drawings. Thermoplastic striping removed during repair of roads shall be replaced as shown on the Project Drawings and as directed by the County. Demolished asphalt shall be hauled to the landfill's construction and demolition pile located on-site or as directed by County staff.

         (e) Construct various types of reinforced shotcrete, concrete and asphalt concrete drainage structures; see Detailed Provisions in Section 03.

(f) Construct Metal Flume Downdrain and inlet structure per Detailed Provisions Section 05 1200 – Structural Steel as shown on Project Drawings.

(g) Earthwork see Detailed Provisions Section 31 2300 - Earthwork including excavation, hauling and stockpiling daily cover material.

(h) Removing built-up sediment from the Badlands Southwest, Western Stockpile, and Phase 2, Stage 1 Sedimentation Basins. Work includes protecting concrete structures in place and either working around or temporarily removing the rock berms before sediment removal and replacing rock berms to grade after sediment removal.

(i) Construct earthen diversion berms including excavation, hauling, and compaction of material; see Detailed Provisions Section 31 2300 – Earthwork.

(j) Geotextile rolls; see Detailed Provisions Section 33 4626.13 – Geotextiles.

(k) Construct Grouted Rip Rap; see Detailed Provisions Section 31 3700 – Riprap and Project Drawings.

(l) Construct Silt Fencing with sandbags at LC see Detailed Provisions Section 31 2500 –Erosion and Sediment Control and Project Drawings.

(m) Construct Splash Wall at Badlands; see Detailed Provisions Section 04 2200 –Concrete Unit Masonry and Project Drawings.

(n) Apply Greenwaste at Lamb Canyon; see Detailed Provisions Section 31 2501 – Greenwaste and Project Drawings.

(o) Corrugated HDPE Pipe and Accessories at Lamb Canyon; see Detailed Provision Section 33 0533 – HDPE Pipe and Project Drawings.

(p) Construct concrete block masonry walls; see Detailed Provisions Section 04 2200 – Concrete Unit Masonry.

(q) Construct asphalt concrete roadway and replace damaged sections of existing asphalt concrete roadway; see Detailed Provisions Sections 32 0116 – Asphalt Paving Rehabilitation, 32 1216 – Asphalt Paving, and 32 1723 – Pavement Marking.

1.04 DEFINITIONS

A. Throughout these Detailed Provisions, certain terms are capitalized. Capitalized terms have the definitions assigned to them in the Detailed Provisions. Definitions of terms will be found throughout these Detailed Provisions. There is no central location for defined terms.

1. "**Addendum**" or "**Addenda**" means alteration or clarification of the plans or specifications provided to bidders by the County prior to bid time, which becomes part of the Contract Documents when the Contract is executed.
2. "**ASTM Specifications**" the latest revised specifications or tentative specifications of the American Society for Testing and Materials.
3. "**Basis of Design**" indicates project is based on specified equipment and equipment from other manufacturers may require, at a minimum, revisions to the Project Drawings and/or Detailed Provisions for surrounding infrastructure.
4. "**Claim**" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested for one or more of the following: (a) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by the County under the Contract; (b) payment by the County of money or damages arising from work done by or on behalf of the Contractor and payment for which is not otherwise expressly provided or to which the Contractor is not otherwise entitled; (c) payment of an amount that is disputed by the County; (d) that Contractor's performance is excused, or (d) other relief.
5. "**Change Order**" means a written instrument, signed in accordance with the requirements of the General Provisions, setting forth the agreement of the County and the Contractor on the terms of a Contract Adjustment.
6. "**Change Proposal**" means a document prepared by the Contractor at the request of the County, which proposes changes to the Work and/or changes to the Contract Price and/or Contract Time. County initiates all requests for Change Proposals.
7. "**Contract**" means the Agreement included in the Administrative Provisions covering the Work signed by County and Contractor, which includes all Contract Documents.
8. "**Contract Documents**" The "Contract Documents" for the Project are enumerated in the Agreement.
9. "**Contract Award**" or "**Contract Execution**" occurs when the County Board of Supervisors or their designee signs the Contract, which shall only occur after the Contractor signs the Contract.
10. "**Contract Price**" shall mean either the total aggregate amount of the lump sum, Unit Price, or Unit Prices named in the Agreement awarded by the County, subject to adjustment for variances in quantities and Change Orders or Unilateral Change Orders, or the total of all payments under the Contract at the lump sum, Unit Price, or Unit Prices based on the Engineer's approvals of installed quantities of Work, as the case may be.
11. "**Contractor's Representative**" is the individual who has authority to obligate the Contractor and is identified in the Agreement.
12. "**Contract Time**" means the total number of Working Days stated in the Agreement within which Contractor must complete the Work, as may be modified by a Change Order or Unilateral Change Order.

13. "**Contract Work**" or "**Work**" means all the resources, activities, construction work and other services specified, indicated, shown or reasonably inferable from the Contract Documents including labor, materials, equipment and services to fulfill the Contractor's obligations.

14. "**Contractor**" means the person or persons, entity, including but not limited to, limited liability corporation, co-partnership, or corporation, private or municipal, who have entered into the Agreement with the County, or his or their legal representatives.

15. "**Contractor's Surveyor**" is responsible to perform horizontal and vertical control of the actual construction, based on benchmarks established by County's Surveyor.

16. "**County of Riverside**" or "Riverside County Department of Waste Resources" or "County" or "Owner" may be used interchangeably.

17. "**County's Surveyor**" representing the County shall establish reference benchmarks for construction. County's Surveyor shall also perform surveys to check line, grade, and calculate volumes, as required.

18. "**Critical Path**" is the longest continuous chain of activities for the Work that has the least amount of total float of all chains. In general, a delay on the critical path extends the scheduled completion date of the Work.

19. "**Cubic Yard**" – Unless otherwise specified in these Detailed Provisions, where the term cubic yard appears it shall mean bank (bulk) volume in the case of excavation; and compacted volume yielding the specified relative compaction, moisture content, and hydraulic conductivity, if required, in the case of engineered fill.

20. "**Day**" means calendar day, unless otherwise specified.

21. "**Facilities**" or **"RCDFM"** refers to Riverside County Department of Facilities Management

22. "**Field Directive**" is a document prepared by the County directing the Contractor to proceed promptly with specific work and shall not, in and of itself, constitute a Change Order of entitlement to an adjustment in Contract Time and/or Contract Price.

23. "**Final Acceptance**" of the Work occurs when the Engineer determines that Final Completion of the Work has been achieved, the Board issues a written acceptance of a completed Contract, and, a Notice of Completion has been recorded with the County of Riverside by the County. The date of Final Acceptance is the date the Notice of Completion is recorded by the County of Riverside Recorder.

24. "**Final Completion**" is the stage of performance of the Work when:

    a. All Work required by the Contract Documents has been fully completed in compliance with the Contract Documents and all Applicable Laws including, but not limited to, correction or completion of all punch list items noted upon Final Completion and final cleaning;

    b. Contractor has delivered to County all closeout documentation required by the Contract Documents;

c. Final inspection and approval by the Inspector of Record and all applicable governmental agencies has occurred and a final certificate of occupancy (or equivalent inspection sign-off by applicable governing agency) has been issued by covering the entire Project site without exception or condition; and

d. The County accepts the Work as complete and, in its discretion, records a Notice of Completion and Acceptance.

e. "**Force Majeure**" means any of the following unanticipated events not caused by County or Contractor, which materially and adversely affect Contractor's obligations under the Contract: Acts of God as defined in Public Contract Code §7105, embargo, rebellion, war, terrorism, riot, act of sabotage, civil commotion, discovery of any archeological, paleontological or cultural resources, spill of hazardous substances by a third party not under the control of Contractor at or near the Project site which is required to be reported to the California Environmental Protection Agency, Department of Toxic Substances Control, discovery at, near or on the site of any species listed as "threatened" or "endangered" under the Federal or State Endangered Species Act, fire, flood, landslide. Force Majeure does not include epidemic, pandemic, virus, infection or other disease.

25. "**Hazardous Material**" means any pollutant, contaminant, toxic or hazardous waste, dangerous substance, potentially dangerous substance, noxious substance, toxic substance, flammable material, explosive material, radioactive material, urea formaldehyde foam insulation, asbestos, PCBs, or any other substances the removal of which is required, or the manufacture, preparation, production, generation, use, maintenance, treatment, storage, transfer, handling, or shipment of which is restricted, prohibited, regulated, or penalized by any and all federal, state, county, or municipal statues or laws and regulations promulgated thereunder, now or at any time hereafter in effect, including, but not limited to, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Hazardous Materials Transportation Act, the Resource Conservation and Recovery Act (RCRA), the Federal Water Pollution Control Act, the Toxic Substances Control Act, the Occupational Safety and Health Act, and the Model Toxics Control Act, or similar state or local statue, as the laws have been amended and supplemented.

26. "**Notice**" means a written document issued by the County or Contractor which is submitted to the other party and delivered by:

    a. Depositing in the U.S. Mail (or other method of commercial express mail), which notice shall be effective on the date of receipt;

    b. Service on the Parties' representative or at the Contractor's home office or field office, which notice shall be effective on the date of service; or,

    c. Facsimile to the Parties' representative or Contractor's home office or field office, which notice shall be effective upon receipt.

27. "**Notice to Proceed**" is a written directive issued by the County authorizing the Contractor to perform some or all of the Work.

28. "**Parties**" refers to the Contractor and County of Riverside.

29. "**Plans**" or "**Project Drawings**" means the official plans, profiles, typical cross sections, general cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, approved by the County, which show the location, character, dimension and details of the Work, and which are to be considered a part of the Contract Documents.

30. "**Project**" means the total construction of the Project identified in the Notice Inviting Bids of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other contractors and the County's own forces.

31. "**Project Manager**" is the designated representative of the County responsible for the project.

32. "**Request for Change**" means a document, designated as a Request for a Change, prepared by the Contractor requesting either (1) a change in Contract Price; (2) a change in Contract Time; (3) a change in Contract Work; (4) a payment of money or damages; and/or, (5) any other relief arising out of or relating to this Contract.

33. "**Request for Information**" is a request from the Contractor to the County seeking an interpretation of a clarification of some requirement of the Contract Documents.

34. "**Resident Engineer**" will serve as the Project Manager's on-site representative. All coordination, reporting, and issues related to non-compliance will be directed to the Project Manager through the Resident Engineer. In addition, the Resident Engineer will participate with the Project Manager in all decisions related to design issues which arise during the course of construction.

35. "**Riverside County**" or "**Riverside County Department of Waste Resources**" or "**County**" or "**Owner**" may be used interchangeably and refers to the County of Riverside, organized as a General Law County under the provision of the California Government Code.

36. "**Site**" or "**Project Site**" shall be understood to refer to the location at which construction, equipment or services furnished by the Contractor under the Contract will be performed, completed and/or delivered.

37. "**Standard Drawings**" unless otherwise noted, the Standard Drawings shall be those of the Riverside County Flood Control and Water Conservation District, Riverside County Transportation Department and Standard Plans of the State Department of Transportation (Caltrans).

38. "**Standard Specifications**" is a direct reference to the publication "Standard Specifications for Public Works Construction", latest edition, written and promulgated by the Joint Cooperative Committee of the Southern California Chapter American Public Works Association and Southern California Departments Associated General Contractors of California. This publication is also known as the "Green Book".

39. "**State Standard Specifications**" are the Standard Specifications of the State of California, Department of Transportation, latest edition.

40. "**Subcontractor**" means a person or entity that has a direct contract with the Contractor or with another Subcontractor to perform a portion of the Work, including without limitation, subcontractors, sub-subcontractors, suppliers, equipment operators, manufacturers and vendors, of any and every Tier.

41. "**Supplier(s)**" The term Supplier(s) shall mean any person or firm who is not performing work or supplying labor on Site and is engaged in the business of supplying a manufactured product or resource to the County, Contractor, or Subcontractors. The term Supplier(s) includes materialmen, manufacturers, and fabricators.

42. "**Substantial Completion**" means that stage in the progress of the Work where:

    a. The County has full and unrestricted use and benefit of the Project for the purpose intended;

    b. All the systems and parts of the Contract Work are functional;

    c. Utilities are connected and operate normally;

    d. Only minor incidental work or correction or repair remains to complete all Contract requirements; and,

    e. At the County's option, the Contractor has provided all required permits and certificates.

43. "**Testing/Inspection Provider**" to be hired by the County to perform field and laboratory soil and materials testing and structural inspection services.

1.05 WORK BY COUNTY AND OTHERS

A. Permits:

1. Contractor shall be responsible for obtaining all other required permits for the Project.

B. County's Testing and Inspection Services:

1. As specified in the Contract Documents, the County shall contract with testing and inspection agencies and/or use in-house inspection/testing services to ensure the Contractor is in compliance with the Contract Documents.

2. The County's testing and inspection agencies provide services for the County exclusively, except as indicated in this Section and in Section 01 4300 – Quality Assurance and Control.

3. Contractor Responsibilities:

    a. The Contractor is required to perform, at no additional cost to the County, their own quality control program, including testing, inspection, and special inspections, as necessary to verify compliance with Contract Documents including source quality control testing as specified in Section 01 4300 – Quality Assurance and Control.

1) The Contractor is prohibited from employing the same testing and inspection agency or agencies employed by the County.

b. The Contractor shall be responsible for costs for testing of Work that is subject to corrective action or that was otherwise untested, not observed or other problems attributable to the Contractor's performance of the Work.

c. The Contractor shall pay for additional testing above and beyond that required by the Contract Documents to facilitate the performance of its means and methods.

1.06 WARRANTY

A. The Work shall be warranted in accordance with the General Provisions and Detailed Provisions Section 01 7700 – Closeout Procedures.

B. In addition, certain elements of the Work require extended warranties as defined within the Detailed Provisions sections in Divisions 02 through 41.

1. Sample mandatory extended warranty documents are contained in Detailed Provisions Section 01 7700 – Closeout Procedures.

C. Warranty bond will be required from the Contractor.

1.07 AVAILABLE INFORMATION

A. The following documents are designated Available Information:

1. Geotechnical Reports:

a. GLA (2023), "Geologic and Geotechnical Evaluation Report Proposed Phase 2 Stage 1 Fill and Proposed Reduced Cycle Park Stockpiles, Badlands Sanitary Landfill, Riverside County, California," Technical Report, Geo-Logic Associates, Inc., Costa Mesa, California, 25 p (Plus Appendices).

2. Storm Water Pollution Prevention Plans:

a. National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) for the Lamb Canyon Sanitary Landfill, December 2018.

B. Geotechnical Available Information:

1. County has referred to reports prepared by Geo-Logic Associates, Inc. which are designated in Paragraph 1.08A as Available Information documents.

2. The geotechnical information obtained from the reports is part of these Contract Documents. (Appendix D and Appendix E)

a. Boring logs for the Project are valid only as to the time and location of the investigation. Contractor shall proceed at their own risk for developing geotechnical interpretations beyond those parameters.

3. The geotechnical reports are not intended as the County's representation of geotechnical conditions, except for those conditions at the specific times and locations of the investigations.

4. County does not warrant and specifically disclaims responsibility for the interpretation by Contractor of such geotechnical information.

1.08 PROTECTION OF ADJACENT LANDFILL OPERATIONS

A. The Contractor shall be aware that both BA and LC are active landfill sites. The Contractor's work relating to the Project shall not impede or interrupt daily landfill operations. Full cooperation of the Contractor and its forces is required to assure safe working conditions. Therefore, it is necessary to emphasize that the County will have full authority to eject any of the Contractor's employees or subcontractors who do not immediately abide by the landfill site rules (Appendix - B) or the directions of the County.

B. The Contractor must obtain in advance the County's written approval for the locations and construction of temporary haul roads. No Contractor's equipment shall be allowed to travel on internal paved access roads or other roads designated for landfill traffic; therefore, all access roads that are proposed to be used by the Contractor's equipment will need to be prepared and maintained by the Contractor and must be pre-approved by the County in writing.

1.09 PROJECT UTILITY SOURCES

A. Water Supply:

1. The Contractor shall make arrangements for obtaining a water supply for each Project location and provide all labor and equipment to collect, load, transport, apply, and dispose water as necessary for dust control, excavation, grading, and other Project purposes. Water shall be clean and free from objectionable deleterious amounts of acids, alkalis, salts, or organic materials. Payment for complying with this section shall be considered as included in the various items of Work, and no additional compensation shall be allowed.

    a. The Contractor shall have the option to establish a water source for its operation or may elect to draw water from the County's offsite water towers at both sites provided that the contractor provides and implements any necessary measures to prevent track-out and drainage issues resulting from its operation. The preventative measures and maintenance of the water tower area may include but not be limited to re-grading the area to ensure positive drainage, furnishing and installing new rock material, cleaning rumble rack sections, and street sweeping if deemed necessary by the County. The County's off-site water tower at BA is located at Theodore Street in the City of Moreno Valley, approximately one and half (1.5) miles west of the entrance to the landfill site, as shown on the Project Drawings. The County's off-site water tower at LC is located at 1st Street in the City of Beaumont, approximately three (3) miles north of the entrance to the landfill site, as shown on the Project Drawings. The Contractor

shall provide all labor and equipment to collect, load, transport, apply, and dispose water as necessary for dust control, excavation, grading, and other project purposes. Contractor's use of water and/or tower shall not impact landfill operations. Water shall be clean and free from objectionable deleterious amounts of acids, alkalis, salts, or organic materials.

B. Fire Protection Service:

1. Contractor shall make provisions for fire protection for its operations utilizing portable firefighting equipment.

C. Electrical Power:

1. Contractor shall provide power during construction operations using engine generators certified for use by the California Air Resources Board (CARB).

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION 01 1100

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 1400: WORK RESTRICTIONS

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SECTION 01 1400
WORK RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Access and use of site.
2. Allowed working days and hours.
3. Equipment staging and material storage areas.
4. Protection of existing facilities and landfill operations.

1.02 DEFINITIONS

A. Limits of Construction:

1. The boundary beyond which no construction is allowed.
2. The Limits of Construction are as indicated on the Project Drawings.

B. Staging Areas:

1. Those areas where the Contractor and its Subcontractors and suppliers shall store and stage all equipment, offices, parking, materials and supplies to perform and complete the Work under this Contract.

1.03 ACCESS AND USE OF SITE

A. General:

1. Contractor shall have full use of Project Location, defined as the Limits of Construction, for construction operations during the construction period. County will inform the Contractor of areas that are essential for County operations which shall not be disturbed, blocked, or impacted by the construction efforts.

   a. The Contractor shall be aware that both the Badlands and Lamb Canyon Landfills are active. The Contractor's Work relating to the Project shall not impede or interrupt daily landfill operations in any way. Full cooperation of the Contractor and its forces is required to assure safe working conditions. Therefore, it is necessary to emphasize that the County will have full authority to eject any of the Contractor's employees or Subcontractors employees who do not immediately abide by the landfill site rules (See Appendix A – Landfill Site Safety Rules) or the directions of the County.

   b. The Contractor must obtain in advance the County's written approval for the locations and construction of temporary haul roads. No Contractor's equipment shall be allowed to travel on internal paved access roads or other roads designated for landfill traffic; therefore, all access roads that are proposed to be

used by the Contractor's equipment will need to be prepared and maintained by the Contractor and must be pre-approved by the County in writing.

c. Payment for complying with this section shall be considered as included in the various items of work, and no additional compensation shall be allowed.

B. Access to the Site:

1. The Contractor shall only enter and exit the Project Location as directed by the County.
2. The Contractor shall mobilize all equipment and trucks only through construction access routes approved by the County.
3. Observe all landfill safety rules (See Appendix A – Landfill Site Safety Rules). Contractor shall adhere to the posted speed limits within the landfill site.
4. Contractor vehicles and equipment shall yield right of way to all County staff and landfill customer traffic.

C. Use of Site:

1. Limit use of Project Site to work in areas indicated. Do not disturb portions of Project Site beyond areas in which Work is indicated:
   a. Roadways and Entrances: Keep roadways and entrances serving premises clear and available to the County and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
2. The Contractor shall coordinate Contractor Entrance gate security with the County, including Contractor provision for adding locks and chains.

1.04 WORK DAYS AND HOURS

A. Workdays hours may be between 6:30 AM to 5:00 PM, Monday through Friday, unless otherwise approved in writing by the County.

1. Eight (8) hours shall constitute a standard workday. Five days, Monday through Friday, shall constitute a standard work week. Standard shift workday shall be worked between the hours of 7:00 AM to 3:30 PM Monday through Friday with one-half hour unpaid lunch period. The Contractor may vary the start time to take advantage of daylight hours, weather conditions or shifts, to permit an even and manageable workflow. Nothing herein shall be construed as guaranteeing any employee eight (8) hours per day or forty (40) hours per week.
2. Contractor may elect to work a four ten-hour day schedule ("4/10"), Monday through Thursday. Ten (10) hours, between 6:30 AM and 5:00 PM, shall constitute a workday on a 4/10 schedule. Any 4/10 schedule must be worked for a minimum of two (2) weeks and must be approved by the County prior to start of schedule.
3. The Contractor and their Subcontractors will schedule an unpaid meal period of not more than one-half hour duration at the Project Location approximately at the midpoint of the scheduled work shift.

4. Work activities that require inspection by the Riverside County Department of Facilities Management (RCDFM), Riverside County Fire Department (RCFD), Southern California Edison (SCE) and any other agencies other than the County, shall be scheduled and coordinated by the Contractor for the hours between 8:00 AM to 4:00 PM on weekdays, unless prior approval from the affected agency is obtained in advance.
5. Work outside the daily hours of 6:30 AM to 5:00 PM weekdays and work on Saturday and Sunday shall be subject to the County's approval. County approval shall be contingent upon Contractor agreeing to reimburse the County for costs to provide construction management, observation, inspection, and testing services outside the allowable work days and hours.

B. The following days have been designated by the County as holidays:

1. January 1st – New Year's Day
2. Third Monday in January – Martin Luther King, Jr
3. February 12th – Lincoln's Birthday
4. Third Monday in February – President's Day and Washington's Birthday
5. Last Monday in May – Memorial Day
6. July 4th – Independence Day
7. First Monday in September – Labor Day
8. Second Monday in October – Columbus Day
9. November 11th – Veterans Day
10. Last Thursday in November – Thanksgiving Day
11. Day after Thanksgiving
12. December 25th – Christmas Day
13. For a holiday that falls on a Saturday, both the Saturday and the preceding Friday shall be considered legal holidays. For a holiday that falls on a Sunday, both the Sunday and following Monday shall be considered legal holidays.
14. The Contractor shall not be permitted to work on days designated by the County as holidays unless the Contractor submits a written request to work and the request is approved in writing by the County. All Contractor requests to work on designated holidays shall be submitted at least seven (7) days prior to the requested date(s).

1.05 EQUIPMENT STAGING AND MATERIAL STORAGE AREAS

A. Locations:

1. The Contractor is responsible to identify the staging and material storage areas within the specified Limits of Construction.
2. Staging areas are for the Contractor's own use in staging equipment, trucks, work trailers, materials and other work.

B. Contractor's use of the staging and storage areas shall not disrupt or interfere with the operation of the landfills.

C. Unless approved by the County in writing, do not utilize the landfill entrance road or scale facility area for unloading, staging and storage of any items, materials, and equipment.

D. Staging areas shall be accessible to the County so that it may verify the presence and condition of equipment being stored. The Contractor shall confine equipment and maintain construction operations within limits indicated by Applicable Laws, ordinances, permits, and as outlined by the County.

E. The maximum allowable time equipment units shall remain on site, in a condition that makes it incapable of performing its designed function, shall be five (5) working days. Any equipment needing further maintenance shall be moved off site for repairs, at the full expense of the Contractor. Equipment no longer needed shall also be removed within five (5) working days of its last use.

F. All imported materials shall be stored in the designated area, unless the Contractor obtains the County's written approval for an additional area. All imported materials to be used in construction shall be unloaded, stored, and handled in accordance with manufacturer and supplier recommendations to prevent damage to the materials.

G. When delivery of a material occurs, the Contractor shall promptly observe shipments to assure that the material complies with requirements, that quantities are correct, and that the material is undamaged. The Contractor shall take full responsibility for any delay caused by a supplier or manufacturer.

H. The storage area shall be accessible to the County, so that it may observe, verify, and document the presence and condition of materials being stored.

I. Contractor shall protect materials from sun, rain, mud, soil, and debris and as stated by the manufacturer(s). Care shall be taken to protect manufactured materials against damage from misuse, mishandling, or accident. The Contractor shall store materials and maintain construction operations within limits indicated by Applicable Laws, ordinances, and permits as outlined by the County. Care shall be exercised to avoid blocking roads, interfering with County operations, or presenting a hazard to County personnel and equipment, or to the public.

J. Contractor shall assume full responsibility for any theft or vandalism occurring to the Contractor's equipment, tools, materials, supplies, and construction (prior to final acceptance of the entire Project by the County), and shall take appropriate measures necessary to eliminate their occurrences. It is highly recommended to obtain security services for equipment and materials to prevent theft and vandalism while the site is unattended.

1.06 PROTECTION OF EXISTING FACILITIES AND ADJACENT LANDFILL OPERATIONS

A. The Badlands and Lamb Canyon Landfills are active facilities; thus, all construction Work relating to the Project shall not impede or disrupt daily landfill business and

operations. Contractor shall take all necessary steps to plan and execute Work so as not to damage or disrupt existing facilities, operations, and utilities.

B. Report any damage to existing facilities and utilities caused by Contractor's operations immediately to the County.

C. Repair, restore or replace any facilities damaged by Contractor's operations to the satisfaction of the County at no cost to the County.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION 01 1400

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 2900: PAYMENT PROCEDURES

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SECTION 01 2900
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Basis and Measurement of Payment Quantities (1.04)
2. Liquidated Damages (1.05)
3. Progress Payments (1.06)
4. Progress payment supporting materials (1.06 C)
5. Resubmittal of progress payment applications (1.06 D)
6. Conditions necessary for payment (1.07)

1.02 DEFINITIONS

A. Cubic Yard (CY) – Unless otherwise specified in these Detailed Provisions, where the term cubic yard appears it shall mean bank (bulk) volume in the case of excavation; and compacted volume yielding the specified relative compaction, moisture content, and hydraulic conductivity, if required, in the case of engineered fill.

B. Linear Feet (LF) - shall be measured along the horizontal length of the centerline of the installed material, unless otherwise specified. Pipe/conduit shall be measured along the length of the completed pipeline/conduit, regardless of the type of joint required, without deduction for the length of valves or fittings. Pipe/conduit included within the limits of Lump Sum items will not be measured.

C. Lump Sum (LS) – A fixed Contract price for completion of defined Scope of Work.

D. Square Feet (SF) –Area of a square with sides of one (1) foot. Quantities shall be calculated to the nearest square foot of true (i.e. including slope surface area) area.

E. Tons (T) – unit of measure for weight. Quantities shall be based on tickets received, reviewed, and accepted by County for truck deliveries containing materials using this unit of measure in the Bid Items.

1.03 BASIS AND MEASUREMENT OF PAYMENT QUANTITIES

A. Although the County will keep track of and update the official Work completed based upon the agreed bid quantities, it is the Contractor's responsibility to measure and compute the quantities of Work completed under the terms of the Contract, subject to verification by the County. In computing quantities, the length, area, solid contents, number, weight, or time as specified in the Contract.

B. The Contract Price shall cover the Work required by the Contract Documents. All costs in connection with the successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the Contractor's Bid Proposal.

C. All estimated quantities stipulated in the Contract Documents are approximate and are to be used only for the purpose of comparing the Bids submitted for the Work and as a basis for determining an initial Contract Price. The actual amounts of Work completed, and materials furnished under unit cost items may differ from the estimated quantities. The County does not expressly or by implication represent that the actual quantities involved will correspond exactly to the quantities provided by the County in the Contractor's Proposal; nor shall the Contractor plead misunderstanding or deception because of such estimate or quantities or of the character, location or other conditions pertaining to the Work. Payment to the Contractor will be made only for the actual quantities of Work performed or material furnished for unit cost bid items, in accordance with the Project Drawings and Detailed Provisions, and it is understood that the quantities may be increased or decreased as provided in Section 2-6 of the General Provisions. The Contractor agrees that it will make no Claim for damages, anticipated profits, or otherwise because of any difference between the amounts of Work actually performed and materials actually furnished and the estimated amounts therefore.

D. Methods of Measurement:

1. Units of measurement shall be defined in general terms as follows:
    a. Linear Feet (LF)
    b. Square Feet (SF)
    c. Square Yards (SY)
    d. Cubic Yards (CY)
    e. Each (EA)
    f. Lump Sum (LS)
    g. Acres
    h. Tons (T)
2. Unit Cost Items:
    a. Linear Feet (LF) shall be measured along the horizontal length of the centerline of the installed material, unless otherwise specified. Pipe/conduit shall be measured along the length of the completed pipeline/conduit, regardless of the type of joint required, without deduction for the length of valves or fittings. Pipe included within the limits of Lump Sum items will not be measured.
    b. Square Feet (SF), Square Yards (SY), Cubic Yards (CY), Each (EA), Acres and Tons (T) shall be measured as the amount of the unit of measure installed and compacted within the limits specified and shown in the Project Drawings and

Detailed Provisions. True area shall be determined by using surveying methods to measure slope angles and elevations. Contractor shall provide supporting documentation (i.e. drawings, delivery tickets, invoices, survey calculations, etc.) to verify actual installed quantities. Unless otherwise specified in these Detailed Provisions, where the term Cubic Yard appears it shall mean bank (bulk) volume in the case of excavation; and compacted volume yielding the specified relative compaction, moisture content, and hydraulic conductivity, if required, in the case of engineered fill.

c. Payment for Work will be based on the approved contract unit price per unit of measurement based upon the actual quantities of Work measured upon completion. Estimated quantities provided in the Contract Documents are for bidding purposes only, and the County does not express or imply that the actual amount of the Work or materials will correspond to the estimated quantities.

d. Unit costs shall include all services, obligations, responsibilities, labor, materials, devices, equipment, royalties and license fees, supervision, temporary facilities, clean up, traffic control, survey, field offices, close out, overhead and profit, connections, appurtenances and any other incidental items of any kind or nature, as are necessary to complete the Work in accordance with the Contract Documents.

3. Lump Sum Items:

a. Items for which quantities are indicated "Lump Sum", "LS", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of Work and all Work appurtenant thereto.

b. When required by the Contract Documents or requested by the Engineer, the Contractor shall submit to the Engineer within fourteen (14) days after issuance by County to Bidder of the Notice of Intent to Award and prior to commencement of the Work, a detailed schedule, to be used only as a basis for determining progress payments on a Lump Sum contract or designated Lump Sum Bid item. This schedule shall equal the Lump Sum Contract Price or Bid item price and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the Lump Sum.

c. Progress payments for each individual lump sum item will be processed on a percentage of completion basis as estimated by the Contractor and approved by the County. In instances where the line item must be performed over the life of the Project (such as Dust Control, SWPPP Implementation, Traffic Control, etc.), the line item payment made will be based on the percentage completion of the project multiplied by the item Lump Sum. Percentage completion of the Project will be based on the percentage of the construction price approved to date.

d. Lump Sum items shall include all services, obligations, responsibilities, labor, materials, devices, equipment, royalties and license fees, supervision, temporary facilities, clean up, traffic control, survey, field offices, close out,

overhead and profit, connections, appurtenances and any other incidental items of any kind or nature, as are necessary to complete the Work in accordance with the Contract Documents.

4. Specific Cost Items:

   a. Earthwork:

      1) Unless otherwise stated, the final measurement of all earthwork quantities shall be calculated to the nearest cubic yard (CY) based upon comparison of pre-construction and post-construction surveyed surfaces of the project Work. These surfaces may be established by a combination of conventional ground surveying and photogrammetry of the Project Work areas performed by the County. Unless otherwise stated, the surface for any layer which will be covered by subsequent layers shall be established by ground surveying. Final volumetric calculation of earthwork quantities for payment purposes shall be performed by the County based upon the resulting Digital Terrain Models (DTM) using the grid volume method with a grid interval of five (5) feet by five (5) feet (See Detailed Provisions Section 01 4320 – Surveying). It should be noted that different methods may be used by the County for determining quantities for progress payments. However, the earthwork quantities used for progress payments will be adjusted at the completion of the Work based upon the final measurement method stated in this paragraph.

   b. Mobilization and Demobilization:

      1) General:

         This contract item shall consist of expenditures for all preparatory work and operations, including but not limited to: those costs necessary for the movement of personnel, equipment, supplies, and incidentals to the project site for each Work Order; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site as well as the related demobilization costs at the completion of each Work Order and the project. Demobilization shall include but not be limited to cleaning installations and the removal of temporary structures as required by the County. Throughout all phases of construction, including suspension of work and until final acceptance of the project, the Contractor shall keep the work areas clean and free of refuse generated as a result of the Contractor's operations. Any such refuse shall be disposed of in the designated disposal area or as directed by the County.

      2) Execution:

         Upon receipt of each Work Order, the Contractor shall furnish, mobilize, and install such temporary works, materials, equipment, supplies, and personnel, as necessary for the successful completion of the work. The Contractor shall also operate and maintain temporary works and

equipment, throughout the duration of construction. All temporary works, such as sanitation facilities, shall fully comply with applicable rules and regulations of governing authorities.
The Contractor shall remove and properly dispose of all refuse from the construction site. Any hydrocarbon-impacted soils found at the site as a result of the construction operation, such as equipment maintenance, shall be removed and properly disposed of at the Contractor's expense.

The Contractor shall obtain all necessary permits and permission to utilize public roads for mobilization, demobilization, and access to the site. The Contractor shall provide traffic control plans in accordance with Detailed Provision 01 5526 Traffic Control. Access to the site is available through existing public roads during the workday hours specified in Detailed Provision 01 1400 Work Restrictions.

3) Measurement and Payment:

Payment for mobilization and demobilization shall be determined for each individual site event Contract Work Order and shall be executed as stated in section 1.3.E “Authorized Time and Materials” of this detailed provision. Contractor shall submit invoices for each and every instance of mobilization and demobilization. The Contractor shall inform the County in writing and obtain written authorization and approval by the County prior to mobilizing or demobilizing any equipment that requires a haul distance of 150 miles or more to or from the respective landfill sites. Any equipment mobilized or demobilized with a travel distance of 150 miles or more without written authorization and approval by the County shall not be compensated by the County. Contractor shall submit invoices for all aspects of “Authorized Time and Materials” work including but not limited to material receipts, equipment rental invoices, and subcontractor and vendor invoices.

E. Authorized Time and Materials:

Payment “Authorized Time and Materials" shall be made when prior written authorization and approval has been provided to the Contractor by the County. Payment for all mobilization/demobilization shall be included in “Authorized Time and Materials”. Contractor shall submit invoices for each and every instance of mobilization and demobilization. The Contractor shall inform the County in writing and obtain written authorization and approval by the County prior to mobilizing or demobilizing any equipment that requires a haul distance of 150 miles or more to or from the respective landfill sites. Any equipment mobilized or demobilized with a travel distance of 150 miles or more without written authorization and approval by the County shall not be compensated by the County. Contractor shall submit invoices for all aspects of “Authorized Time and Materials” work including but not limited to material receipts, equipment rental invoices, and subcontractor and vendor invoices.

Authorized Time and Materials may be used by the County for work that has been negotiated between the County and the Contractor. Use of Authorized Time and Material allocation will be at the sole discretion of the County. All or any portion of the allocation amount may be deleted from the Contract. The County shall have the right to add work of a different character or function, and have the Contractor perform such added work when such work is considered by the County to be appurtenant to the satisfactory completion of the project.

The Contractor shall provide a rate schedule for all labor and equipment that may reasonably be anticipated for use during the project. Labor rates shall be consistent with those required by the latest prevailing wage rate requirements of the Contract and as set forth by the California Department of Industrial Relations "General Prevailing Wage Determinations" and shall reflect all benefits and employer costs. The equipment rental rates to be applied shall be the latest rates that are in effect at the time of the award of the contract, as published by the California Department of Transportation (Caltrans). A copy of said equipment rental rates are available on Caltrans' website. Once the labor and equipment rates have been approved by the County, they will become the basis for compensation for any Time and Material work requested by the County. The Contractor shall document all labor, materials and equipment used or consumed in the performance of the added work as described in Section 7-4.5.2. of the General Provisions.

The signing of the contract by the Contractor will be deemed to be an agreement on their part to perform the added work, as and when ordered by the County. If the required added work results in delay to the project, the Contractor will be given an appropriate extension of time.

Unless otherwise negotiated by the County and Contractor, the cost of all work performed by the Contractor on an "Authorized Time and Material" basis will be computed in the manner described in Section 7-4 of the General Provisions in the Contract Documents, and the compensation thus provided shall be full payment to the Contractor related to the authorized time and material work.

F. The Contractor shall provide a rate schedule for all labor and equipment that may reasonably be anticipated for use during the project. Labor rates shall be consistent with those required by the prevailing wage rate requirements of the Contract and as set forth by the California Department of Industrial Relations "General Prevailing Wage Determinations" and shall reflect all benefits and employer costs. Once the labor and equipment rates have been approved by the County, they will become the basis for compensation for any Time and Material work requested by the County.

G. The equipment rental rates to be applied shall be the rates that are in effect at the time of the award of the contract, as published by the California Department of Transportation (Caltrans).

H. The signing of the contract by the Contractor will be deemed to be an agreement on their part to perform the added work, as and when ordered by the County. If the required added work results in delay to the project, the Contractor will be given an appropriate extension of time.

I. Payment for "Authorized Time and Materials" shall be made when prior written authorization and approval has been provided to the Contractor by the County. Contractor shall submit invoices for all aspects of "Authorized Time and Materials" work including but not limited to material receipts, equipment rental invoices, and subcontractor and vendor invoices.

J. Unless otherwise negotiated by the County and Contractor, the cost of all work performed by the Contractor on an "Authorized Time and Material" basis will be computed in the manner described in Section 7-3. of the General Provisions in the Contract Documents, and the compensation thus provided shall be full payment to the Contractor related to the authorized time and material work.

1.04 LIQUATED DAMAGES

A. The Liquated Damage amounts, set forth in this Section, will be assessed for Contractor's failure to achieve completion for the following Project milestones:

1. Project Substantial Completion - The Liquidated Damages reduction to the Contract Price for failure to reach Substantial Completion for the Project is One Thousand Dollars ($1,000) per day for each additional Working Day required to properly complete the Work in excess of the established contractual date for achieving Project Substantial Completion.

2. Final Acceptance – The Liquated Damages reduction to the Contract Price for failure to reach Final Acceptance for the Project is Five Hundred Dollars ($500) per day for each additional Working Day required to properly complete the Work in excess of the established contractual date for achieving Project Final Acceptance.

1.05 PROGRESS PAYMENT SUBMITTAL

A. No Progress Payment will be made when, in the judgement of the County, the Work is not proceeding in accordance with the provisions of the Contract, or when the total Work done since the last Progress Payment amounts to less than one thousand dollars ($1,000). Unless otherwise agreed to at the Pre-Construction meeting or identified in the Special Provisions, on or about the last day of each month, the County shall make an estimate in writing of the total amount of Work done by the Contractor, and the acceptable materials furnished and incorporated in the Work, including that done under approved Change Orders, through the end of the month for Contractor's review. Contractor shall notify the County within seven (7) days if they dispute the County's estimate. County will then use the approved contract unit price to prepare a Progress Payment request for the items, or portions of items, of the Work completed during the monthly progress period. After deducting all previous payments, the retention as described in Section 1.08 of these Detailed Provisions Section and

Section 7-3.3.1 of the General Provisions, and other withholdings or deductions specified in Section 1.07 of this Detailed Provisions Section, the County will pay the Contractor the balance.

B. The payment of a Progress Payment or the acceptance of payment by the Contractor does not constitute acceptance of any portion of the Work and does not reduce the Contractor's liability to replace unsatisfactory Work, material, or equipment. An inadvertence or error in an approved Progress Payment request will not release the Contractor or the Contractor's Surety from damages arising from the Work covered by the approved payment request or from enforcement of every provision of the Contract. The County has the right to correct any error made in any Progress Payment.

C. Progress Payment Supporting Materials - the following items are required upon request by the County to be included with any request for Progress Payment:

1. Monthly Update Schedule identified in Detailed Provisions Section 01 3200 – Construction Progress Documentation.
2. Paid receipts to support payment for materials on hand.
3. Materials orders.
4. Paid equipment lists and rental agreements.
5. Work purchased but not installed:
    a. Provide separate line items on the Application for Payment.
    b. Identify the location, and disposition of materials, products, fabrications, and equipment as of the date of the Application for Payment.
    c. Provide invoices and receipts.
    d. Provide an Insurance Certificate or a copy of the bond from the bonded warehouse storing the material.
    e. Provide photograph documentation.
    f. Identify exact material; include quantity and measurement unit.

D. Resubmittal of Progress Payment Applications

1. Should the County determine the information to prepare an Application for Payment is incomplete, improperly executed, or incorrect, County will provide notice to the Contractor as soon as practicable, but no later than seven (7) days after becoming aware of such inconsistency. Such notice shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.
2. Contractor shall revise and resubmit any such information in accordance with the provisions of this Detailed Provisions Section.
3. Processing of the resubmittal will begin when required revisions have been submitted, and are deemed fully documented for review by the County.
4. Comply with instructions provided by the County identifying required revisions.

1.06 WITHHOLDING/DENIAL OF PROGRESS PAYMENT REQUEST

A. Failure to comply with the requirements of this Section will be cause for delay in review and acceptance of the Application for Payment as defined in the Contract.

B. The Monthly Update Schedule identified in Detailed Provisions Section 01 3200 – Construction Progress Documentation and is required to accompany Applications for Payment as a condition of receiving payment for Work accomplished each payment period.

C. Record Drawings: Maintaining Record Drawings up to date.

D. The County may deny a Progress Payment request and/or withhold money from any Progress Payment to:

1. Cover any unpaid Claims filed pursuant to Civil Code Section 9000 et seq;
2. Protect the County's interest; and/or
3. Pay any fines levied against the Work by the County or other entities.

E. The County may also deny a Progress Payment request and/or withhold money or modify any previous Progress Payment as necessary to protect the County from loss due to or resulting from:

1. Defective Work not remedied.
2. Stop notices filed. The County may, at its discretion, accept a bond in lieu of withholding funds for properly filed stop notices. However, the bond must be issued by a different Surety than the one that issued the Contractor's Payment Bond for the project. The amount withheld for stop notices will one-hundred and twenty-five percent (125%) of the stop notice amount.
3. Failure of the Contractor to make prompt payments properly to Subcontractors for labor, materials, or equipment as required by Business and Professions Code Section 7108.5.
4. Evidence that the Work cannot be completed for the unpaid balance of the Contract sum.
5. Evidence that the Work will not be completed within the Contract time.
6. Damage to the County or another Contractor.
7. Failure to carry out the Work in accordance with the Contract.
8. Any violation or non-compliance with Contractor's legal responsibilities, including withholds for wages adjustments in accordance with California Labor Code Section 1727 and any fines incurred by the County as a result of the Contractor's actions.

F. When, under the provisions of the Contract, the County charges any sum of money against the Contractor, the County will deduct and retain the amount of such charge from a Progress or Final Payment. If, on completion or termination of the Contract, sums due the Contractor are insufficient to pay the County charges against the Contractor, the County has the right to recover the balance from the Contractor or the Contractor's Surety.

1.07 RETENTION

A. As stated in Section 7-3.3.1 of the General Provisions and in accordance with Public Contract Code section 7201(b)(1), five percent (5%) of each Progress Payment will be retained until the Work has been completed.

B. Substitution of Securities – At the request and expense of the Contractor, in accordance with California Public Contract Code Section 22300, in lieu of the County withholding the five percent (5%) retention defined within this Detailed Provisions Section, the Contractor may: 1) substitute a deposit of securities at least equivalent to the retention to be paid, or 2) request the County pay retention directly to an escrow agent. The Contractor and County shall enter an escrow agreement in the exact form set forth in Public Contract Code Section 22300. Such an agreement will need to be approved by the County Board of Supervisors.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 3100: PROJECT MANAGEMENT AND COORDINATION

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SECTION 01 3100
PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Project coordination.
2. Coordination drawings.
3. Informational submittals.
4. Pre-construction meeting.
5. Pre-installation meetings.
6. Weekly progress meetings.
7. Requests for Information (RFI).
8. Requests for Change (RFC).
9. Schedule for forms.

1.02 PROJECT COORDINATION

A. General: Contractor shall coordinate construction activities to assure efficient and orderly performance of the Work and avoidance of interference with County landfill operations and customers. Coordinate construction activities included in different Sections of the Detailed Provisions that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Lost Time Avoidance:

1. Coordinate with crews and work areas to reduce and eliminate lost time.

C. Utilities:

1. Coordinate construction activities with utility service providers required for performance of the Work.

D. Administrative Procedures: Contractor shall coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation and maintenance of Contractor's Construction Schedule.
2. Installation and removal of temporary facilities and controls.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Pre-construction, pre-installation, and weekly project meetings.
6. Startup and adjustment of systems.
7. Project closeout activities.

E. Contractor shall be responsible for completion, and administration of required forms.
   1. The County will provide required and suggested forms and formats during and after the Pre-Construction Meeting.

F. Formats not prescribed by the County may be of the Contractor's own design, subject to the following:
   1. Contractor-designed forms shall use Arial typeface, eleven (11) point type size, and shall be double-sided printed.
   2. Submit draft forms for review and approval by the County.

1.03 PRE-CONSTRUCTION MEETING

A. Schedule:
   1. The County will schedule Pre-Construction Meetings.
   2. It is anticipated that the initial Pre-Construction Meeting will be held within ten (10) business days of Contract Award. The Pre-Construction meeting may be scheduled to coincide with the issuance of the Notice to Proceed, or scheduled at an earlier time if mutually agreed upon.
   3. The County may schedule additional Pre-Construction Meetings for each work order.

B. Purpose and Agenda: Discuss items of significance that could affect progress, including, but not limited to the following:
   1. Establish lines of communication at the Project working level. Designate key personnel and their duties.
   2. Discuss and review administrative requirements of the Contract.
   3. Review forms required to be used by the Contractor in administration of the Work.
   4. Review and discuss design intent, user and concurrent operations issues, and permitting issues including requirements of authorities having jurisdiction.
   5. Definition of and interpretation of roles, and responsibilities in performance of the Contract. County to provide project management organizational chart.
   6. Review and discuss Contract Documents including Project Drawings and Detailed Provisions.

7. Review and discuss site access, security and procedural issues.
8. Coordinate safety activities, including performance of the required Contractor's Health and Safety Plan.
9. Coordinate mobilization activities.
10. Tentative construction schedule and phasing of Work.
11. Critical Work sequencing and long-lead items.
12. Submittal procedures.
13. Procedures for processing field decisions, RFIs, and Change Orders.
14. Procedures for inspection, testing, and start-up.
15. Procedures for processing Applications for Payment.
16. Contractor shall be issued four (4) complete copies of the Contract Documents (which includes four (4) full-sized sets of Project Drawings and four (4) half-sized sets of Project Drawings).
17. Preparation of record documents.
18. Work restrictions and working hours.
19. Procedures for disruptions and shutdowns.
20. Construction waste management and recycling.
21. Staging and material storage areas.
22. Equipment and material deliveries.

C. Notification:

1. The County will notify the Contractor and required attendees not less than two (2) Calendar Days in advance of the proposed meeting time.

D. Required Attendees:

1. County – Project Manager, Resident Engineer and Safety Representative.
2. Testing/Inspection Provider (to be hired by the County).
3. Contractor – Contractor's Representative, project manager, superintendent, safety officer, major Subcontractors, and other individuals involved in the execution of the Work.

E. Meeting Minutes:

1. County will prepare and distribute the minutes from the Pre-Construction Meeting. Minutes will record significant meeting discussions, agreements, and disagreements, including required corrective measures and actions. Minutes shall be distributed to each party present.

F. Authorities having jurisdiction may require their own pre-construction meeting with the Contractor and the County.

1. Refer to individual permits for preconstruction meeting requirements.

2. Contractor is responsible for arranging for these meetings.

1.04 REQUEST FOR INFORMATION (RFI)

A. Immediately on discovery of the need for additional information of interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified. A sample RFI form is included at the end of this Detailed Provisions Section.

1. County will return RFIs submitted to the County by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's Work or Work of Subcontractors.
3. County will not review the Contractor's RFIs that in fact Requests for Changes (RFCs), as determined by the County. In such cases, Contractor will be required to resubmit on the appropriate RFC form.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project Name.
2. Date.
3. Name of Contractor
4. RFI number, numbered sequentially for the project.
5. RFI subject.
6. Detailed Provisions Section number and title and related paragraphs, as appropriate.
7. Drawing number and detail references, as appropriate.
8. Field dimensions and conditions, as appropriate.
9. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Price, Contractor shall state impact in the RFI.
10. Contractor's signature.
11. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

C. RFI Forms:

1. Software-generated form with substantially the same content as indicated above, acceptable to the County.

D. County's Action:

1. County will review each RFI, determine action required, and respond. Allow seven (7) Working Days for County response for each RFI. RFIs received by the County after 1:00 p.m. PST will be considered as received the following Working Day.
2. The following RFIs will be returned without action:

a. Requests for approval of submittals.

a. Requests for approval of substitutions.

b. Requests for coordination information already indicated in the Contract Documents.

c. Requests for adjustments in the Contract Time or the Contract Price.

d. Requests for interpretation of County's actions on submittals.

e. Incomplete RFIs or inaccurately prepared RFIs.

3. County's action may include a request for additional information, in which case County's time for response will date from time of receipt of additional information.

4. County's action on RFIs that may result in a change to the Contract Time or the Contract Price may be eligible for Contractor to submit a Change Proposal.

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Price, notify County in writing within ten (10) days of receipt of the RFI response.

E. RFI Log: Contractor shall prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly, if updates have occurred during the previous week. Software log shall not contain less than the following:

1. Project name.

2. Name and address of Contractor.

3. Name and address of County.

4. RFI number including RFIs that were dropped and not submitted.

5. RFI description.

6. Date the RFI was submitted.

7. Date County's response was received.

F. Upon receipt of County's action, Contractor shall update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify County within seven (7) Calendar Days if Contractor disagrees with response.

1.05 RFI MEETINGS

A. RFI Meetings will be directed, and led by the County.

1. RFI responses are prepared by the County in writing and are binding.

2. Verbal responses and discussions about RFIs are unofficial, non-final, and non-binding on the parties.

3. If needed, RFI meetings will be scheduled to occur immediately following the Weekly Project Meeting.

B. Purpose:

1. Maintain and improve lines of communication about Contractor-initiated questions, and questions from Subcontractors.
2. Prioritize RFI responses to the Contractor.
3. Review and discuss specific Contract Documents including Project Drawings and Detailed Provisions.

C. Attend RFI meetings; be prepared to discuss agenda items identified in this Detailed Provisions Section.

D. Follow the direction of the County in preparation for RFI meetings, including but not limited to:

1. Ensure that the persons responsible for preparation of RFIs are present.
2. Ensure that required attendees are prepared to discuss the RFIs with the County and the County's representatives, in detail.

E. Required Attendees:

1. County –
   a. Project Manager,
   b. Resident Engineer, and
   c. Other individuals or entities involved in the execution of the Work.
2. Contractor –
   a. Contractor's Representative,
   b. Project Manager,
   c. Superintendent,
   d. Safety Officer,
   e. Major Subcontractors, and
   f. Other individuals involved in the execution of the Work.

F. Agenda for RFI Meetings:

1. Review of previous RFI responses, and actions taken.
2. Review and discussion of current RFIs, and proposed responses by the County, when available.
3. Discussion of forthcoming RFIs anticipated by the Contractor, when available.

G. Meeting Minutes:

1. The County will prepare and distribute minutes for each RFI Meeting if such minutes are deemed necessary by the County.

1.06 REQUEST FOR CHANGE (RFC)

A. Contractor shall submit a Request for Change (RFC) when Contractor proposes a change in the Contract requirements. All change requests shall be submitted on the RFC form included at the end of this Detailed Provisions Section. As shown therein, Contractor is required to fully describe the benefit(s) to the County, benefit(s) to the Contractor, the cost and/or schedule impact(s) associated with the requested change, along with whether or not Contractor proposes or requires a Contract Change Order for implementing the change.

B. As noted on the RFC form, it is understood that certain RFCs can be responded to promptly, with minimal expenditures required by County. It is also understood that other RFCs require significant expenditures by County in order to properly evaluate and respond to Contractor's RFC. For those RFCs that fall in the latter category, County will provide an estimate (time and cost) to Contractor as an initial response to RFC. Contractor may then elect to have County proceed with evaluating Contractor's RFC (with estimated value deducted from Contractor's Contract with the County), or elect to withdraw Contractor's RFC.

1.07 DOCUMENT FORMATS

A. The County requires an original signed copy of every piece of written communication and submittals used in the Project.

1. Electronic submittals of documents must be followed up with the submittal of the original signed hardcopy to the County.

B. For documents created by the Contractor and/or its Subcontractors:

1. Text: Submit electronically in Microsoft Word, current version.
2. Tables: Submit electronically in Microsoft Excel, current version.
3. Schedules: Submit electronically in Microsoft Project, or approved equal along with an Adobe Portable Document Format (PDF) version.
4. Figures and pictures: Submit as PDF or JPG files.
5. Cut sheets from catalogs, and similar items: Submit as PDF files.
6. Drawings: Submit as PDF files, except:
    a. Provide AutoCAD version of files when requested by the County.
7. For electronic files larger than ten (10) MB, supply the electronic version on a CD-ROM along with the hard copies.
8. Obtain prior approval from the County to submit an electronic version in a format other than those specified herein.

1.08 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Contractor Staffing and Organization Chart:

1. Submit an Organization Chart showing the Contractor personnel and key points of contact with the County within two (2) weeks following the Contract Award.

C. Submit a list of Contractor's personnel and Subcontractors, to include their responsibilities and contact information within two (2) weeks following the Contract Award.

1. Include the Project Manager, Project Superintendent, and Safety Officer.
2. Provide telephone numbers with voice mail service, and e-mail addresses monitored daily for each designee of the Contractor.
3. Indicate emergency and after-hours contacts, and the means of reaching these people.
4. Update the list as approved by the County whenever changes in staffing may occur.

D. Subcontract List: Contractor shall prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, e-mail and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Detailed Provisions Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

SAMPLE
CONTRACTOR'S REQUEST FOR INFORMATION (RFI) #_____

To (County):	
From (Contractor):	
Subject:	
Reference: Construction Drawing:	Detailed Provisions (Section and Page):
REQUEST	
Information is requested as follows:	
Information Requested By (Name):	**Date:**
Response Requested By (Date):	
Received by County (Date):	
RESPONSE	
Response to Information Request:	
Response By (Name):	**Date:**

SAMPLE
CONTRACTOR'S REQUEST FOR CHANGE (RFC) #_____

To (County):	
From (Contractor):	
Subject:	
Reference: Construction Drawing:	Detailed Provisions (Section and Page):
REQUEST	
The following change is requested:	
Change Requested By (Name):	**Date:**
Response Requested By (Date):	
Received by County (Date):	
Benefit to County:	
Benefit to Contractor:	
Cost and/or Schedule Impact:	
Change Order Required or Proposed? _____YES _____NO	
RESPONSE	
Response to Change Request (1) :	
Response By (Name):	**Date:**

(1) It is understood that certain RFCs can be responded to promptly, with minimal expenditures required by County. It is also understood that other RFCs require significant expenditures by County in order to properly evaluate and respond to Contractor's RFC. For those RFCs that fall in the latter category, County will provide an estimate (time and cost) to Contractor as an initial response to RFC. Contractor may then elect to have County proceed with evaluating Contractor's RFC (with estimated value deducted from Contractor's Contract with County), or elect to withdraw Contractor's RFC.

END OF SECTION 01 3100

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 3200: CONSTRUCTION PROGRESS DOCUMENTATION

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3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE 7

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SECTION 01 3200
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including, but not limited to the following:

1. Contractor's construction schedule.
2. Construction schedule updating reports.

1.02 DEFINITIONS

A. Project Baseline Schedule:

1. A complete Project Baseline Schedule will be reviewed and commented on by the County, to ensure that there is sufficient detailed information and work planning activities in accordance with this Detailed Provisions Section.
2. The Project Baseline Schedule is required to be cost-loaded, resource-loaded, and Smart Activity ID – coded (Smart Activity IDs with a maximum of ten characters). The resource loading shall be accomplished by creating resource definitions of how many crews the Contractor and subcontractors will have working on specific activities. A narrative of the crew size and make up shall be submitted along with the Project Baseline Schedule.

B. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Critical Path Method (CPM): A method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.

E. Total Float: Time between the earliest start date, and the latest start date of an activity, or succession of dependent activities.

1. Float time is not for the exclusive use or benefit of either County or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

F. Monthly Update Schedule: Actual current Project Schedule reflecting actual progress to date, changes to the Baseline Schedule, and Changes to the Work.

G. Project Schedule: The Project Baseline Schedule, inclusive of any subsequent schedule updates.

H. Weekly Look Ahead Schedule: Annotated, detailed version of the Monthly Update Schedule. Weekly Look Ahead Schedules shall be produced using the designated scheduling program from the Project Baseline Schedule. If the Contractor believes that additional detail is needed to show progress, then those activities shall be incorporated into the Monthly Update Schedule and described in the monthly narrative. The addition of activities during the course of the project shall not increase the existing contract duration unless approved by a Change Order.

I. Working Day: Schedules shall be developed using a five (5) day, eight (8) hour per day work week. Schedules shall use the level of effort counter for the activity type to track the total Calendar Days allowed in the contract. Submittals and other items of work that are required to sue Calendar Days will use an appropriate calendar.

1.03 COORDINATION

A. Coordinate Contractor's construction schedule with the Schedule of Values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.04 SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.

2. Adobe Portable Document Format (PDF).

3. Four (4) color paper copies.

B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

C. Contractor's Project Baseline Schedule: Baseline schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of scheduled labeled to comply with requirements for submittals. Include type of schedule (baseline, updated, look ahead) and date on label.

2. Submit within fourteen (14) Calendar Days after Contract Award.

D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.

2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and early start date, or actual start date if known.

3. Total Float Report: List of activities sorted in ascending order of total float.

4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed with the most recent Application for Payment.

E. Construction Schedule Updating Reports: Submit Monthly Update Schedule and Narrative with Applications for Payment.

F. Weekly Look Ahead Schedule and Narrative:

1. Submit an electronic version twenty-four (24) hours in advance of Weekly Progress Meeting in accordance with Detailed Provisions Section 01 3100 – Project Management and Coordination.

PART 2 PRODUCTS

2.01 CONTRACTOR'S CONSTRUCTION SCHEDULE – GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each separate area as a separate numbered activity for each main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no construction activity is longer than twenty (20) days, unless specifically allowed by the County. Durations that are longer maybe used for the submittal development and review period, procurement of items, and fabrication activities.

2. Procurement Activities: Include procurement process activities for the long lead items and major items requiring a cycle of more than forty-five (45) days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, inspection, testing, and delivery.

3. Submittal Review Time: Include review and resubmittal times in schedule as indicated in Detailed Provisions Section 01 3300 – Submittal Procedures.

Coordinate submittal review times in Contractor's construction schedule with submittal schedule.

4. Startup and Testing Time: Include no fewer than fifteen (15) days for startup and testing.
5. Substantial Completion: Allow time for County and Contractor to complete administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work Restrictions: Show the effect of the following items on the schedule:
    a. Coordination with utility company for electrical service.
    b. Use of site restrictions
    c. Seasonal variations
    d. Uninterruptible services.
3. Work Stages: Indicate important stages of construction for each major portion of the Work.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and Contract Time.

F. Recovery Schedule: When periodic update indicates the Work is fourteen (14) or more Calendar Days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.

G. Computer Scheduling Software: Prepare schedules using current version of Microsoft Project of software approved by the County that has been developed specifically to manage construction schedules.

2.02 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart type, Contractor's construction schedule within fourteen (14) Calendar Days of issuance of the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

2.03 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Startup Network Diagram: Submit diagram within fourteen (14) Calendar Days of issuance of the Notice to Proceed. Outline significant construction activities for the first sixty (60) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than thirty (30) days after issuance of the Notice to Proceed.

    a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of County's approval of the schedule.

2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

3. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

    a. Preparation and processing of submittals.

    b. Mobilization and demobilization.

    c. Purchase of materials.

    d. Delivery.

    e. Fabrication.

    f. Utility interruptions.

g. Installation.

h. Work by County that may affect or be affected by Contractor's activities.

i. Testing and start-up.

j. Punch list and final completion.

k. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.

3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.

4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges. Critical path will be continuous. If Contractor needs to show cure time for concrete or coatings a specific activity shall be added to show that duration with the appropriate calendar.

a. Sub networks on separate sheets are permissible for activities clearly off the critical path.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

F. Project Baseline Schedule: Prepare baseline network diagram form a sorted activity list indicating straight "early start-total float". Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work of activity.

2. Description of activity.

3. Main events of activity.

4. Immediate preceding and succeeding activities.

5. Early and late start dates.

6. Early and late finish dates.

7. Activity duration in workdays.

8. Total float or slack time.

9. Average size of workforce.

10. Dollar value of activity (coordinated with the schedule of values).

G. Schedule Updates: Concurrent with making schedule updates, prepare tabulated reports showing the following:

1. Identification of activities that have changed.

2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

PART 3 EXECUTION

3.01 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one (1) week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As Work progresses, indicate final completion percentage for each activity.

B. Weekly Look Ahead Schedule: Annotated version of the Monthly Update Schedule that reflects work activities to be completed in the next three (3) week period and coordinated with the work results in the preceding two (2) week period.

1. The Contractor shall create the Weekly Look Ahead Schedule from the Project Baseline Schedule scheduling software.
2. Submit weekly narrative describing impacts to and issues affecting the Project Baseline Schedule.
3. Excel spread sheets or bar graphs other than the annotated version of the Monthly Update Schedule will not be accepted
4. The County, at its own discretion, may waive the requirement for weekly look-ahead schedules until such time(s) that the County determines that weekly look-ahead schedules are required from the Contractor.

C. Distribution: Distribute copies of approved schedule to County, subcontractors, testing and inspection firms, and other parties identified by the County with a need-to-know schedule responsibility.

1. When updates and/or revisions are made, distribute updated schedules to the same parties.

END OF SECTION 01 3200

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 3300: SUBMITTAL PROCEDURES

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SECTION 01 3300
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals. The documentation of the progress of construction during performance of the Work, including, but not limited to the following:

1. Contractor's construction schedule.
2. Construction schedule updating reports.

B. Related Contract Document Sections include, but are not limited to:

1. General Provisions.
2. Detailed Provisions Section 01 3200 – Construction Progress Documentation.
3. Detailed Provisions Section 01 7700 – Closeout Procedures.
4. Detailed Provisions Section 01 7823 – Operation and Maintenance Manuals.

1.02 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require County's responsive action.

B. Informational Submittals: Written and graphic information and physical samples that do not require County's responsive action. Submittals may be rejected for not complying with requirements.

1.03 ACTION SUBMITTALS

A. Submittal Schedule: Contractor shall submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by County and additional time for handling and reviewing submittals required by those corrections.

B. Construction Schedule: Within fourteen (14) calendar days after the Contract Award, the Contractor shall submit a construction schedule providing the starting and completion dates of the various stages of the Work. The Contractor shall be prepared to discuss its construction schedule at the Pre-Construction Meeting. See Detailed Provisions Section 01 3200 – Construction Progress Documentation.

1.04 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. County's Digital Data Files: Electronic copies of digital data files of the Project Drawings will be provided by County for Contractor's use in preparing submittals.

1. Upon request, County will furnish Contractor with digital data drawing files of the Project Drawings for use in preparing Shop Drawings.

    a. County makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Project Drawings.

    b. Contractor shall execute a data licensing agreement in the form of Agreement acceptable to the County.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. The County reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on County's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow fourteen (14) calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. County will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow seven (7) calendar days for review of each resubmittal.

D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.

2. Include the following information for processing and recording action taken:

    a. Project name.

    b. Date.

    c. Name of County.

    d. Name of Contractor.

    e. Name of Subcontractor.

    f. Name of supplier.

g. Name of manufacturer.

h. Submittal number or other unique identifier, including revision identifier.

1) Submittal number shall use Detailed Provisions Section number followed by a decimal point and then a sequential number (e.g., 013300.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 013300.01.A).

i. Number and title of appropriate Detailed Provisions Section.

j. Drawing number and detail references, as appropriate.

k. Location(s) where product is to be installed, as appropriate.

l. Other necessary identification.

3. Submittal Copies: Unless additional copies are required for final submittal, and unless County observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

4. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. County will return without review, submittals received from sources other than Contractor.

a. Transmittal Form for Paper Submittals: Provide locations on form for the following information:

1) Project name.

2) Date.

3) Destination (To:).

4) Source (From:).

5) Name and address of County.

6) Name of Contractor.

7) Name of firm or entity that prepared submittal.

8) Names of subcontractor, manufacturer, and supplier.

9) Category and type of submittal.

10) Submittal purpose and description.

11) Detailed Provisions Section number and title.

12) Detailed Provisions paragraph number or drawing designation and generic name for each of multiple items.

13) Drawing number and detail references, as appropriate.

14) Indication of full or partial submittal.

15) Transmittal number.

16) Submittal and transmittal distribution record.

17) Remarks.

18) Signature of transmitter.

E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Detailed Provisions Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
    a. File name shall use project identifier and Detailed Provisions Section number followed by a decimal point and then a sequential number (e.g., LC-013300.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LC-013300.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by County.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to County, containing the following information:
    a. Project name.
    b. Date.
    c. Name and address of County.
    d. Name of Contractor.
    e. Name of firm or entity that prepared submittal.
    f. Names of subcontractor, manufacturer, and supplier.
    g. Category and type of submittal.
    h. Submittal purpose and description.
    i. Detailed Provisions Section number and title.
    j. Detailed Provisions paragraph number or drawing designation and generic name for each of multiple items.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Related physical samples submitted directly.
    n. Indication of full or partial submittal.
    o. Transmittal number.
    p. Submittal and transmittal distribution record.
    q. Remarks.
    r. Other necessary identification.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
    a. Project name.
    b. Number and title of appropriate Detailed Provisions Section.
    c. Manufacturer name.
    d. Product name.

F. Options: Identify options requiring selection by County.

G. Deviations: Identify deviations from the Contract Documents on submittals.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
    1. Note date and content of previous submittal.
    2. Note date and content of revision in label or title block and clearly indicate extent of revision.
    3. Resubmit submittals until they receive County's acceptance.

I. Distribution: Furnish copies of final submittals to manufacturers, Subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Retain complete copies of submittals on Project Site. Use only final action submittals that are marked as being accepted by the County.

PART 2 PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:
    1. Action Submittals: Submit one (1) electronic copy and one (1) hard copy of each submittal unless otherwise indicated by the County.
    2. Informational Submittals: Submit one (1) electronic copy and one (1) hard copy of each submittal unless otherwise indicated by the County.
    3. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
        a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
        b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
    a. Manufacturer's catalog cuts.
    b. Manufacturer's specifications.
    c. Manufacturer's standard color charts.
    d. Manufacturer statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
    a. Wiring diagrams showing factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not use base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    a. Identification of products.
    b. Schedules.
    c. Compliance with specified standards.
    d. Notation of coordination requirements.
    e. Notation of dimensions established by field measurement.
    f. Relationship and attachment to adjoining construction clearly indicated.
    g. Seal and signature of professional engineer if specified.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one (1) submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Detailed Provisions Section.
3. Disposition: Maintain sets of approved Samples at the Project Location, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine Final Acceptance of construction associated with each set.
    a. Samples that may be incorporated into the Work are indicated in individual Detailed Provisions Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as County's property, are the property of Contractor.
4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections showing full range of colors, textures, and patterns available.
    a. Number of Samples: Submit two (2) full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. County will return submittal with options selected.
5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finish in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    a. Number of Samples: Submit two (2) sets of Samples. County will retain one (1) Sample set; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
        1) If variation in color, pattern, texture, or other characteristics is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

E. Project Schedule: As required in individual Detailed Provisions Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Submit product schedule in the following format:

    a. Four (4) paper copies of product schedule or list unless otherwise indicated. County will return three (3) copies.

F. Coordination Drawings Submittals: Comply with requirements specified in Detailed Provisions Section 01 3100 – Project Management and Coordination.

G. Contractor's Construction Schedule: Comply with requirements specified in Detailed Provisions Section 01 3200 – Construction Progress Documentation.

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Detailed Provisions Section 01 4300 – Quality Assurance and Control.

I. Project Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Detailed Provisions Section 01 7700 – Closeout Procedures.

J. Operation and Maintenance Manual Submittals – Comply with requirements specified in Detailed Provisions Section 01 7823 – Operation and Maintenance Manuals.

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of engineers and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports

on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for the Project.

T. Schedule of Tests Inspections: Comply with requirements specified in Detailed Provisions Section 01 4300 – Quality Assurance and Control.

U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

W. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to County.

B. Project Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Detailed Provisions Section 01 7700 – Closeout Procedures.

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Detailed Provisions Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents. In the case of Shop Drawings, each sheet shall be so dated, signed and certified.

3.02 COUNTY'S ACTION

A. General: County will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: County will review each submittal, make marks to indicate corrections or revisions required, and return it. County will mark each submittal appropriately to indicate action, as follows:

   1. "ACCEPTED AS SUBMITTED" or "APPROVED AS NOTED" will require no formal revision and resubmission.

   2. "REVISE AND RESUBMIT" or "REJECTED" will require the Contractor to revise said submittal and shall resubmit the required number of copies of said revised submittal to the County.

C. Informational Submittals: County will review each submittal and will not return it, or will return if it does not comply with requirements. County will forward each submittal to appropriate party.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

F. Fabrication of an item shall commence only after the County has reviewed the submittal and returned copies to the Contractor marked either "ACCEPTED AS SUBMITTED" or "APPROVED AS NOTED". Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis of claims for extra work.

END OF SECTION 01 3300

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 3500: HEALTH AND SAFETY

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SECTION 01 3500
HEALTH AND SAFETY

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Contractor responsibilities for health and safety.
2. Governmental safety requirements.
3. Health, safety, and emergency response procedures.
4. Requirements for Contractor's Health and Safety Plan (HASP).

1.02 REFERENCES

A. Comply with requirements of Detailed Provisions Section 01 4200 – Reference Standards and Abbreviations and as listed herein. The following is a list of standards referenced and incorporated into this Section:

1. American Society of Safety Engineers (ASSE/SAFE):
   a. ASSE/SAFE A10.32 – Fall Protection
   b. ASSE/SAFE A10.34 – Protection of the Public on or Adjacent to Construction Sites.
   c. ASSE/SAFE Z359.1 – Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
2. American Society of Mechanical Engineers (ASME):
   a. ASME B30.22 – Articulating Boom Cranes
   b. ASME B30.3 – Tower Cranes
   c. ASME B30.5 – Mobile and Locomotive Cranes
   d. ASME B30.8 – Floating Cranes and Floating Derricks
3. California Code of Regulations (CCR): CCR Title 8 – Industrial Relations.
4. California Labor Code
5. Code of Federal Regulations:
   a. 10 CFR 20 – Standards for Protection against Radiation
   b. 29 CFR 1910 – Occupational Safety and Health Standards
   c. 29 CFR 1910.146 – Permit-required Confined Spaces
   d. 29 CFR 1910.147 – Control of Hazardous Energy (Lock Out/Tag Out)
   e. 29 CFR 1915 – Confined and Enclosed Spaces and Other Dangerous Atmospheres

f. 29 CFR 1919 – Gear Certification

g. 29 CFR 1926 – Safety and Health Regulations for Construction

h. 29 CFR 1926.1400 – Cranes and Derricks in Construction

i. 29 CFR 1926.16 – Rules of Construction.

j. 29 CFR 1926.450 – Scaffolds

k. 29 CFR 1926.500 – Fall Protection

6. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
7. Federal Water Pollution Control Act (FWPCA).
8. HAZWOPER – 29 CFR 1910.120.
9. National Fire Protection Association (NFPA):
   a. NFPA 10 – Standard for Portable Fire Extinguishers
   b. NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations
   c. NFPA 306 – Standard for Control of Gas Hazards on Vessels
   d. NFPA 51B – Standard for Fire Prevention during Welding, Cutting, and Other Hot Work.
   e. NFPA 70 – National Electrical Code
   f. NFPA 70E – Standard for Electrical Safety in the Workplace
10. Toxic Substance Control Act.

1.03 DEFINITIONS

A. Competent Person – One who is capable of identifying existing and predictable hazards in surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them (OSHA 29 CFR 1926.32(f)).

B. Contactor's Safety Officer – Contractor's representative that shall be responsible for oversight and management of the Contractors project-specific Health and Safety Plan as well as Subcontractor compliance with requirements of the Health and Safety Plan. The representative shall also be responsible for public safety where the County and Contractor have joint use areas.

C. Medical Treatment – Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

D. Permit-Required Confined Space:

1. It contains or has potential to contain a hazardous atmosphere.

2. It contains material that has potential for engulfing an entrant.
3. It is shaped inside such that someone entering could be trapped or asphyxiated.
4. It contains other recognized serious safety or health hazards.
5. In general, all vaults, tanks, pipes, sumps, and manholes are typically considered permit-required confined spaces.

E. Potential Serious Accidents/Incidents – Accidental occurrences or near misses with the potential to be a serious accident/incident such as major equipment failures, contact with power lines, spills or personal contacts with excessive amounts of toxic or hazardous materials, slides, cave-ins, etc.

F. Recordable Injuries of Illnesses – Any work-related injury or illness that results in

1. Death, regardless of the time between the injury and death, or the length of the illness;
2. Days away from work (any time lost after day of injury/illness onset);
3. Restricted work;
4. Transfer to another job;
5. Medical treatment beyond first aid;
6. Loss of consciousness; or
7. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in 1 through 6 above.

G. SDS – Safety Data Sheets.

1.04 PERFORMANCE REQUIREMENTS

A. The Contractor has the responsibility to develop and provide its employees and Subcontractors with a project, and site, specific Health and Safety Plans (HASP) prior to commencement of work on the Site. The Contractor is responsible for ensuring that all activities shall be conducted in such a manner so as to avoid hazards and injury or damage to any persons or properties. The safety provisions of Applicable Laws and of building and construction codes shall be observed. The safety of Contractor's employees, suppliers, manufacturers, Subcontractors, County employees and their representatives shall be the Contractor's responsibility.

B. The Contractor shall develop and maintain, for the duration of the Project, site specific safety program that will effectively incorporate and implement all required safety provisions. The Contractor shall appoint a Safety Officer who is qualified and authorized to supervise and enforce compliance with the safety program and HASPs. At a minimum, the Safety Officer shall perform the following throughout the duration of the Project:

1. During contract working days, the Safety Officer shall conduct daily safety and health inspections and maintain a written log, which includes: area/operation inspected, date of inspection, identified hazards, recommended corrective actions,

and estimated and actual dates of corrections.

2. Conduct mishap investigations and complete required reports. Maintain OSHA Form 300 (Log of Work-Related Injuries and Illnesses) for Contractor and Subcontractors.
3. Maintain applicable safety reference material and display signage at the Project Location.
4. Attend Pre-Construction Meeting, Pre-Installation Meetings, Weekly Progress Meetings, and mandatory Weekly Safety Meetings.
5. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution.
6. Ensure Subcontractor compliance with safety and health requirements.
7. Maintain a list of hazardous materials on-site and their Safety Data Sheets.

Failure to perform the above duties will result in dismissal of the Project Superintendent and/or Safety Officer(s), and a Project Work stoppage. The Project Work stoppage will remain in effect pending approval of a suitable replacement.

C. The duty of the County to observe the progress of the Work does not include review or approval of the adequacy of the Contractor's site specific HASPs, safety programs, Safety Officer(s), or any safety measures taken in, or near the Project Locations.

D. The Contractor, as a part of its safety program, shall maintain an updated copy of each site specific HASP at each Project Location. In addition, Contractor shall be responsible for providing all items necessary for health and safety, including, but not limited to: personal protective equipment, fall protection, dust control, wash stations, first-aid equipment, fire protection, decontamination equipment if required, and collection and disposal of rinse waters, in accordance with local, state, and federal regulations.

E. If death or serious injuries, illnesses, or serious damages are caused, the accident shall be reported immediately to the County and to others as directed in the HASPs. In addition, the Contractor must promptly report in writing to the County all accidents or near misses whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to each Project Location, giving full details and statements of witnesses.

F. The Contractor shall make all reports as are required by any authority having jurisdiction and shall permit all safety inspections of the Work being performed under this Contract. Before proceeding with any construction Work, the Contractor shall take the necessary action to comply with all provisions for safety and accident prevention.

G. Contractor shall be responsible for conducting mandatory weekly safety meetings at the Project Location. The Contractor shall notify the County of the time of all meetings and allow the County to participate. Meetings shall reiterate all safety measures to be taken and shall discuss any violations committed and preventive measures to avoid subsequent violations. The Contractor shall provide the County with a copy of the meeting minutes showing project title, printed names and signatures of attendees, and

list of topics discussed.

H. The Contractor shall be prepared to respond to potential injuries, illnesses or situations of imminent hazard to employees or public health or safety. Personnel from local medical facilities shall be contacted in case of a medical need, and the quickest route to these facilities shall be determined in advance

I. Where necessary, trenches, pits, and other excavations shall be properly shored, braced and sloped to provide safe and acceptable working conditions. Any damage occurring from earth pressures, slides, cave-ins, or other causes due to failure to provide proper shoring or bracing, or through other negligence of fault of the Contractor, shall be repaired at the Contractor's sole expense. Reference is made to Section 5-5.1.1 "Accident Prevention" of the General Provisions, in which the Contractor is required to submit to the County a detailed plan showing the design or shoring, bracing, sloping of the sides of trenches, or other provisions to be made for protection of personnel during earthwork operations in advance of any such operation.

J. HASP shall include procedures that address the clean-up in the event of a spill of toxic or hazardous materials. Any accidental spills or spills that are produced during routine equipment maintenance shall be cleaned up by removing all contaminants and the contaminated soil, disposing of it at an approved facility, and replacing the removed contaminated soil volume with clean soil material. The County may require documentation showing proper containment and removal of any toxic, hazardous, or contaminated soil that the Contractor has introduced or produced on Site.

K. The County reserves the right to direct removal of any of the Contractor's employees or Subcontractors who are not adhering to or meeting the requirements of the landfill safety rules (See Appendix A – Landfill Site Safety Rules), law, HASP, or applicable regulations.

1.05 SUBMITTALS

A. Health and Safety Plans (HASP):

1. For each project site, submit a project-specific Health and Safety Plans (HASP) within fourteen (14) Calendar Days of the Award of Contract by the Riverside County Board of Supervisors, and prior to delivering equipment and commencing work at the Project Location.

2. County acceptance of each HASP does not release the Contractor of liability in the event of an accident or injury, nor does it place any liability on the County or any County employees.

3. HASPs must, at a minimum, comply with all federal, state, and local requirements regarding all construction activities.

4. HASPs shall address all demolition, earthwork, surveying, electrical, mechanical, building construction, and all other aspects of the Work through all phases of the Work.

5. The HASPs shall be specific to the Project and include, at a minimum, the following items:

a. SDS for chemical materials stored, used, or otherwise required for the Project.

b. Corresponding to each project site, maps and directions to hospitals and urgent care facilities

c. Personal protective equipment requirements and descriptions.

d. Security and signage requirements.

e. Tool and equipment preventative maintenance.

f. Training for specific work conditions associated with the Project.

g. Coordination with Contractor's Safety Officer regarding the shutdown and safety lockout/tagout of pressurized systems, electrical, mechanical, pneumatic, hydraulic, etc., systems, and other equipment and utilities.

h. Confined space permit requirements and procedures.

i. Hot work permit requirements and procedures.

j. Fall Hazard Protection and Prevention Plan.

k. Crane operation procedures and critical lift plan.

l. Good housekeeping procedures.

m. Safe work practices.

n. Incident investigation procedures.

o. Accident Prevention Program – Outline project-specific anticipated hazards and safety controls necessary to safeguard the Contractor's employees, public, and County staff and representatives.

p. Traffic control procedures for approaching, crossing, or traveling along public roadways or landfill access roads according to the latest edition of the California Manual on Uniform Traffic Control Devices (MUTCD), which prescribes uniform standards and specifications for all official traffic control devices in California. The MUTCD can be viewed from Caltrans website at http://www.dot.ca.gov/hq/traffops/engineering/mutcd/. Signs and traffic control devices along public roadways or landfill access roads shall be removed and stored or covered during periods of time when they are not needed, such as the end of each Working Day, weekends, and any time when no construction activities are being performed.

q. Excavation procedures.

r. Project-specific activity hazard analysis (AHA) performed for Project tasks.

s. Exposure to toxics and hazardous materials procedures.

t. Spill containment and cleanup procedures.

6. The Contractor's Safety Officer shall participate in the development of the HASP and be responsible for adherence to the HASP at all times.

7. Provide a system of informing workers, Subcontractors, and others about the HASP

and conditions of the Work.

8. Revisions to the HASP:
    a. Revise the HASP prior to the start of Work as necessary to accommodate changes requested by the County, regulatory agencies, and jurisdictions having authority.
    b. Revise the HASP as necessary to accommodate changes in site conditions.
9. Contractor shall post copies of the HASP and all other applicable documents at the Project Location.

B. Excavation Plan:
1. In accordance with Section 5-5.1.1 – Accident Prevention of the General Provisions, Contractor shall submit to the County a detailed plan showing the design of shoring, bracing, sloping of the sides of trenches, or other provisions to be made for the protection of personnel during earthwork operations.
2. County acceptance of the Excavation Plan does not release the Contractor of liability in the event of an accident or injury, nor does it place any liability on the County or any County employees.
3. See Detailed Provisions Section 31 2300 – Earthwork and 31 2133 – Trenching, Backfilling, and Compacting for Utilities.

C. Permits and Certificates:
1. Confined Space Entry Permit (if applicable).
2. Hot Work Permit (if applicable).
3. Machinery and Mechanized Equipment Certificates – as required by local, state, federal regulations.

D. Contractor Safety Self-Evaluation Inspection.

E. Qualifications:
1. Contractor's Safety Officer – "40 Hour Construction Safety Hazard Awareness Training Course for Contractors".
2. Crane Operators – Provide proof of qualification for operating cranes with rated capacities of 50,000 pounds or greater.

F. Weekly Safety Meetings:
1. Contractor shall submit minutes and the attendance list of all weekly safety meetings.

1.06 QUALIFICATIONS AND MEETINGS

A. Contractor's Safety Officer:

1. A Competent Person shall be provided for all of the hazards identified in the Contractor's site-specific HASP and shall be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed.
2. Contractor's Safety Officer shall have successfully completed and received a certificate for "40 Hour Construction Safety Hazard Awareness Training Course for Contractors". At a minimum, course shall include the following OSHA course subjects:
    a. OSHA 510 – Occupational Safety and Health Standards for Construction
    b. OSHA 2264 – Permit-Required Confined Space Entry
    c. OSHA 3010 – Excavation, Trenching and Soil Mechanics
    d. OSHA 3095 – Electrical Standards
    e. OSHA 3110 – Fall Arrest Systems
    f. OSHA 7115 – Lockout/Tagout
    g. Scaffolds in accordance with 29 CFR 1926.450, Subpart L
3. Project Superintendent or other Contractor personnel may act as the Contractor's Safety Officer provided the individual meets the competency level required of the Contractor's Safety Officer position.
4. As part of the HASP submittals, Contractor shall provide current certification to the County of Safety Officer's completion of "40 Hour Construction Safety Hazard Awareness Training".

B. Competent Person for Confined Space Entry:
1. Provide a "Competent Person" to supervise the entry into each confined space. All confined space and enclosed space work shall comply with NFPA 306, OSHA 29 CFR 1915, Subpart B, "Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment" or as applicable , 29 CFR 1910.147 for General Industry.

C. Crane Operators:
1. For mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators as qualified by a source that qualifies crane operators (i.e., union, a government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualifications as part of HASP submittal to the County.

1.07 DISPLAY OF SAFETY INFORMATION

A. Within one (1) Calendar Day after commencement of Work, erect a safety bulletin board at the Project Location. Where size, duration, or logistics of Project do not facilitate a bulletin board, an alternative method, acceptable to the County, that is accessible and includes all mandatory information for employee and visitor review, shall be deemed as meeting the requirement for a bulletin board. Items required to be post include, but are not limited to the following:

1. Confined Space Entry Permit when corresponding work requires it.
2. Hot Work Permit when corresponding work requires it.

1.08 NOTIFICATIONS AND REPORTS

A. Accident Notification:

1. Notify the County as soon as practical, but no more than four (4) hours after any accident or near miss meeting the definition of Recordable Injuries of Illnesses or Potential Serious Accidents/Incidents. Within notification, include: Contractor name; project title; type of Contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of equipment used, PPE used, etc.). Preserve the conditions of the accident site until County determines if accident will require a site investigation.

B. Accident Reports:

1. Conduct an accident investigation for recordable injuries and illnesses, for incidents requiring Medical Treatment, property damage accidents resulting in at least $2,500 in damages to establish the root cause(s) of the accident. Submit the completed accident report to the County within five (5) Calendar Days of the accident. If requested by the County, report may be required for Potential Serious Accidents/Incidents.

2. Conduct an accident investigation for any weight handling equipment accident (including rigging gear accidents) to establish the root cause(s) of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfactions of the County and Contractor's Safety Officer.

C. Crane Reports:

1. When required, maintain crane inspection reports as attachments for each Project Location's copy of its site specific HASP.

1.09 HOT WORK REQUIREMENTS

A. "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices. At a minimum, provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal.

1.10 CONFINED SPACE ENTRY REQUIREMENTS

A. Contractors entering and working in confined spaces while performing general industry work are required to follow the requirements of OSHA 29 CFR 1926 and comply with the requirements in OSHA 29 CFR 1910, and OSHA 29 CFR 1910.146.

1.11 RADIATION SAFETY REQUIREMENTS

A. License certificates for radiation materials and equipment shall be submitted to the County for all specialized and licensed material and equipment that could cause fatal harm to employees or visitors.

B. Workers shall be protected from radiation exposure in accordance with 10 CFR 20 – Standards for Protection against Radiation.

C. Loss of radioactive material shall be reported immediately to the County.

D. In instances where radiography is scheduled near or adjacent to buildings or areas having limited access or one-way doors, no assumptions shall be made as to building occupancy. Where necessary, the County will direct the Contractor to conduct an actual building entry, search, and alert. Where removal of personnel from such a building cannot be accomplished and it is otherwise safe to proceed with the radiography, a fully instructed employee shall be positioned inside such building or area to prevent exiting while external radiographic operations are in process.

E. Transportation of Regulated Amounts of Radioactive Material will comply with 49 CFR, Subchapter C, Hazardous Material Regulations.

1.12 SEVERE STORM PLAN

A. In the event of a severe storm warning, the Contractor must:

1. Secure outside equipment and materials and place materials that could be damaged in protected areas.

2. Check surrounding area, including roof, for loose material, equipment debris, and other objects that could be blown away or against existing facilities.

3. Ensure that temporary erosion control measures are in place.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 CONSTRUCTION AND OTHER WORK

A. Comply with NFPA 70, NFPA 70E, NFPA 241, the HASP, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails. Personal protective equipment (PPE) is governed in all areas by the nature of the Work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be carried/available for each person.

3.02 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

A. Ensure that each employee is familiar with and complies with lockout/tagout procedures outlined in the HASP.

3.03 FALL HAZARD PROTECTION AND PREVENTION PLAN

A. Establish a Fall Hazard Protection and Prevention Plan, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures in accordance with ASSE/SAFE Z359.1. Plan shall be provided to the County as part of the Contractor's submittal of the HASP.

B. Training:

1. As part of the Fall Hazard Protection and Prevention Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection.

C. Fall Protection Equipment and Systems:

1. Enforce use of the fall protection equipment and systems designated for each specific Work activity in the fall hazard protection and prevention program and/or activity hazard analysis (AHA) at all times when an employee is exposed to a fall hazard. Personal fall arrest systems are required when working from an articulating or extendable boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500 and ASSE/SAFE A10.32.

D. Personal Fall Arrest Equipment:

1. Personal fall arrest equipment, systems, subsystems, and components shall meet ASSE/SAFE Z359.1. Only a full-body harness with a shock-absorbing lanyard of self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 meters. The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

E. Fall Protection for Roofing Work:

1. Implement fall protection controls based on the type of roof being constructed and Work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

a. Low Sloped Roofs:

1) For Work within six (6) feet of an edge, on low-sloped roofs, protect personnel from falling by use of personal fall arrest systems, guardrails, or

safety nets. A safety monitoring system is not adequate fall protection and is not allowed.

2) For Work greater than six (6) feet from an edge, erect and install warning lines in accordance with 29 CFR 1926.500

b. Steep-Sloped Roofs:

1) Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets.

F. Horizontal Lifelines:

1. Design, install, certify and use under the supervision of a qualified person, horizontal lifelines for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

G. Guardrails and Safety Nets

1. Design, install and use guardrails and safety nets in accordance with 29 CFR 1926 Subpart M.

H. Rescue and Evacuation Procedures

1. When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirements; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan in the Fall Hazard Protection and Prevention Plan.

3.04 SCAFFOLDING

A. Provide employees with a safe means of access to the Work areas on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access scaffold platforms greater than six (6) meter maximum in height by use of a scaffold stair system. Do not use vertical ladders commonly provided by scaffold system manufacturers for accessing scaffold platforms greater than twenty (20) feet maximum in height. The use of an adequate gate is required. Ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four (4) times the maximum intended load or without appropriate fall protection as delineated in the accepted Fall Hazard Protection and Prevention Plans. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. Give special care to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material is prohibited. The first tie-in shall be at the height equal to four (4) times the width of the smallest dimension of the scaffold base. Place Work platforms on mud sills. Scaffold or Work platform erectors shall have fall protection during the erection and dismantling of scaffolding or Work platforms that are greater than six (6) feet in height. Delineate fall protection requirements when working above six (6) feet or above dangerous

operations in the Fall Hazard Protection and Prevention Plan.

3.05 EQUIPMENT

A. Material Handling Equipment:

1. Material handling equipment such as forklifts shall not be modified with Work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
2. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
3. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

B. Weight Handling Equipment

1. Comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the Work. Perform erection under the supervision of a designated person as defined in ASME B30.5. Perform all testing in accordance with the manufacturer's recommended procedures.
2. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and ASME B30.8 for floating cranes and floating derricks.
3. Under no circumstances shall a Contractor make a lift at or above ninety percent (90%) of the cranes rated capacity in any configuration.
4. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of ASME B30.5 or ASME B30.22 as applicable.
5. Do not crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane.
6. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10 – Standard for Portable Fire Extinguishers.
7. All employees must keep clear of loads about to be lifted and of suspended loads.
8. Use cribbing when performing lifts on outriggers.
9. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
10. A physical barricade must be positioned to prevent personnel from the entering the counterweight swing (tail swing) area of the crane.
11. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by the County.

12. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by the County.
13. Certify that all crane operators have been trained in proper use of all safety devices.

C. Use of Explosives

1. Explosives shall not be used or brought to the Project Site without prior written approval from the County. Such approval shall not relieve the Contractor of responsibility for injury to persons or for damage to property due to blasting operations.
2. Storage of explosives, when permitted on County property, shall be only where directed and in approved storage facilities. These facilities shall be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

3.06 EXCAVATIONS

A. Soil classification must be performed by a competent person in accordance with 29 CFR 1926.

B. Utility Locations:

1. All underground utilities in the Work area must be positively identified by a third party, independent, private utility locating company in addition to any station locating service and coordinated with the station utility department.
2. Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction Work is expected to come within five (5) feet of the underground system.
3. See Detailed Provisions Section 31 2300 – Earthwork and 31 2133 – Trenching, Backfilling, and Compacting for Utilities.

3.07 ELECTRICAL

A. Portable Extension Cords:

1. Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately remove from service all damaged extension cords. Portable extension cords shall meet the requirements of NFPA 70E, and OSHA electrical standards.

3.08 WORK IN CONFINED SPACES

A. Comply with the requirements in OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, OSHA Directive CPL 2.100 and OSHA 29 CFR 1926.

1. Entry Procedures:

a. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential

hazards are controlled or eliminated and documented. All hazards pertaining to the space shall be reviewed with each employee during review of the activity hazard analysis process.

2. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.
3. Perform required atmosphere monitoring with audible alarm for toxic gas detection.

END OF SECTION 01 3500

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 4200: REFERENCE, STANDARDS AND ABBREVIATIONS

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SECTION 01 4200
REFERENCE STANDARDS AND ABBREVIATIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Detailed Provisions Format and Content Explanation.
2. Industry Standards.
3. Governing Regulations/Authorities.
4. Abbreviations.

1.02 DETAILED PROVISIONS FORMAT AND CONTENT EXPLANATION

A. Detailed Provisions Format: The Detailed Provisions, Divisions 01 through 41, are generally organized into Divisions and Sections based on the Construction Specifications Institute's 2014 fifty (50) Division format.

B. Detailed Provisions Content: These Detailed Provisions use certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

1. Abbreviated Language: Language used in Detailed Provisions and other Contract Documents are the abbreviated type. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be interpolated as the sense required. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and the context of the Contract Documents so indicates.
2. Imperative and streamlined language is used generally in the Detailed Provisions. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities that must be fulfilled directly by the Contractor or by others when so noted.
    a. The words "shall", "shall be", or "shall comply with", depending on the context, are implied where a colon (:) is used within a sentence or phrase.
3. Detailed Provisions requirements are to be performed by Contractor unless specifically stated otherwise.

C. General Provisions and Special Provisions: Requirements of General Provisions and Special Provisions of the Contract Documents apply to Work of all Sections in the Detailed Provisions.

1.03 DRAWING CONVENTIONS

A. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Detailed Provisions. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Detailed Provisions Sections.
2. Abbreviations: Materials and products are identified by abbreviations and scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Detailed Provisions Section numbers.

1.04 DEFINITIONS

A. **"Accepted"** used to convey that the County has determined a Contractor's action, plan, or submittal complies with design intent without assuming responsibility for the Contractor's means, methods, or dimensions.

B. "**Approved**" used to convey County's action on Contractor submittals, applications and requests.

C. "**Directed**" means a command or instruction by County. Other terms including "requested", "authorized", "selected", "required", and "permitted" have the same meaning as "directed".

D. "**Indicated**" are requirements expressed by graphic representations or in written form on Drawings, in Detailed Provisions, and in other Contract Documents. Other terms including "shown", "noted", "scheduled", and "specified" have the same meaning as "indicated".

E. "**Regulations**" are laws, ordinances, statues, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "**Furnish**" means supply and deliver to Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "**Install**" means unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean and similar operations at Project Site.

H. "**Plans**" or "**Project Drawings**" are the contract Project Drawings specifically prepared for the Project.

I. "**Provide**" means furnish and install, complete and ready for intended use.

1.05 INDUSTRY STANDARDS

A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, referenced construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Unless noted otherwise, comply with the standard in effect as of the date of the Bid Proposal.

C. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with referenced industry standards applicable to that entity's construction activity. Copies of referenced standards are not bound with the Contract Documents.

1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly form the publication source.

D. All Work specified herein shall conform to or exceed the requirements of the referenced specifications, codes and standards to the extent that the provisions of such documents are not in conflict with the requirements of these Detailed Provisions.

E. References herein to "Building Code" shall mean the California Building Code (CBC) of the International Code Council (ICC).

F. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the County for clarification and directions prior to ordering or providing any materials or labor. The Contractor' Bid Proposal shall take into account costs for the most stringent requirements.

G. Applicable Standard Specifications: The Contractor shall construct the Work specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards and specifications listed herein.

H. Referenced herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.06 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in the Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States". Names

B. Abbreviations and Acronyms: The following abbreviations and acronyms, as referenced in Contract Documents, are defined to mean the associated names. Names and contact information are subject to change and are believed to be, but are not assured to be, accurate and up to date as of the date of the Contract Documents.

AA	Aluminum Association; www.aluminum.org
AABC	Associated Air Balance Council; www.aabc.com
AAMA	American Architectural Manufacturers Association; www.aamanet.org
AASHTO	American Association of State Highway and Transportation Officials; www.transportation.org
ABMA	American Bearing Manufacturers Association; www.americanbearings.org
ACI	American Concrete Institute (formerly: ACI International); www.concrete.org

ACPA	American Concrete Pipe Association; www.concrete-pipe.org
AGA	American Gas Association; www.aga.org
AGC	Associated General Contractors
AGMA	American Gear Manufacturers Association; www.agma.org
AHA	American Hardboard Association; www.domensino.com/AHA/default.htm
AHAM	Association of Home Appliance Manufacturers; www.aham.org
AHRI	Air-Conditioning, Heating, and Refrigeration Institute; www.ahrinet.org
AI	Asphalt Institute; www.asphaltinstitute.org
AIA	American Institute of Architects
AIA	American Insurance Associates; www.americaninsassoc.com
AIHA	American Industrial Hygiene Association; www.aiha.org
AISC	American Institute of Steel Construction; www.aisc.org
AISI	American Iron and Steel Institute; www.steel.org
AITC	American Institute of Timber Construction; www.atic-glulam.org
AMCA	Air Movement and Control Association International, Inc.
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute; www.ansi.org
AOSA	Association of Official Seed Analysis; www.aosaseed.com
APA	APA – The Engineered Wood Association
APA	Architectural Precast Association
API	American Petroleum Institute; www.api.org
APWA	American Public Works Association
ASA	Acoustical Society of America
ASAE	American Society of Agriculture Engineers
ASC	Adhesive and Sealant Council; www.ascouncil.org
ASCE	American Society of Civil Engineers; www.asce.org
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers; www.asme.org
ASPE	American Society of Plumbing Engineers; www.aspe.org
ASQC	American Society of Quality Control
ASSE	American Society of Safety Engineers
ASSE	American Society of Sanitation Engineering; www.asse-plumbing.org
ASTM	American Society for Testing and Materials International; www.astm.org
ATIS	Alliance for Telecommunications Industry Solutions
AWI	Architectural Wood Institute; www.awinet.org
AWPA	American Wood Protection Association; www.awpa.com
AWPI	American Wood Preservers Institute
AWS	American Welding Society; www.aws.org
AWWA	American Water Works Association; www.awwa.org
BHMA	Builders Hardware Manufacturers Association; http://buildershardware.com/
BIA	Brick Industry Association

BICSI	Building Industry Consulting Service International; www.bicsi.org
BOCA	BOCA (Building Officials and Code Administrators International, Inc.)
CDA	Copper Development Association
CGA	Compressed Gas Association
CI	Chlorine Institute; www.chlorineinstitute.org
CISPI	Cast Iron Soil Pipe Institute; www.cispi.org
CLFMI	Chain Link Fence Manufacturers Institute
CMA	Concrete Masonry Association
CPA	Composite Panel Association
CRSI	Concrete Reinforcing Steel Institute; www.crsi.org
CSQA	California Stormwater Quality Association; www.casqa.org
DASMA	Door and Access Systems Manufacturers Association
DHI	Door and Hardware Institute
EJMA	Expansion Joint Manufacturers Association; www.ejma.org
ETL	Electrical test Laboratories
FM	FM Global Research; www.fmglobal.com
GA	Gypsum Association; www.gypsum.org
GANA	Glass Association of North America; www.glasswebsite.com
GBCI	Green Building Certification Institute; www.gbci.org
GRI	Geosynthetics Research Institute; www.geosynthetics-institute.org
HI	Hydraulic Institute
HMMA	Hollow Metal Manufacturers Association (see NAAMM)
HPVA	Hardwood Plywood & Veneer Association; www.hpva.org
ICBO	International Conference of Building Officials (see ICC)
ICC	International Code Council; www.iccsafe.org
ICEA	International Cable Engineers Association, Inc.; www.icea.net
ICPA	International Cast Polymer Alliance
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission; www.iec.ch
IEEE	Institute of Electrical and Electronics Engineers; www.ieee.org
IES	Illuminating Engineering Society of North America; www.iesna.org
IFC	International Firestop Council; www.firestop.org
IGCC	Insulating Glass Certification Council; www.igcc.org
IGMA	Insulating Glass Manufacturers Alliance; www.igmaonline.org
IMSA	International Municipal Signal Association; www.imsasafety.org
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	International Society of Automation; www.isa.org
ISO	International Organization for Standardization
LEED	Leadership in Energy and Environmental Design
LPI	Lightning Protection Institute; www.lightning.org
MBMA	Metal Building Manufacturers Association
MCA	Metal Construction Association
MHIA	Material Handling Industry of America
MPI	Master Painters Institute

MSS	Manufacturers Standardization Society of the Valve and Fittings Industry Inc.; www.mss-hq.org
NAAMM	National Association of Architectural Metal Manufacturers; www.naamm.org
NACE	NACE International (National Association of Corrosion Engineers International); www.nace.org
NAIMA	North American Insulation Manufacturers Association
NAPA	National Asphalt Pavement Association; www.asphaltpavement.org
NAPF	National Association of Pipe Fabricators; http://napf.com
NBS	National Bureau of Standards
NCMA	National Concrete Masonry Association; www.ncma.org
NEBB	National Environmental Balancing Bureau; www.nebb.org
NEC	National Electrical Code; www.nfpa.org
NECA	National Electrical Contractors Association; www.necanet.org
NEMA	National Electrical Manufacturers Association; www.nema.org
NETA	InterNational Electrical Testing Association; www.netaworld.org
NFPA	NFPA (National Fire Protection Association); www.nfpa.org
NFPA	National Forest Products Association
NFRC	National Fenestration Rating Council
NHLA	National Hardwood Lumber Association
NIST	National Institute of Standards and Technology; www.nist.gov
NLGI	National Lubricating Grease Institute
NPCA	National Paint and Coatings Association; www.paint.org
NRCA	National Roofing Contractors Association; www.nrca.net
NRMCA	National Ready Mixed Concrete Association; www.nrmca.org
NSF	NSF International (National Sanitation Foundation International); www.nsf.org
NSPE	National Society of Professional Engineers
NSSGA	National Stone, Sand & Gravel Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association; www.cement.org
PCI	Precast/Prestressed Concrete Institute; www.pci.org
PDI	Plumbing & Drainage Institute; www.pdionline.org
PTI	Post Tensioning Institute; www.post-tensioning.org
RCSC	Research Council on Structural Connections; http://boltcouncil.org/
SCTE	Society of Cable Telecommunications Engineers; www.scte.org
SDI	Steel Deck Institute; www.sdi.org
SDI	Steel Door Institute
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SPFA	Spray Polyurethane Foam Alliance
SPRI	Single Ply Roofing Industry; www.spri.org
SSPC	Society for Protective Coatings; www.sspc.org
SSPC	Steel Structures Painting Council

SSPWC	Standard Specifications for Public Works Construction
SWPA	Submersible Wastewater Pump Association
TCNA	Tile Council of North America; www.tcnatile.com
TIA	Telecommunications Industry Association, www.tiaonline.org
UBC	Uniform Building Code (see ICC)
UL	Underwriters Laboratories, Inc.; www.ul.com
USGBC	United States Green Building Council; www.usgbc.org
WASTEC	Waste Equipment Technology Association
WCRSI	Western Concrete Reinforcing Steel Institute
WDMA	Window & Door Manufacturers Association; www.wdma.com
WRI	Wire Reinforcement Institute, Inc.; www.wirereinforcementinstitute.org
WSC	Water Systems Council; www.watersystemscouncil.org
WWPA	Western Wood Products Association
WWPA	Woven Wire Products Association; www.wovenwire.org

C. Code Agencies: Where abbreviations and acronyms are used in the Contract Documents, they shall mean the recognized name of the entities in the following list:

1. DIN – Deutsches Institut fur Normung e. V.; http://www.din.de/en
2. IAPMO – International Association of Plumbing and Mechanical Officials; www.iapmo.org
3. ICC – International Code Council; www.iccsafe.org
4. ICC-ES-ICC Evaluation Service, LLC; www.icc-es.org

D. Federal Government Agencies: Names and titles of federal government standard or Specification producing agencies are often abbreviated. The following abbreviations and acronyms are used in the Contract Documents indicate names of standard or Specification producing agencies of the federal government. Names and contact information are subject to change and are believed to be, but are not assured, accurate and up to date as of the date of the Contract Documents.

1. CFR – Code of Federal Regulations; www.gpo.gov
2. CPSC – Consumer Product Safety Commission; www.cpsc.gov
3. DOC – Department of Commerce; National Institute of Standards and Technology (NIST); www.nist.gov
4. DOD – Department of Defense; http://www.defense.gov
5. DOE – Department of Energy; www.engergy.gov
6. DOT – Department of Transportation; www.dot.gov
7. EPA – Environmental Protection Agency; www.epa.gov
8. FAA – Federal Aviation Administration; www.faa.gov
9. FG – Federal Government Publications; www.gpo.gov
10. FS – Feral Specification (from GSA); www.gsa.gov
11. GSA – General Services Administration; www.gsa.gov

12. HUD – Department of Housing and Urban Development; www.hud.gov
13. LBL – Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov
14. OSHA – Occupational Safety & Health Administration; www.osha.gov
15. SD – Department of State; www.state.gov
16. TRB – Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org
17. USBLS – United States Bureau of Labor Statistics, www.bls.gov
18. USCOE – Army Corps of Engineers; www.usace.army.mil
19. USDA – Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov
20. USDA – Department of Agriculture; Rural Utilities Service; www.usda.gov
21. USDJ – Department of Justice, Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov
22. USP – U.S. Pharmacopeial Convention; www.usp.org
23. USPS – United States Postal Service; www.usps.com

E. Local Government Agencies: Names and titles of local government standard or Specification producing agencies are often abbreviated. The following abbreviations and acronyms referenced in Contract Documents indicate names of standard or Specification producing agencies of local and state government. Names and contact information are subject to change and are believed to be, but are not assured to be, accurate and up to date as of the date of the Contract Documents.

1. State of California

    a. BPELSG –California Department of Consumer Affairs – Board for Professional Engineers, Land Surveyors, and Geologists; http://www.bpelsg.ca.gov/
    b. BSC – California Building Standards Commission; www.bsc.ca.gov
    c. CALGreen – BSC California Green Building Standards; www.bsc.ca.gov/Home/CALGreen.aspx
    d. CalEPA – California Environmental Protection Agency; www.calepa.ca.gov
    e. CalOSHA – California Department of Industrial Relations – Division of Occupational Safety and Health; http://www.dir.ca.gov/DOSH/dosh1.html
    f. CalRecycle – California Department of Resources Recycling and Recovery; www.calrecycle.ca.gov
    g. Caltrans – California Department of Transportation; www.dot.ca.gov
    h. CARB – California Air Resources Board; www.arb.ca.gov
    i. CCR – California Code of Regulations; www.oal.ca.gov/ccr.htm
    j. CDI – California Department of Insurance; www.insurance.ca.gov
    k. CHSC – California Health and Safety Code
    l. CPUC – California Public Utilities Commission; http://www.cpuc.ca.gov

m. CSLB – Contractors State Licensing Board; www.cslb.ca.gov
n. DIR – California Department of Industrial Relations; www.dir.ca.gov
o. DTSC – California Department of Toxic Substances Control; http://www.dtsc.ca.gov/
p. DWR – California Department of Water Resources; www.water.ca.gov
q. DWC - California Department of Industrial Relations – Division of Workers' Compensation; www.dir.ca.gov/dwc
r. LWDA – California Labor and Workforce Development Agency; http://labor.ca.gov/
s. SWRCB – CalEPA: State Water Resources Control Board; www.swrcb.ca.gov

2. Regional Agencies

a. SARWQCB – Santa Ana Regional Water Quality Control Board; http://www.waterboards.ca.gov/santaana/
b. SCAQMD – South Coast Air Quality Management District; www.aqmd.gov

3. County of Riverside

a. BOS – County of Riverside Board of Supervisors; http://www.countyofriverside.us/AboutTheCounty/BoardofSupervisors.aspx
b. DEH – Riverside County Department of Environmental Health; www.rivcoeh.org
c. EPD – County of Riverside Environmental Programs Division; www.rctlma.org/epd
d. RCDFM – Riverside County Department of Facilities Management; https://rivcofm.org/
e. RCDWR – Riverside County Department of Waste Resources; www.rcwaste.org
f. RCFC&WCD – Riverside County Flood Control and Water Conservation District; www.floodcontrol.co.riverside.ca.us
g. RCFD – Riverside County Fire Department; http://www.rvcfire.org
h. RCTD – Riverside County Transportation Department; http://rctlma.org/trans/
i. TLMA – County of Riverside Transportation and Land Management Agency; www.rctlma.org

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION 01 4200

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 4300: QUALITY ASSURANCE AND CONTROL

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SECTION 01 4300
QUALITY ASSURANCE AND CONTROL

PART 1 GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Administrative and procedural requirements for quality assurance and quality control.
2. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
    a. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and –control procedures that facilitate compliance with the Contract Document requirements.
    b. Requirements for Contractor to provide quality-assurance and –control services required by County or authorities having jurisdiction are not limited by provisions of this Section.
    c. Specific test and inspection requirements are not specified in this Section.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM E329 – Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

1.03 DEFINITIONS

A. Quality-Assurance Services – Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services – Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include Contract enforcement activities performed by County.

C. Mockups – Full-sized physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups – Full-size physical assemblies constructed at testing facility to verify performance characteristics.

D. Preconstruction Testing or Conformance Testing – Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Testing – Tests and inspections that are performed by an Nationally Recognized Testing Laboratory (NRTL), an NVLAP (National Institute of Science and Technology (NIST) National Voluntary Laboratory Accreditation Program), or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing – Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality-Control Testing – Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency – An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector – Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced – Unless noted otherwise, when used with an entity or individual, "experienced" means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to the Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.04 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. In case of conflict between the Contract Documents, the following order of governing documents shall be followed (with first listed document controlling):

1. Permits issued by jurisdictional regulatory agencies.

2. Change Orders, Construction Change Directives and/or Supplemental Agreements, or Addenda to any of the Contract Documents; whichever occurs last.

3. Construction Agreement.

4. Detailed Provisions.

5. Special Provisions.
6. Administrative Provisions.
7. General Provisions.
8. Project Drawings and Specifications
9. Standard Drawings
10. Reference Specifications

The Special Provisions, Detailed Provisions, Drawings, and Standards are intended to be complimentary so that any Work exhibited in the Drawings, but not mentioned in the Special and/or Detailed Provisions, or vice versa, shall be executed to the true intent thereof and the same as if both exhibited in Drawings and set forth in the Special Provisions. The Contractor shall consult with the County to obtain interpretations of the Contract Documents. The Contractor shall also assist in resolutions of questions and transmit written interpretations to concerned parties.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to the County for a decision before proceeding.

1.05 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. At the minimum, include the following:

1. Date of issue.
2. Project title.
3. Name, address, e-mail, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Detailed Provisions Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.

13. Recommendations on retesting and re-inspecting.

B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. At the minimum, include the following:

1. Name, address, e-mail, and telephone number of representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Detailed Provisions Sections.

C. Permits, Licenses, and Certificates: For County's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgements, correspondence, records and similar documents, established for compliance with standards and regulations bearing performance of the Work.

1.06 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Detailed Provisions Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for the Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for the Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for the Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for the Project.

F. Specialists: Certain Detailed Provisions Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, and NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A Nationally Recognized Testing Laboratory according to 29 CFR 1910.7

2. NVLAP: A testing agency accredited according to National Institute of Science and Technology (NIST) National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that similar in material, design, and extent to those indicated for the Project.

I. Preconstruction Testing and Conformance Testing: Where testing agency is indicated to perform preconstruction/conformance testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

a. Provide test specimens representative of proposed products and construction.

b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.

c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.

d. When testing is complete, remove test specimens, assemblies, and mockups, and laboratory mockups; do not reuse products.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to County, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents.

1.07 QUALITY CONTROL

A. County Responsibilities: Where quality-control services are indicated in individual Detailed Provisions Sections as County's responsibility, County will engage a qualified testing agency to perform these services. It is the Contractor's responsibility to schedule the testing provided by such agencies.

1. County will furnish Contractor with names, addresses, e-mail, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Costs associated with retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with Contract Documents due to the

Contractor's actions, shall be charged to the Contractor.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to County are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

   a. Contractor shall not employ same entity engaged by County, unless agreed to in writing by the County.

2. Notify testing agencies at least forty-eight (48) hours in advance of time when Work that requires testing or inspection will be performed.

3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with County and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify County and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.

3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.

4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Preliminary design mix proposed for use for material mixes that require control by testing agency.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and –control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.08 SPECIAL INSPECTIONS AND TESTS

A. Special Inspections and Tests: Conducted by a qualified special inspector as required by California Building Code (CBC), as indicated in individual Detailed Provisions Sections and indicated in the Project Drawings, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
2. Notifying County and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to County, Contractor, and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and re-inspecting corrected work.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. At a minimum, include the following:

1. Date of test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date of test or inspection results were transmitted to County.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project Location. Post changes and revisions as they occur. Provide access to test and inspection log for County's reference during normal working hours.

3.02 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Detailed Provisions Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

3.03 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

A. If any Work is concealed or performed without the requisite inspection notice, then the Work shall be subject to such tests or exposure as may be necessary to prove to the Engineer that the materials used and the Work performed are in conformity with the Plans and Specifications, or said materials or Work may be removed and installed or performed again at the discretion of the Engineer. All labor, equipment, and materials necessary for exposing, testing or complete removal, and installation or replacement shall be furnished by the Contractor at its own expense. The Contractor shall replace, at its own expense, any materials or Work damaged by exposure or testing.

B. Cost of rework inspection incurred by the County will be deducted from the Contract Price via Change Order. Rework inspection cost is as follows:

1. Contractor's failure to complete the Work within the Contract Time, including any previously authorized extensions thereof.
2. Extra inspections required for Contractor's correction of defective Work.
3. Overtime costs for acceleration of Work done for Contractor's convenience.
4. All associated costs including travel.

C. All Work which has been rejected shall be remedied or removed and replaced by the Contractor in an acceptable manner; and no compensation will be allowed for such removal or replacement. Any Work done beyond the lines and grades as described by

the Contract Documents, or any Extra Work done without proper written authority, will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the Contractor's expense. Upon failure on the part of the Contractor to comply, the County shall have authority to cause defective or unauthorized Work to be remedied, or removed and replaced, and to deduct the costs for this Work from any monies due or to become due the Contractor.

END OF SECTION 01 4300

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 4320: SURVEYING
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SECTION 01 4320
SURVEYING

PART 1 GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Acceptance of County-provided survey.
2. Construction surveying.
3. Completed Work Verification Survey.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 31 2300 – Earthwork

1.02 DEFINITIONS

A. DTM: Digital terrain modeling.

B. Project Datum and Date of County-Provided Survey:

1. The three dimensional coordinate system, as follows:
   a. Vertical Datum: North American Vertical Datum of 1988 (NAVD 88).
   b. Horizontal Datum: North American Datum of 1983 (NAD 83), Epoch 2007.0, California State Plane Coordinate System, Zone VI.
2. Date County-Provided Survey Was Performed:
   a. Badlands Landfill:
      a. Performed using photogrammetric methods on May 29, 2024 and a ground survey performed on March 11, 2026
   b. Lamb Canyon Landfill:
      a. Performed using photogrammetric methods on December 18, 2018 and a ground survey performed on March 23, 2026.

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Surveyor Qualifications:

1. Provide within seven (7) Calendar Days following the issuance of the Notice to Proceed the following for each licensed professional surveyor whose services the Contractor proposes to rely upon:
   a. Name, address, e-mail, telephone number, and complete contact information.

C. Contractor's Letter of Acceptance of County-Provided Survey (as shown on the Project Drawings) or written notice of discrepancies of County-provided survey.

D. Work Verification:

1. The County surveyors will make verification surveys as various stages of the work are completed and surveyed for preparation of pay quantities.

1.04 ACCEPTANCE OF COUNTY-PROVIDED SURVEY

A. The nature and extent of the Work is dependent on original ground surface elevations and planimetric features as presented on the Project Drawings.

B. The Contractor has a single opportunity, during the preconstruction phase of the Contract, to either accept or to identify differences or discrepancies in the County-provided survey, as shown on the Project Drawings.

1. Differences or discrepancies refer to variations in the elevations and locations shown on the Project Drawings that exceed the allowable tolerances stated in Detailed Provisions Section 01 7000 – Execution Procedures.

C. The Contractor has the option of:

1. Surveying the original ground surface elevations and planimetric features prior to issuance of the Notice to Proceed.

a. Contractor's survey shall be no less than ½ - foot contour interval.

2. Accepting the elevations and planimetric features indicated on the Project Drawings.

D. Contractor's Letter of Acceptance of County-Provided Survey:

1. If the Contractor accepts the County-provided survey, the Contractor shall provide a letter stating the Contractor has reviewed and accepted the County-provided survey, as shown on the Project Drawings, and that the information is complete and accurate within the Tolerances of Preconstruction Conditions in accordance with Detailed Provisions Section 01 7000 – Execution Procedures.

a. The Contractor's Letter of Acceptance of County-Provided Survey shall be provided no later than two (2) weeks after issuance of the Notice to Proceed and prior to commencing structure layout and earthwork operations.

E. Contractor Identification of Correction of County-Provided Survey:

1. If the Contractor does not accept the County-provided survey, the Contractor shall complete its own survey and identify and quantify discrepancies, errors or differences in a letter to the County no later than two (2) weeks after issuance of the Notice to Proceed and prior to commencing work activities.

a. Contractor shall provide a minimum of two (2) Working Days' notice to County for access to the Project Location.

b. The County will escort the Contractor during its onsite survey.

2. Provide a .dwg of the Contractor's survey to the County upon completion of the Contractor's survey. The file will contain the surface information from the Contractor's surveyor. Alternatively, the contractor may provide an .xml surface file or an Infraworks .imx surface file to the County in lieu of a .dwg file containing the surveyed surface data.

    a. The County will compare the Contractor's .dwg, .xml, or .imx file with the County's survey data to attempt to substantiate the Contractor's results.

3. In the event of a discrepancy between the County and Contractor surveys, the County shall reconcile the difference through additional survey and consultation with the Contractor.

4. If the County-reconciled survey differs beyond the tolerances, specified within Detailed Provisions Section 01 7000 – Execution Procedures, from the County-provided survey, as indicated on the Project Drawings, the Contractor may request an adjustment to the Contract Price or Contract Time in accordance with the General Provisions.

1.05 CONTRACTOR'S OWN SURVEY WORK

A. Perform surveying activities to sufficiently set out, control, and as-built the Work.

1.06 QUALITY ASSURANCE

A. Corrections of the Work due to survey errors and omissions are the responsibility of the Contractor.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 GENERAL

A. Survey Control Points:

1. At the Badlands and Lamb Canyon Sanitary Landfills, County surveyors have established external primary survey control points on firm ground outside the limits of the Work to be used throughout the construction period for the Contractor's Work.

B. Surveying and Layout:

1. Work from lines and levels established by County surveyors and provided in the Project Drawings.

2. Establish secondary benchmarks and control points to set lines and levels throughout the Project Location.

3. Locate and flag/stake the continuous Construction Limits indicated on the Project Drawings.

a. Construction Limits flagging shall consist of continuous orange safety fencing.

b. Keep the fencing in place, fully functional, until directed to remove it by the County.

4. Locate and layout site improvements, including but not limited to grade stakes, grading, fill placement, cut and fill slopes, invert elevations, utility alignments, foundations, finish pad elevations and corners, and pavements.

5. Locate and layout batter boards for structures, vaults, control lines, and levels.

6. Provide and maintain temporary means of checking and rechecking layout to confirm correct and accurate placement of materials and items.

7. Accurately record as-built information on the Record Drawings.

C. Do not scale Contract Documents provided by the County.

D. Surveyor Log:

1. Maintain a Surveyor Log of control data and other survey work at the Project Location.

2. Provide access to the Surveyor Log when requested by the County.

3.02 COMPLETED WORK VERIFICATION SURVEY

A. Contractor's surveyor shall survey the entire completed Work documenting the physical completion and accuracy of the Work in accordance with the Contract Documents.

B. Completed Work Verification Survey shall include all aspects of the Work, including, but not limited to:

1. Well locations and elevations.

2. Utility system locations, grades and elevations including rim and invert elevations of all structures and the location and elevation of all vaults, pull boxes, valves, and fittings.

C. Survey results shall be in an electronic format, including a DTM compatible with Bentley InRoads software.

D. County surveyors may elect to perform verification survey work to ensure all construction conforms to the requirements of the Contract Documents, and for surveying as-built information. The Contractor shall provide County surveyor's with access to the completed portions of the Work before they are covered by subsequent construction to allow County surveyor's to verify that all construction conforms to the requirements of the Contract Documents. The Contractor shall therefore provide notice to the County at least two (2) Working Days prior to the time the respective areas will be ready for verification surveys, and at least one (1) Working Day for the survey work or any other inspection to be completed. Major construction items requiring County surveyor verification include, but are not limited to:

1. Well locations and elevations.
2. Utility system locations, grades and elevations including rim and invert elevations of all structures and the location and elevation of all vaults, pull boxes, valves, and fittings.
3. Other miscellaneous surveys as deemed necessary by the County to complete the Project.

E. County will check the Contractor's Completed Work Verification Survey and report any discrepancies to the Contractor for resolution as part of the Substantial Completion Punch List. In the event of discrepancies between Contractor's Completed Work Verification Survey and County verification survey, the County verification survey results shall govern.

3.03 FIELD QUALITY CONTROL

A. Survey Accuracy: Allowable deviation from design grades shown on the Project Drawings shall be ± 0.10 feet on all benches, access roads, and subgrades within the project limits at each site; ± 0.10 feet for additional cover over exposed refuse and ± 0.25 feet for all remaining areas within the project limits. Limits for measurement of the excavations and fills shall be to the lines and grades as shown on the Project Drawings or as directed by the County. No additional compensation will be given for deviations above the lines and grades shown on the Project Drawings or as directed by the County, even if within the allowable tolerance. No additional compensation will be given for removal and re-compaction of material that does not meet the specifications described in this section.

3.04 PROTECTION

A. Protect benchmarks and control points used in the Work.

1. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grades or locations.
2. Do not relocate benchmarks without prior written approval from the County.
3. Promptly replace lost or destroyed project control points to the satisfaction of the County, at no additional cost to the County.

END OF SECTION 01 4320

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 5000: TEMPORARY FACILITIES AND CONTROLS

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SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Contract Document Sections include, but are not limited to:

1. General Provisions
2. Detailed Provisions Section 01 1100 – Summary of Work

1.02 REFERENCES

A. Comply with requirements of Detailed Provisions Section 01 4200 – Reference Standards and Abbreviations and as listed herein. The following is a list of standards referenced and incorporated into this Section:

1. American Society of Testing and Materials (ASTM):
   a. ASTM E136 – Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Deg C.
2. Code of Federal Regulations (CFR):
   a. 29 CFR 1926 – Safety and Health Regulations for Construction.
3. National Fire Protection Association (NFPA):
   a. NFPA 70 – National Electrical Code.
   b. NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.03 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for any temporary electric service. Any installed service to comply with NFPA 70.

B. Permits and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain all required certifications and permits.

1.04 PROJECT CONDITIONS

A. Badlands and Lamb Canyon are active landfills. The Contractor is expected to coordinate within landfill staff and operations to prevent conflict in landfill staff and construction activities. Landfill Operations and Customers have right-of-way at all times unless directed otherwise by the County. The Contractor shall assume full responsibility for any theft or vandalism occurring to the Contractor's equipment, tools, materials, supplies, and construction (prior to final acceptance of the entire project by

the County), and shall take appropriate measures necessary to eliminate their occurrences.

1.05 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Site Plan:

1. Submit for County approval drawing showing any temporary facilities, utility hookups, staging areas, storage areas and parking areas for construction personnel.

C. Fire-Safety Program:

1. Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.

PART 2 PRODUCTS

2.01 MATERIALS

A. Construction/Safety Fencing:

1. 4-foot tall orange fabric mesh as manufactured by:

   a. Tenax Corporation (Beacon Plus or Diamex); www.tenaxus.com;

   b. Or approved equal

2. Use metal T-Posts installed up to ten (10') feet apart or as necessary to prevent sagging at all times. Due to safety concerns and potential high wind conditions at the Project Location, rebar, metal u-post, and wooden stakes shall not be allowed as supports for construction/safety fencing.

2.02 TEMPORARY FACILITIES

A. Storage and Fabrications Sheds: Contractor may provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

B. Final location of Contractor's temporary facilities shall be coordinated with the County to ensure that access critical to operations is maintained at all times.

2.03 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures. The Contractor shall provide fire extinguishers and other fire protection equipment to adequately protect new and existing facilities and temporary facilities against damage by fire. Water casks, chemical equipment or other sufficient means shall be provided for fighting fires in the new, existing and temporary structures and other portions of the Work and responsible persons shall be designated and instructed in the operation of such fire apparatus so as

to prevent or minimize the hazard of fire. The Contractor's fire protection program shall conform to the requirements of the OSHA Standards for Construction. The Contractor shall employ every reasonable means to prevent the hazard of fire.

B. HVAC Equipment: Unless County authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.

2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 EXECUTION

3.01 GENERAL INSTALLATION

A. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work. Locate facilities to limit site disturbance.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, County, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Supply:

1. The closest water hydrant to the Badlands Landfill available for use on this Project is located on Highland Blvd, approximately 500 feet northwest of the intersection with Ironwood Ave, which is approximately 1.6 miles from the landfill site entrance. The hydrant on Theodore Street between State Highway 60 and Ironwood Ave. is utilized by the Department for daily operations and will not be available for Contactor use, while the hydrant at the corner of Ironwood Avenue and Theodore Street is deemed unsafe for water truck use due to heavy volumes of daily landfill traffic at this intersection. The County may accept an aboveground temporary waterline system extending from the hydrant at the corner of Ironwood Avenue and Theodore Street to the landfill property for project purposes. Costs associated with transporting water from the water source to the Project Location shall be the Contractor's responsibility. Costs associated with repairing damages to the County's water source caused by the Contractor's action shall be borne by the Contractor. Contractor is responsible for supplying potable water for all other uses.

2. The nearest potable water source to the Lamb Canyon Landfill is located off-site in the City of Beaumont, near the intersection of Beaumont Avenue and First Street. For dust control and soil moisture conditioning activities only, the County will allow the Contractor to use this source at no cost to the Contractor. Costs associated

with transporting water from the water source to the Project Location shall be the Contractor's responsibility. Costs associated with repairing damages to the County's water source caused by the Contractor's action shall be borne by the Contractor. Contractor is responsible for supplying potable water for all other uses.

Although Contractor will be allowed to use the County's water source on First Street, the County shall have first access to the water in order to ensure operations are not impacted. Contractor may make arrangements for obtaining water supply for this Project via a separate water source. If the Contractor elects to do so, water shall be clean and free from objectionable deleterious amounts of acids, alkalis, salts, or organic materials. County must approve separate water source in advance and in writing. In either case, Contractor shall provide all labor and equipment to collect, load, and apply water in the Work areas.

3. The Contractor shall properly identify all construction water trucks and vessels and inform all workers and the general public when reclaimed waste water is used as construction water.

4. All drinking water on the site during construction shall be furnished by the Contractor and shall be bottled water or water furnished in NSF approved metal dispensers.

5. The Contractor shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the Agency owning the water system. For each such connection made the Contractor shall first attach to the fire hydrant or pipeline a valve, backflow preventer and a meter, if required by the said Authority, of a size and type acceptable to said Authority and Agency.

6. Prior to Final Acceptance of the Work, all temporary water connections, tanks, and piping installed by the Contractor shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the County and to the agency owning the affected utility.

C. Waste Collection:

1. Provide trash cans and instruct personnel to maintain a clean site. Waste-collection containers shall be adequately sized to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

D. Sanitary Facilities:

1. Provide temporary toilets, wash facilities, sanitary supplies, and drinking water for use of construction personnel. Comply with requirements of Authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

   a. Toilets: Portable toilets shall be provided wherever needed for the use of employees. Toilets at construction job sites shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction. Portable toilets shall be provided with and placed in a secondary containment

pan. Contractor shall provide hand wash sink(s) and all necessary sanitary supplies for the toilet facilities throughout the duration of the Project.

b. The Contractor shall establish adequate and regular collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the Contractor or organic material wastes from any other source related to the Contractor's operations shall be disposed of in a manner satisfactory to the County and in accordance with all laws and regulations pertaining thereto. At a minimum, portable toilets shall be serviced and refuse from trash cans collected once per week or as often necessary for safe and sanitary conditions.

E. Heating and Cooling:

1. Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low and high temperatures. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Ventilation and Humidity Control:

1. Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

G. Electric Power Service:

1. The Contractor shall be responsible to provide any necessary electrical power. The Contractor will be responsible for all temporary power and generators required during the construction and planned power shut-downs.

H. Lighting:

1. Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

I. Telephone Service: The County's telephone system shall not be used by the Contractor's work force. The Contractor may use cellular phones and mobile hotspots for communication services.

1. Be able to provide a list of important telephone numbers at each Project Location, including, but not limited to the following:

a. Police and fire departments.

b. Ambulance service.

c. Contractor's office.

d. Contractor's emergency after-hours telephone number(s).

e. County's office.

f. Principal Subcontractors' office.

2. Provide Project Superintendent and Contractor's Safety Officer with cellular telephone.

3. The Contractor shall also furnish to the County a telephone number where the Contractor or their representative may be contacted 24 hours a day.

3.03 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for any optional sheds located within construction area or within thirty (30') feet of building lines that is noncombustible according to ASTM E136. Comply with NFPA 241.

B. Temporary Roads:

1. Access to the Project Location shall be provided by the County. The Contractor shall not construct any staging areas, haul roads, and access roads without the approval of the County.

2. Provide dust-control treatment that is non-polluting and non-tracking. Reapply treatment as required to minimize dust.

C. Traffic Controls:

1. Comply with requirements of Authorities having jurisdiction and coordinate with County staff.

2. Protect existing site improvements to remain including curbs, pavement, and utilities.

3. Maintain access for fire-fighting equipment and emergency services.

4. Traffic control procedures for approaching, crossing, or traveling along public roadways or access roads according to the latest edition of the California Manual on Uniform Traffic Control Devices (MUTCD), which prescribes uniform standards and specifications for all official traffic control devices in California. The MUTCD can be viewed from Caltrans website at http://www.dot.ca.gov/hq/traffops/engineering/mutcd/. Signs and traffic control devices along public roadways or access roads shall be removed and stored or covered during periods of time when they are not needed, such as the end of each Working Day, weekends, and any time when no construction activities are being performed.

D. Parking: Use designated areas on Contractor's site plan as approved by the County, for construction personnel parking.

E. Dewatering Facilities and Drains: Comply with all Federal, State, and Local Government requirements. Maintain Project Location, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding of adjoining properties of endanger permanent Work or temporary facilities.

F. Project Signs:

1. Temporary Signs: Provide other signs as required to inform vendors, Subcontractors, and individuals seeking entrance to the Project Location.

   a. Provide temporary, directional signs for construction personnel and visitors.

2. Maintain and touchup signs so they are legible at all times.

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

H. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at the Project Location and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution of other undesirable effects.

C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways.

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Where necessary, install temporary fencing located outside the drip line of trees to protect vegetation from damage form construction operations. Protect tree root systems from damage, flooding, and erosion.

F. Site Access: Prior to commencing Work the County will supply the Contractor with the opportunity to install Contractor's lock in series with County's lock to provide shared access to the landfill entrance gate. The Contractor is responsible to:

1. Maintain security by limiting number of keys and/or codes to Contractor's locks and restricting distribution to authorized personnel. Furnish one set of keys to County for any gates, enclosures or fenced areas constructed by the Contractor.

2. The Contractor shall assume full responsibility for any theft or vandalism occurring to the Contractor's equipment, tools, materials, supplies, and construction (prior to Final Acceptance of the entire Project by the County), and shall take appropriate measures necessary to eliminate their occurrences.

G. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

H. Temporary Egress: Maintain temporary egress for existing occupied facilities as required by the County.

I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire prevention program.

1. Prohibit smoking in construction areas.

2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3. Develop and supervise an overall fire-prevention and-protection program for personnel at the Project Location. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.05 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

C. Termination and Removal: Remove each temporary facility when need for its service has ended or when it has been replaced by authorized use of a permanent facility. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor.

2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Detailed Provisions Section 01 7700 – Closeout Procedures.

END OF SECTION 01 5000

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 5526: TRAFFIC CONTROL

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SECTION 01 5526
TRAFFIC CONTROL

PART 1 GENERAL

1.01 SUMMARY

A. Section covers requirements for temporary traffic control during construction for the 2026 On-Call Site Improvement Project at Riverside County Landfills.

B. Related Contract Document Sections include, but are not limited to:

1. Detailed Provisions Section 01 1100 – Summary of Work

1.02 REFERENCES

A. Comply with requirements of Detailed Provisions Section 01 4200 – Reference Standards and Abbreviations and as listed herein. The following is a list of standards referenced and incorporated into this Section:

1. AASHTO American Association of State Highway and Transportation Officials, Roadside Design Guide, Current Edition.
2. U.S. Department of Transportation (USDOT), Federal Highway Administration: Manual of Uniform Traffic Control Devices (MUTCD), Work Zone Safety and Mobility, and Temporary Traffic Control Devices
3. California Manual on Uniform Traffic Control Devices (CA MUTCD)
4. Work Area Traffic Control Handbook (WATCH)
5. California Department of Transportation (Caltrans):
    a. Construction Contract Standards (including Standard Plans, Standard Specifications, and Standard Special Provisions)
    b. Highway Design Manual
    c. Construction Manual
    d. Maintenance Manual

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Traffic Control Plan:

1. The Contractor shall submit a site-specific Traffic Control Plan (TCP) within fourteen (14) Calendar days of either the Award of Contract by the Riverside County Board of Supervisors, prior to the commencing of any work at either Project Location. When requested by the County, the Contractor shall submit a TCP for each new work order.
2. Work shall not commence until the County provides written acceptance of the

initial TCP's, or additional work order related TCPs, for each Project Location. County acceptance of the TCPs does not release the Contractor of liability in the event of an accident or injury, nor does it place any liability on the County or any County employees.

3. TCPs must, at a minimum, comply with all federal, state, and local requirements regarding traffic control during construction activities.
4. TCPs shall be specific to each Project location and include, at a minimum, a site map indicating the delineation of the proposed haul routes, traffic direction, signs, lane closures, and traffic control devices to be implemented during construction.
5. TCPs shall address but not limited to the following: all demolition work; roadway asphalt work (including asphalt cold plane, asphalt overlay, asphalt removal and repair, and new asphalt placement for roadway and drainage structures); reinforced concrete work; scale work (disconnect and disassemble, demolition, storage, and installation); traffic signal and lighting standard installation; traffic signage installation; and thermoplastic striping, throughout all phases of the Project.
6. TCPs shall address the procedures for approaching or crossing public access roads internal to the landfill during construction.
7. The Contractor's Safety Officer shall participate in the development of the TCPs and be responsible for adherence to the TCPs at all times.
8. Provide a system of informing workers, Subcontractors, and others about the TCPs and conditions of the Work.
9. Revisions to the TCPs:
    a. Revise the TCPs prior to the start of Work as necessary to accommodate changes requested by the County, regulatory agencies, and jurisdictions having authority.
    b. Revise the TCPs as necessary to accommodate changes in site conditions.
    c. All TCP revisions must be submitted to the County with seven (7) calendar days from a County requested TCPs revision.
10. Contractor shall post copies of the TCP and all other applicable documents at the Project Location.
11. Failure to submit the Traffic Control Plans within the specified time frames will not be justification for additional workdays. Failure to adequately address comments in any required resubmittal also will not justify additional working days.
12. Contractor shall be responsible for securing any necessary permits or approvals related to Traffic Control activities. Application for permits and governing agency approvals shall only be made after acceptance of plan by County.

PART 2 PRODUCTS

2.01 TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNANGE

A. Temporary signage, channelizing devices, barricades, and any other traffic control devices shall be industry standard and comply with the requirements of the approved TCP and any applicable requirements defined in the reference documents.

PART 3 EXECUTION

3.01 TRAFFIC CONTROL

A. Construction

1. Contractor and its subcontractors shall comply with all applicable Federal and State traffic control regulations and approved TCPs.
2. To minimize disruption to landfill traffic, the Contractor shall ensure a minimum of two (2) landfill truck scales are always in operation during landfill operating hours of 6:00 a.m. to 4:30 p.m. Contractor shall maintain a minimum of two (2) asphalt lanes (ingress and egress traffic) during landfill operating hours.
3. Contractor shall provide site access (ingress and egress) to County employees at all times throughout the duration of the Project.
4. Minimum lane width shall be 12 feet, unless noted otherwise.
5. The Contractor shall provide traffic directors, temporary control devices, and temporary signage in accordance with the TCPs whenever necessary to control traffic, warn public of any dangerous conditions resulting from work activities, and provide safe passage of traffic through and around the work zone. Traffic directors should be trained in safe traffic control practices and must comply with all applicable Federal and State regulations.
6. Keep active traffic areas free of excavated material, construction equipment, and other materials and equipment.
7. Allow emergency vehicles immediate passage.
8. The Contractor shall restrict earthwork movement and haul routes to the areas within the each site's project areas. Any earthwork operations requiring activity outside of the project areas shall require a written request and written acceptance to and from the County.
9. Landfill traffic and operations shall not be in anyway impeded by any 2026 On-Call Site Improvement's construction unless by written request and written acceptance to and from the County.

B. Periods of Construction Inactivity

1. During period when no construction work is being performed, landfill traffic shall be able to enter and exit the landfill site without the aide of a traffic director unless provided by the Contractor at their own expense. Ingress and egress traffic lanes shall be clearly marked and visible at all times.
2. Signs and traffic control devices along public access or landfill operation routes shall be removed and stored or covered during periods of time when they are not

needed (such as at the end of each working day, weekends, and any time when no construction work is being performed).

END OF SECTION 01 5526

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 5600: PROJECT ENVIRONMENTAL CONTROLS

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SECTION 01 5600
PROJECT ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes mitigation measures to be integrated into the Projects to reduce the potential environmental impacts resulting from construction activities. The Contractor shall implement mitigation measures identified herein during the construction process, as well as any other measures required in the Contract Documents, and as required by Federal, State, and Local government entities.

B. Related Contract Document Sections include, but are not limited to:

1. General Provisions
2. Detailed Provisions Section 01 1100 – Summary of Work
3. Detailed Provisions Section 31 1000 – Site Clearing
4. Detailed Provisions Section 31 2300 - Earthwork

1.02 REFERENCES

A. Comply with requirements of Detailed Provisions Section 01 4200 – Reference Standards and Abbreviations and as listed herein.

B. Reference Codes, Regulations and Policies: The following codes, regulations and policies, including documents referenced therein, form part of this Detailed Provision and are incorporated herein by reference.

1. California Code of Regulations (CCR):
    a. 13 CCR 2449 – General Requirements for In-Use Off-Road Diesel-Fueled Fleets
    b. 13 CCR 2485 – Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
    c. 19 CCR – Public Safety
2. California Department of Transportation (Caltrans):
    a. Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual, current edition
    b. Caltrans Construction Site Best Management Practices (BMPs) Manual, current edition
3. California Health and Safety Code (CHSC):
    a. CHSC Division 20, Chapter 6.95 – Hazardous Materials Release Response Plans and Inventory.
4. Code of Federal Regulations (CFR):

a. 29 CFR 1926 – Safety and Health Regulations for Construction.

b. 40 CFR 112 – Oil Pollution Prevention

5. California State Water Resources Control Board (SWRCB):

   a. SWRCB National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ, NPDES No. CAS000001 ("the Industrial General Permit").

   b. SWRCB National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002 ("the General Permit").

6. California Stormwater Quality Association (CSQA):

   a. CSQA Construction BMP Handbook

   b. CSQA Industrial and Commercial BMP Handbook

7. County of Riverside:

   a. County Ordinance 651 – Requiring Disclosure of Hazardous Materials and the Formulation of Business Emergency Plans.

8. National Fire Protection Association (NFPA):

   a. NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.

   b. NFPA 704 – Standard System for the Identification of the Hazards of Materials for Emergency Response.

9. South Coast Air Quality Management District (SCAQMD):

   a. SCAQMD Rule 403 – Fugitive Dust Control.

C. Additional reference information is provided as information to assist the Contractor with document preparation and registration requirements; and form part of this Detailed Provision and are incorporated herein:

1. Stormwater Water Pollution Prevention Plan (SWPPP):

   a. The 1972 amendments to the Federal Water Pollution Control Act (known as the Clean Water Act or CWA) provide the statutory basis for the National Pollutant Discharge and Elimination System (NPDES) permit program and the basic structure for regulating the discharge of pollutants from point sources to waters of the United States. Section 402 of the CWA specifically required the United States Environmental Protection Agency (EPA) to develop and implement the NPDES program. The full text of the Clean Water Act reference and SWPPP preparation assistance is available from the following agency websites:

Agency Website	Reference	Website Address

EPA	Clean Water Act	https://www.govinfo.gov/content/pkg/USCODE-2018-title33/pdf/USCODE-2018-title33-chap26.pdf
EPA	SWPPP Assistance	https://www3.epa.gov/npdes/pubs/sw_swppp_guide.pdf
Caltrans	SWPPP Assistance	http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm
California Stormwater Quality Association	SWPPP Assistance	https://www.casqa.org/

2. Hazardous Materials Management:

   a. Title 40 of the Code of Federal Regulations (CFR) Part 112 establishes requirements for Oil Pollution Prevention. In accordance with this Regulation, the County has prepared a site specific Spill Prevention Control and Countermeasure Plan (SPCCP) for the Badlands and the Lamb Canyon Landfills. Copies of the SPCCP are located at the Site and available for review at the County office.

   b. Title 19 Public Safety of the California Code of Regulations (CCR), along with the California Health and Safety Code (HSC), Division 20, Chapter 6.95 establish the requirements for hazardous material release reporting, inventory, and response plans. The County of Riverside has further adopted County Ordinance 651 "Requiring Disclosure of Hazardous Materials and the Formulation of Business Emergency Plans". The intent of this Ordinance is to impose additional and more stringent requirements on businesses that handle hazardous materials than those imposed by Chapter 6.95 of the HSC.

   c. In addition to the above Codes and Regulations, the Riverside County Department of Environmental Health (DEH) offers forms and guidelines for preparing a HMBEP. The full text of the above mentioned references and HMBEP preparation assistance is available from the following agency websites:

Agency Website	**Reference**	**Website Address**
e-CFR	CFR Title 40, Part 112 - Oil Pollution Prevention	http://www.ecfr.gov/cgi-bin/text-idx?SID=2feeeddb24b102687dcde2336206819e&mc=true&node=pt40.22.112&rgn=div5
California EPA	CCR Title 19 – Public Safety & CH&SC Chapter 6.95	http://www.calepa.ca.gov/cupa/LawsRegs/
County of Riverside, Clerk of the Board	County Ordinance 651	https://rivcocob.org/sites/g/files/aldnop311/files/migrated/wp-content-uploads-2019-05-651.5.pdf
County of Riverside Department of Environmental Health	HMBEP preparation assistance, Certified Union Program Agency (CUPA) & Hazardous Waste Generator Forms	https://rivcoeh.org/hazardous-materials
Department of Toxic Substances Control (DTSC)	EPA ID Number	http://www.dtsc.ca.gov

D. Related Available Information:

1. As specified herein, comply with all requirements for the following County documents referenced and incorporated into this Section:

   a. Riverside County Department of Waste Resources; National Pollutant Discharge Elimination System: Storm Water Pollution Prevention Plan for the Badlands Sanitary Landfill (BAL SWPPP) and Lamb Canyon Sanitary Landfill (LCL SWPPP).

   b. Riverside County Department of Waste Resources; Spill Prevention, Control, and Countermeasure Plan, for the Badlands and Lamb Canyon Sanitary Landfill (SPCCP).

2. Copies of the corresponding Badlands Landfill and Lamb Canyon Landfill SWPPPs and SPCCPs are incorporated into the Contract Documents by reference and are available for review at the Site and at the County's office.

1.03 DEFINITIONS

A. Best Management Practices (BMPs) – BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management activities to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

B. Dust – shall mean airborne particulate that is associated with or results from the Contractor's activities: Of particular concern is dust associated with the Contractor's earthwork activities; truck traffic onto and off of the Site; and wind traversing exposed stockpiled soil and debris.

C. General Permit – California State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002 ("the General Permit").

D. Industrial General Permit – California State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ , NPDES No. CAS000001 ("the Industrial General Permit").

E. Likely Precipitation Event – Any weather pattern that is forecasted to have a 50% or greater chance of producing precipitation in the project area. The QSP shall obtain likely precipitation forecast information form the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at: http://www.weather.gov).

F. NOI – Notice of Intent for General Permit.

G. Qualifying Rain Event – Any event that produces 0.5-inches or more precipitation with a 48-hour or greater period between rain events.

H. Qualified SWPPP Developer (QSD) – Individual who is trained and authorized to develop and revise SWPPPs pursuant to the Industrial General Permit and General Permit.

I. Construction General Permit Qualified SWPPP Practitioner (QSP) – Individual responsible for non-storm water and storm water visual observations, sampling and analysis, and for ensuring full compliance with the General Permit.

J. REAP – Rain Event Action Plan. The General Permit requires the QSP of Risk Level 2 and 3 sites to develop and implement REAPs that must be designed to protect all exposed portions of the site within 48-hours prior to any likely precipitation event.

K. SWPPP – Storm Water Pollution Prevention Plan

L. Visible Dust – shall mean dust that can be detected visibly, without instrumentation.

1.04 QUALITY ASSURANCE

A. In order to minimize the discharge of pollutants to storm water, the Contractor shall implement all temporary site controls in accordance with the project-specific SWPPP prepared by the Contractor. Contractor prepared SWPPP shall be developed by a QSD.

B. Implementation of site controls shall be performed under the oversight of a QSP. A qualified Contractor experienced in the proper installation of BMPs shall provide installation, maintenance and repair in accordance with: manufacturers' specifications; in keeping with recognized BMPs; and in keeping with compliance of the Site's Industrial General Permit for construction activities. The QSP is responsible for ensuring full compliance with NPDES requirements and implementation of all elements of the Contractor's SWPPP.

1.05 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Contractor's SWPPP:

1. Prepare and submit a Contractor's SWPPP for bid items BA-1 through BA-15 and LC-1 through LC-6 for County's review and acceptance and in compliances with SWRCB's NDPES Requirements. Submit to County within two (2) weeks of Award of Contract by the Riverside County Board of Supervisors, and prior to delivering equipment and commencing Work at either Project Location.

C. Construction Fugitive Dust Control Plan:

1. Contractor shall prepare, submit for review and acceptance, and implement a dust control plan that conforms to South Coast Air Quality Management District (SCAQMD) Rule 403 requirements. Submit to County within two (2) weeks of the Award of Contract by the Riverside County Board of Supervisors, and prior to delivering equipment and commencing work at the Project Location.

D. Hazardous Materials Business Emergency Plan (HMBEP):

1. The Contractor shall comply with and supplement, if necessary, the Riverside County Hazardous Materials Business Emergency Plan for Badlands and Lamb Canyon Sanitary Landfills. Contractor may also have to submit a Hazardous Material Business Emergency Plan (HMBEP); it shall be through the California Environmental Reporting System (CERS). The CERS online system can be viewed at the following link: https://cers.calepa.ca.gov/. Once the Contractor has submitted their HMBEP online, they shall provide a copy to the County as part of the Public/Site Safety Plan. The Contractor shall submit a separate Hazardous Materials Business Emergency Plan to address Contractor activities if work/use includes storage, or potential storage of hazardous materials exceeding the following quantities: 55 gallons of liquids, 500 pounds of solids, or 200 cubic feet of compressed gases. In addition, the Contractor shall comply with the Riverside County Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Badlands and Lamb Canyon Sanitary Landfills, including but not limited to the submittal of a Business Emergency Plan and performance of required inspections, if the Contractor's work requires the onsite storage of petroleum products (as defined in the SPCC Plan) or if the Contractor stores petroleum waste products onsite. Upon award of Contract, the County shall provide Contractor with a digital copy of the SPCC Plan for the Badlands and Lamb Canyon Sanitary Landfill and up to four (4) hard copies upon request.

   Payment for complying with this section shall be considered as included in the various items of work, and no additional compensation shall be allowed.

E. Product Data:
   1. Provide manufacturer's catalog sheets, installation instructions, material testing, and data sheets for all products used in all BMPs prior to installation on the site.
   2. Provide manufacturer's catalog sheets, installation instructions, material testing, and data sheets for all proposed soil stabilizers along with certification from Santa Ana Regional Water Quality Control Board for approved use.

F. Qualifications:
   1. Submit documented training and certification qualifications of Contractor QSD and QSP personnel.

G. SWPPP Inspections:
   1. Contractor shall submit SWPPP weekly and pre/post storm inspections to the County.

PART 2 PRODUCTS

2.01 BMP MATERIALS:

A. General: Specific site control devices shall be identified in the Badlands and Lamb Canyon SWPPPs; and furnished and installed by the Contractor, where required by the

Contract . Where such devices are indicated, their material composition shall comply with this section.

B. Silt Fences: implemented to filter, and remove sediment from storm water shall be composed of the following materials:

1. Geotextile Fabric – a non-woven, polypropylene, polyethylene, or polyamide fabric with non-raveling edges. It shall be non-biodegradable, inert to most soil chemicals, ultraviolet resistant, unaffected by moisture and other weather conditions, and permeable to water while retaining sediment. Fabric shall be 36-inches wide, with a minimum weight of 4.5 oz/yd.
2. Posts – metal fence posts shall be made of hot-rolled steel, galvanized or painted, a minimum of 4-feet long, with a Y-bar or TEE cross-section.
3. Wire Backing – a galvanized, 2-inch x 4-inch, welded wire fencing, 12 gauge minimum. Width shall be sufficient to support geotextile fabric 24-inches above adjacent grades.
4. Chain link fences located along the same lines as silt fences may be used to support geotextile fabric. In this circumstance, the geotextile fabric shall be firmly attached to the fence.
5. Geotextile rolls shall be furnished with suitable wrapping for protection against moisture and extended ultraviolet exposure prior to placement. Each roll shall be labeled or tagged to provide product identification sufficient for inventory and quality control purposes. Rolls shall be stored in a manner that protects them from the elements.
6. Prefabricated Fence: Prefabricated fence systems may be used provided they meet all of the above material requirements.

C. Triangular Filter Dikes: for use on surfaces or in locations where standard silt fence cannot be implemented, shall be composed of the following:

1. Geotextile fabric – of the type described above, in a minimum width of 60-inches. Dike Structure – 6 gauge, 6x6 welded wire mesh, 60-inches wide, folded into a triangular form. Each side shall be 18-inches with an overlap of 6-inches.
2. Ties – metal shoat rings or standard wire/cable ties for attachment of wire mesh to itself, and for attachment of geotextile fabric to wire mesh.

D. Rock Berms: shall be composed of the following materials:

1. Rock – clean, open-graded rock, with a maximum diameter of 3-inches.
2. Wire Mesh Support – a galvanized, woven wire sheathing having a maximum opening size of 1-inch, and a minimum wire diameter of 20 gauge.

E. Fiber Rolls: shall consist of straw or flax rolled and bound into a tube and placed on slopes at regular intervals to reduce flow velocity and minimize sediment runoff.

1. Stakes, for the fiber rolls, shall be softwood lumber, chisel pointed.

F. Soil Retention Blankets: shall govern for providing and placing wood, straw or coconut fiber mat, synthetic mat, paper mat, jute mesh or other material as a soil retention

blanket for erosion control on slopes, ditches and high traffic pedestrian areas of barren soil, for short term protection of seeded or sodded areas.

1. Samples of soil retention blankets must be submitted to the County for approval prior to use. Examples or soil retention blankets include:
    a. Jute Mat – a plain fabric made of jute yarn, woven in a loose and simple manner, with a minimum unit weight of 2.7 pounds per square yard. Width shall be as required for the dimensions of the area to be covered.
    b. Wood Fiber Mat – a mat composed of wood fibers, which are encased in nylon, cotton or other type of netting.
    c. Synthetic Webbing Mat – a mat manufactured from polyvinyl chloride or polypropylene monofilaments, which are bonded together into a three-dimensional web to facilitate erosion control and/or re-vegetation.
2. Fasteners shall conform to the manufacturer's recommendations.

G. Geotextiles are woven or non-woven synthetic fabrics, which are designed to be used for erosion control and soil stabilization applications.

H. Organic Mulches: shall be used for covering bare soil, retaining moisture under existing vegetation being preserved, and for absorbing the energy of compaction caused by foot or vehicular traffic. Mulch shall be one or more of the following:

1. Straw – from broken straw bales that are free of weed and grass seed where the grass from the seed is not desired vegetation for the area to be protected.
2. Hay – from broken hay bales containing an approved species of grass and seed, for use where the germinated grasses from the hay bales is considered desirable vegetation in the area to be protected.
3. Wood Chips – from chipped limbs of cleared trees on site, or delivered in chipped form, in bulk quantities of pine, cedar or cypress. Wood chips of all species shall be partially decomposed to alleviate nitrogen depletion of the soil in areas where existing vegetation is to be preserved and protected.
4. Shredded Mulches – from pine, cypress or cedar, mechanically shredded, and capable of forming an interlocking mat following placement, and after sufficient wetting and drying has taken place naturally.

I. Any other BMP materials indicated in the Contractor's SWPPP.

2.02 SOIL BINDER OR STABILIZER:

A. Soil binders and stabilizers shall be non-toxic dust palliative approved for use by the Santa Ana Regional Water Quality Control Board (SARWQCB) and the County.

2.03 DUST CONTROL FABRIC:

A. Fabric shall be woven mesh polypropylene fabric, closed black or green mesh, with manufacturer's recommendations for dust and wind control.

PART 3 EXECUTION

3.01 CALIFORNIA STATE WATER RESOURCES CONTROL BOARD (SWRCB) NATIONAL POLLUTION DISCHARGE AND ELIMINATION SYSTEM (NPDES) PERMIT

A. The County complies with the SWRCB General Industrial Activities NPDES permit through regular inspections, monitoring, and implementation of best management practices (BMPs) as described in the current NPDES Storm Water Pollution Prevention Plan for the Badlands and Lamb Canyon Landfill. The Contractor shall be responsible for compliance with the Badlands and Lamb Canyon SWPPP. Preparation of a construction Notice of Intent for this specific Project will not be required.

B. The Contractor shall be responsible for compliance with the County's Site-specific Badlands and Lamb Canyon SWPPPs. The Contractor, based on the work being done and each site's corresponding SWPPP, must address these four (4) major objectives:

1. Identify all pollutant sources, including sources of erosion/sediment that may affect the quality of storm water discharges associated with construction activity (storm water discharges) from the Project Location.
2. Identify non-storm water discharges.
3. Identify, construct, implement in accordance with a time schedule, and maintain BMPs to reduce or eliminate erosion, sediment, and other pollutants in storm water discharges and authorized non-storm water discharges from each Project Location during construction.
4. When requested by the County, develop a schedule and map to include the sequencing of construction activities with the installation of BMPs in order to provide erosion and sediment control measures throughout the duration of Project construction.

C. The Contractor shall implement all BMPs required to provide erosion and sediment controls, control of non-stormwater discharges, and hazardous spill prevention and response corresponding to the work performed as part of the 2026 On-Call Site Improvements Project. The following items are examples of BMPs that would be implemented during construction to avoid causing water quality degradation:

1. Erosion control BMPs, such as use of blankets, mulches or hydroseeding to prevent detachment of soil, following guidance presented in Caltrans Construction Site Best Management Practices (BMPs) Manual. A detailed site map shall be to the County, outlining specific areas where soil disturbance may occur, and drainage patterns associated with excavation and grading activities. If requested by the County, the Contractor shall provide plans and details for the BMPs to be implemented prior, during, and after construction to prevent erosion of exposed soils and to treat sediments before they are transported off the Project Location.
2. Sediment control BMPs such as silt fencing, fiber rolls and/or detention basins that trap soil particles.
3. Construction staging areas designed so that stormwater runoff during construction

will be collected and treated in a detention basin or other appropriate structure.

4. Management of hazardous materials and wastes to prevent spills or contact with stormwater discharge.

5. Treatment BMPs such that localized trench dewatering does not impact surface water quality.

6. Vehicle and equipment fueling BMPs such that these activities occur only in designated staging areas with appropriate spill controls.

7. Maintenance checks for equipment and vehicles to prevent spills or leaks of liquids of any kind.

D. Inspections:

1. Weekly Inspections: Contractor shall perform weekly inspections of the Project Location to ensure that eat site's SWPPP measures are effective for compliance with the General Industrial Activities NPDES permit and general BMP practices for the construction sites. The Contractor's inspector shall document the inspections on a form developed by the Contractor and provided in the Contractor's SWPPP.

2. Pre-/Post-Storm Inspections: Inspections shall be conducted by the Contractor and the County at the Project Location prior to anticipated storm events (greater than or equal to 40% chance of precipitation as forecasted by the National Oceanic and Atmospheric Administration (NOAA); www.noaa.gov) and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity at the Project Location. These inspections shall also document any necessary corrective actions implemented or future plans for implementation.

E. Corrective Actions:

1. Any corrective actions found to be needed for compliance with the Badlands and Lamb Canyon SWPPPs, and permit requirements during any inspection shall be implemented by the Contractor immediately. If the Contractor does not implement corrective actions within 24 hours of notification, the Contractor shall be in breach of Contract, and the County may suspend construction activities until corrective action is implemented by the Contractor.

F. Implementation of storm water quality measures shall be performed at no additional cost to the County and the Contractor shall include appropriate allowance in the Contractor's Bid Proposal to cover such measures.

3.02 AIR QUALITY

A. Construction Fugitive Dust Control Plan: Contractor shall prepare, submit for review and acceptance, and implement a dust control plan that conforms to South Coast Air Quality Management District (SCAQMD) Rule 403 requirements. The Contractor is responsible for implementing all necessary mitigation measure to ensure compliance with regulatory thresholds relating to air quality including, but not limited to SCAQMD Rule 403 Fugitive Dust Control requirements. The dust control plan shall include the

following dust control procedures or others as required by SCAQMD or authorized Agencies having jurisdiction:

1. Water all active construction areas at least twice daily, taking into consideration of temperature and wind conditions.
2. Cover all trucks/equipment hauling soil, sand, and other loose materials or require trucks/equipment to maintain at least two (2) feet of freeboard.
3. Pave, apply water three (3) times daily, or apply (non-toxic, biodegradable) soil stabilizers on unpaved access roads, parking areas and staging areas at construction sites. Soil stabilizers shall be approved for use by the Santa Ana Regional Water Quality Control Board (SARWQCB).
4. If visible soil material is carried onto paved access roads or public streets, sweep daily (with water sweepers) all paved areas where soil material has been determined to be from Contractor's operation. Containerize, characterize, and properly dispose of soil collected from street sweeping.
5. Hydroseed or apply (non-toxic, biodegradable) soil stabilizers to inactive construction areas (previously graded areas inactive for ten (10) Calendar Days or more).
6. Enclose, cover, water twice daily or apply (non-toxic, biodegradable) soil binders to exposed stockpiles (dirt, sand, etc.).
7. Limit traffic speeds on access roads (paved and unpaved) to 15 mph.
8. Construct stabilized construction entrance/exit ways for any unpaved transition to paved roadways. Install fiber rolls, gravel bags or other erosion control measures to prevent silt runoff to paved roadways.

B. The County shall have the authority to immediately suspend all construction operations if, in the County's opinion, the Contractor fails to adequately provide for dust control. In the event wind speeds exceed 20 mph for more than 15 minutes, causing visible dust, Contractor shall halt earthwork activities until wind speeds decrease and no visible dust is observed.

C. If either (1) observations or measurements made by the Contractor, County or regulatory agencies, or (2) complaints by SCAQMD or nearby receptors indicate the need for more stringent dust control measures, Contractor shall promptly:

1. Increase the magnitude of dust control measures.
2. Increase the frequency of dust control measures.
3. Add dust palliative or surfactant to dust control water as approved by the SARWQCB and County.

D. Construction Exhaust Emissions Control Plan: Contractor shall implement an exhaust emissions control plan that shall include, but not limited to the following controls and practices:

1. On road vehicles with a gross vehicular weight rating (GVWR) of 10,000 pounds or greater shall not idle for longer than five (5) minutes at any location as required

by Section 2485 of Title 113, Division 3, Chapter 10, Article 1 of the California Code of Regulations (CCR). This restriction does not apply when vehicles remain motionless during traffic or when vehicles are queuing.

2. Off road equipment engines shall not idle for longer than five (5) minutes per Section 2449(d)(3) of Title 13, Division 3, Chapter 9, Article 4.8 of the California Code of Regulations (CCR). All vehicle operators shall receive a written idling policy to inform them of idling restrictions. The policy shall list exceptions to this rule that include the following: idling when queuing; idling to verify that the vehicle is in safe operating condition; idling for testing, servicing, repairing or diagnostic purposes; idling necessary to accomplish Work for which the vehicle was designed (such as operating a crane); and idling required to bring the machine to operating temperature as specified by the manufacturer.
3. Off road engines greater than 50 horsepower shall, at a minimum, meet Tier IV emissions standards. When available, higher Tier engines shall be utilized.
4. A copy of each unit's certified tier specification shall be available for inspection by the RCDWR at the time of mobilization of each applicable unit of equipment.
5. During all construction activities, off-road diesel-powered equipment may be in the "on" position not more than 10 hours per day.
6. Construction on-road haul trucks shall be model year 2010 or newer
7. Construction contractors shall be provided information on the South Coast Air Quality Management District Surplus Off-road Opt-In "SOON" funds which provides fund to accelerate cleanup of off-road diesel vehicles.

E. Implementation of air quality measures shall be performed at no additional cost to the County and the Contractor shall include appropriate allowance in the Contractor's Bid Proposal to cover such measures.

3.03 HAZARDOUS MATERIALS MANAGEMENT AND SPILL PREVENTION

A. General:

1. The Contractor shall at all times keep the site neat, tidy, and free of waste materials or rubbish resulting from Work. Toxic materials, including oil, fuel oil, diesel, gasoline, contaminated soil, coolant, fluid filters, and other contaminants, shall be transported off-site and disposed of at an approved facility. Containers temporarily holding these toxic materials shall be properly labeled, covered and stored in secondary containment areas, have no leaks and shall be removed from the site as quickly as is reasonably possible.
2. Any accidental spills or spills that are produced during routine equipment maintenance shall be cleaned up by removing all the contaminants and the contaminated soil, disposing of it at an approved facility, and replacing the removed contaminated soil volume with clean soil material.
3. In the event that evidence of potential soil contamination such as discoloration, noxious odors, debris, or buried storage containers, is encountered during

construction, the Contractor shall have a contingency plan for sampling and analysis of potentially hazardous substances, including use of photoionization detector. The required handling, storage, and disposal methods depend on the types and concentrations of chemical identified in the soil. Any site investigations or remediation shall comply with Applicable Laws and will coordinate with the appropriate Agencies.

4. The Contractor shall comply with the requirements of the Badlands and Lamb Canyon Spill Prevention Control and Countermeasure Plan (SPCCP) and include spill response procedures in their project-specific Health and Safety Plan (HASP). The Contractor shall be responsible for any spills caused by its Subcontractors.

B. Hazardous Materials Business Emergency Plan: If a Contractor's Work requires the on-site storage of petroleum products including, but not limited to: lubrication oils, antifreeze, greases or fuels, or if it is necessary for the Contractor to store petroleum waste products on-site such as waste oil, oil filters, antifreeze, greases, contaminated soil, and waste fuel on-site the following actions must take place:

1. If required by the County, the Contractor shall prepare a Hazardous Materials Business Emergency Plan (HMBEP) for submittal to the County prior to performing any Work. The plan and the associated "Business Activities", "Business Owner/Operator Identification" and "Hazardous Materials Inventory" forms shall be also submitted to the Riverside County Department of Environmental Health (DEH) for registration and issuance of a Facility ID Number.

2. The Contractor may additionally be required to apply for a permit as a hazardous waste generator from the Riverside County Department of Environmental Health (DEH), and an EPA ID number as required by Federal, State, or Local authorized agencies. To obtain an EPA ID number, the Contractor should contact the Department of Toxic Substances Control (DTSC) Telephone Information Center at (800) 61-TOXIC or (800) 618-6942, to obtain information on EPA ID #'s. Applications are available at the DTSC website referenced above in Section 1.02.

3. The Contractor will be required to comply with the terms and conditions of Riverside County Ordinance 651, which include, but are not limited to::

    a. Immediate correction of unsafe conditions

    b. Maintain proper separation of hazardous materials from other potentially dangerous materials and from buildings.

    c. Restrict access by unauthorized persons

    d. Post warning and hazard identification signs in accordance with NFPA Standard 704 where applicable. Post appropriate signage at hazardous materials storage areas, entrances and exits.

    e. Label all containers and maintain labels in legible condition at all times. Label above ground storage tanks with the appropriate NFPA 704 when applicable. Correctly label all containers, barrels, etc containing hazardous materials and/or hazardous waste.

    f. Submit revised forms to the County prior to making changes to chemical

inventory.

g. Submit copies of all hazardous waste manifests to the County for all materials being properly disposed from the site.

4. The Contractor shall additionally be required to comply with the conditions of the Badlands Landfill and Lamb Canyon Landfill Spill Prevention, Control, and Countermeasure Plans (SPCCP), Section 10, "Contractor's Responsibility" which is outlined as follows:

   a. The Contractor's tanks or drums used to store the product or waste must comply with the County's SPCCPs' requirements including, but not limited to: secondary containment system, drainage control and periodic inspection.

   b. Secondary containment systems shall comply with the following minimum guidelines:

      1) Methods of Containment – Recessed floors, raised sills, containment pallets, double-walled tanks, dikes, berms or walls.

      2) Capacity of Containment – Contain the entire volume of the largest container/ tank and the volume from a 24-hour rainfall as based on a 25-year storm frequency.

      3) Construction of Containment – Containment area shall be lined with compatible (impervious, chemical and puncture resistant) material and have no unsealed seams or gaps. No open or uncontrolled drains shall be located within the containment area. Floor of containment area shall be sloped to a recessed collection sump.

   c. Containment areas shall be sufficiently impervious to contain any discharge and be designed to prevent any drainage. Any accidental spills within the containment area shall be immediately cleaned up by removing the contaminants and properly disposing of them. When rain is forecasted, the containment area shall be covered to prevent rainfall accumulation. Any contained rainwater in the area must be inspected for contamination by County staff prior to being discharged by the Contractor. Any discharge that occurs must be observed and logged by County staff on a "Drainage Discharge Report Form (WM880)" located in Appendix 1 of the SPCCP.

   d. The Contractor shall conduct a daily inspection of their above ground storage tanks using the "Contractor's Daily Aboveground Storage Tank Inspection Form (WM850)" located in Appendix 1 of the SPCCP.

   e. The Contractor shall conduct a weekly inspection of their work area using the "Contractor's Weekly Inspection Form (WM 860)" located in Appendix 1 of the SPCCP.

   f. The Contractor shall document all problems found during the inspection and provide immediate correction of problems.

   g. The Contractor shall document all corrections in writing and attach the documentation to the inspection form.

h. The Contractor shall submit their completed forms (including daily inspections, weekly inspections, hazardous waste manifests and correction documentation) to the County on a weekly basis.

C. Implementation of hazardous materials management and spill prevention measures shall be performed at no additional cost to the County and the Contractor shall include appropriate allowance in the Contractor's Bid Proposal to cover such measures.

3.04 NOISE

A. Contractor shall assure that construction equipment with internal combustion engines have sound control devices at least as effective as those provided by the original equipment manufacturer (OEM). No equipment shall be permitted to have an un-muffled exhaust.

3.05 SEASONAL RESTRICTIONS

A. Streambed/riparian areas are often habitat for nesting birds. For this reason, if construction activity takes place in any streambed/drainage course in the Project construction area during the period from February 15th through September 15th, the Contractor shall notify the County ten (10) days prior to the initiation of the construction activity to allow for survey/assessment of potential nesting bird activity. If nesting birds are found to be present, a buffer area shall be placed around the feature (size dependent upon species) and no Work shall occur within the buffer area, to include the streambed/drainage course, during the breeding season (February 15th – September 15th). The County shall be responsible for all costs associated with the survey/monitoring efforts, as well as determining the appropriate buffer area. Additional time will be granted to the Contractor if construction delays occur as a result of nesting bird seasonal restrictions.

3.06 CULTURAL RESOURCES

A. Inadvertent Discoveries: If discovery is made of items of historical or archaeological interest, the Contractor shall immediately cease all Work activities in the area (within approximately 100 feet) of discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g. projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation the Contractor shall immediately contact the County. The Contractor shall not resume work until authorization is received from the County.

1. In the event of unanticipated discovery of archaeological indicators during construction, the County may elect to retain the services of a qualified biologist or

archaeologist to evaluate the significance of the items prior to resuming any activities that could impact the site.

2. In the case of an unanticipated archaeological discovery, if it is determined that the find is unique under the National Historic Preservation Act (NHPA) and/or potentially eligible for listing in the National Register, and the site cannot be avoided, the County shall provide a research design and excavation plan, prepared by an archaeologist, outlining recovery of the resource, analysis, and reporting of the find.

B. Discovery of Human Remains: If potential human remains are encountered, the County shall halt Work in the vicinity of the find and contact the County coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC). As provided in Public Resources Code Section 5097.98, the NAHC shall identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

3.07 EXPLOSIVES AND BLASTING

A. Unless approved otherwise in writing by the County, the use or storage of explosives on the Work or Site will not be permitted.

3.08 SANITATION

A. The Contractor shall provide approved fixed or portable chemical toilets wherever needed for its employees. The Contractor shall establish regular intervals of collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the Contractor or organic material wastes from any other source related to the Contractor's operations shall be disposed of in a manner satisfactory to the County and in accordance with all laws and regulations pertaining thereto. The County's toilet facilities shall not be used by the Contractor. See Detailed Provisions Section 01 5000 – Temporary Facilities and Controls.

END OF SECTION 01 5600

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 6000: PRODUCT REQUIREMENTS

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SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Product delivery, storage, and handling requirements.
2. Products submitted as “Or Approved Equal” or “Or Approved Alternate”.
3. Substitution procedure for requesting the approval of substitution of a product that is not equivalent to a product which is specified by descriptive or performance criteria or defined by reference to manufacturer, vendor, trade name, and/or model or catalog number.
4. Product warranties.

B. Related Contract Document Sections include, but are not limited to:

1. General Provisions

1.02 REFERENCES

A. National Fire Protection Association (NFPA) Standards.

1.03 DEFINITIONS

A. Approved Equal or Approved Alternate: A material, product, equipment, or process proposed by the Contractor that has demonstrated and approved by the County through the submittal process having same function, quality, durability, appearance, strength, and design characteristics equal to or better than those originally specified in the Contract Documents; and shall be compatible with all other systems, parts or components of the Project and Work under the Contract.

B. Assembly: Two or more products, materials or components that are utilized together to produce a composite application satisfying a set of requirements.

1. Example of Assemblies in these Contract Documents:
   a. Metal Drainage Flumes

C. Basis-of-Design Product Specification: A specification in which a specific manufacturer’s product is named and accompanied by the words “basis-of-design product”, including make or model number, manufacturer name, or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the Specification.

D. Manufacturer: The entity or firm that produces, manufactures or assembles a material, product or item of equipment incorporated in the Work. “Vendor” and “Supplier” are used interchangeably with Manufacturer.

1. Manufacturers specifically named in Division 02 through 41 Detailed Provisions Sections are believed to have the capability of producing products, assemblies and systems meeting the requirements of the Contract Documents. Proposing a product, assembly or system produced by one of the named Manufacturers does not relieve the Contractor of the responsibility to demonstrate the proposed product, assembly or system meets the requirements of the Contract Documents.

E. Manufacturer’s Representative: The person(s) designated by the Manufacturer as its representative(s) and technical authority(s) who is/are knowledgeable about and able to answer technical questions about the Manufacturer’s products, equipment and services.

F. Manufacturer’s Instructions: Written instructions and recommendations provided by the product Manufacturer regarding the use, installation, preparation of Work to receive the product, or similar written guidance to be followed by the installer and provided as part of the product submittal or by the Manufacturer’s Representative.

1. Manufacturer’s Instructions provided by the Manufacturer’s Representative are subject to review and approval of the County.

G. Product: Items obtained for incorporating into the Work, whether purchased for Project of taken from previously purchased stock. The term “product” includes the terms “material”, “equipment”, “system”, and terms of similar intent.

1. Named Products: Items identified by manufacturer’s product name, including make or model number or other designation shown or listed in manufacturer’s published product literature that is current as of date of the Contract Documents.

2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.

H. Qualified Professional Engineer: A Professional Engineer who is legally authorized to practice in California (licensed) and who is experienced in providing engineering services related to a specific system, assembly or product proposed by the Contractor to meet the requirements of the Contract Documents.

1. For systems, assemblies, or products structural in nature and performance, the Qualified Professional Engineer shall be a licensed structural engineer.

I. System: Equipment of an electrical and/or mechanical nature that requires some form of energy input to operate and produce a useful result.

1.04 QUALITY ASSURANCE

A. In making request for substitution or in using an approved product, Contractor:

1. Has investigated proposed product, and has determined that it is adequate or superior in all respects to that specified, and that it will perform function for which

it is intended.

2. Will provide same guarantee for substitute item as for product specified.
3. Will coordinate installation of accepted substitution into Work, to include structure modifications, if necessary, making such changes as may be required for Work to be complete in all respects.
4. Waives all Claims for additional costs related to substitution which subsequently arise.

1.05 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Substitution Requests:

1. Submit the Substitution Request Form at the end of this Section.
2. If necessary, County will request additional information or documentation for evaluation within one (1) week of receipt of a substitution request. County will notify Contractor of approval or rejection of proposed substitution request within fifteen (15) Working Days of receipt of request, or seven (7) Working Days of receipt of additional information or documentation, whichever is later.
    a. Use product specified if County does not issue a decision on substitution request within the time allocated.

1.06 DELIVERY, STORAGE AND HANDLING

A. Delivery:

1. Arrange deliveries of items in accordance with the Project Schedule identified in Detailed Provisions Section 01 3200 – Construction Progress Documentation.
2. Coordinate deliveries in accordance with provisions of Detailed Provisions Section 01 1400 – Work Restrictions.
3. Deliver products in undamaged condition.
    a. Deliveries are to be made in Manufacturers' original packaging, with seals and labels intact.
    b. Inspect deliveries immediately to ensure compliance with requirements of the Contract Documents and approved submittals.
    c. Assure that products are properly protected.

B. Store products, items, materials and equipment in accordance with Manufacturers' Instructions and provisions as follows:

1. Seals and labels are to remain intact until such time protective coverings are removed.
2. Protective covers must remain in place until items are prepared for installation.

a. Remove and replace protective covers which get wet, or are otherwise damaged to the degree that leaving the protective covers in place threatens the integrity of the item.

3. Store products susceptible or subject to damage by the elements in weathertight enclosures.

4. Maintain temperature and humidity within the ranges required by Manufacturers' instructions.

5. Do not allow storage of combustible materials inside enclosed spaces except when allowed in accordance with applicable NFPA standards.

6. Exterior Storage:

a. Store fabricated products aboveground.

1) Position on blocking or skids.

2) Prevent soiling, staining, and other damage.

3) Cover products subject to deterioration using impervious sheet coverings.

4) Provide adequate ventilation to prevent formation of condensation.

b. Store loose granular materials in well-drained areas, and on solid unyielding surfaces.

1) Prevent mixing and contamination with foreign matter.

c. Comply with the requirements of Detailed Provisions Section 01 1400 – Work Restrictions for Project storage, staging and laydown areas.

C. Safety Data Sheets:

1. The Contractor is responsible for interpretation of information contained in Safety Data Sheets (SDS).

2. Do not submit or send SDSs for review unless specifically requested by the County. Remove SDS sheets from submittals prior to transmittance.

3. Submit SDS sheets when required for demonstration of sustainability objectives being met.

D. Protection:

1. Protect items after installation.

a. Protect structures and Work from damage through County issuance of Certificate of Substantial Completion.

b. Protect against traffic damage.

2. Repair or replace damaged items, products, materials and equipment.

1.07 SUBSTITUTIONS

A. General:

1. Certain types of equipment and kinds of material are described in Specifications by means of references to names of manufacturers and vendors, trade names, or catalog numbers.

    a. When this method of specifying is used, it is not intended to exclude form consideration other products bearing other manufacturer's or vendor's names, trade names, or catalog numbers, provided said products are "Or Approved Equal" of "Or Approved Alternate", as determined by the County.

B. Substitution of Items, Materials, and Processes:

1. Products for the Project are specified "Or Approved Equal" or "Or Approved Alternate" unless identified otherwise in this Section.

    a. It is the Contractor's responsibility to demonstrate to the County satisfaction that the products being proposed are equals to the products identified in the Contract Documents.

        1) If applicable, substitutions may impact LEED® credit achievement. The Contractor shall investigate proposed substitutions with respect to the following environmental concerns:

            (a) Contractor shall identify which LEED® credit strategies may be affected by the proposed substitution.
            (b) All substitutions shall be accompanied with documentation indicating the pertinent environmental performance criteria of the substitute material are equal or superior to the specified material.

    a. The County will not unreasonably withhold acceptance of an approvable equal product.

        1) Decisions of the County regarding substitutions are final and not subject to appeal.

        2) Do not assume acceptance at any time prior to written acceptance in a submittal response prepared by the County.

    b. Lack of complete information, defective information, or other problem associated with Available Information for a named product does not relieve the Contractor of the responsibility to demonstrate the approvability and equal of an "Or Approved Equal" or "Or Approved Alternate" product for the intended application or purpose.

2. Submit the same required information for products proposed by the Contractor as Approved Equal, as would be required for the named items, materials and equipment.

C. Substitution Requests after the Contract Award:

1. Submit a completed Substitution Request Form with the associated submittal information for the material, product, equipment, or process.

    a. Fill out the form included in this Section fully and completely.

    b. The Contractor shall sign the document.

c. Provide samples as requested by the County.

1.08 PRODUCT WARRANTIES

A. Warranties specified in other Detailed Provisions Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to County.

PART 2 PRODUCTS

2.01 GENERAL

A. All material, products, and equipment incorporated in the completed Work shall be new and acceptable for the use intended except where reuse of materials, products, and equipment is specifically indicated in the Contract Documents.

PART 3 EXECUTION

3.01 GENERAL

A. All material, products and equipment incorporated in the completed Work shall be installed in accordance with the Manufacturer's Instructions unless such instructions are contrary to the requirements of the Contract Documents as determined by the County.

SECTION PRODUCT REQUIREMENTS SUBSTITUTION REQUEST FORM

DATE: _____

PROJECT: CONSTRUCTION OF ON CALL SITE IMPROVEMENTS

_____ hereby submits for County of Riverside's
(NAME OF CONTRACTOR)
consideration the following item instead of the specified item for the above project:

SECTION	PARAGRAPH	SPECIFIED ITEM

_____

PROPOSED SUBSTITUTION:

_____

_____

_____

Provide product data sheets, manufacturers' written installation instructions, drawings, details and similar information to demonstrate the Contractor's proposed substitution is an Approved Equal. Where answers require additional space, provide information on additional attached pages. Fill in blanks below:

State differences between proposed substitution and specified item. Differences include, but are not limited to interrelationship with other items; materials and equipment; function; utility; life cycle costs; applied finishes; appearance; and quality.

_____

_____

_____

_____

Demonstrate how the proposed substitution is compatible with or modifies other systems, parts, equipment or components of the Project and Work under the Contract.

_____

_____

_____

_____

What effect does the proposed substitution have on dimensions indicated on the Project Drawings and previously reviewed Shop Drawings?

_____

_____

_____

_____

What effect does the proposed substitution have on the construction schedule and Contract Time?

_____

_____

_____

_____

What effect does the proposed substitution have on the Contract Price? This includes all direct, indirect, impact and delay costs.

_____

_____

_____

_____

Manufacturer's guarantees of the proposed and specified items are:

_____Same _____Different (explain on attachment)

The undersigned state that the function, utility, life cycle costs, applied finishes, appearance and quality of the proposed substitution are equal or superior to those of the specified item.

Submitted by:

_____
Contractor's Signature

_____
Firm

Date _____

Telephone _____

For Use by County:

Accepted_____Accepted as Noted_____

Not Accepted_____ Received Too Late_____

By _____

Remark _____

_____

Date_____

END OF SECTION 01 6000

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 7000: EXECUTION REQUIREMENTS

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SECTION 01 7000
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Examination, preparation, and general installation procedures.
2. Construction.
3. Tolerances.
4. Site Restoration.
5. Cleaning and protection.
6. Starting of systems and equipment.
7. Demonstration and instruction of County personnel.

1.02 REFERENCES

A. Comply with the requirements of Detailed Provisions Section 01 4200 – Reference Standards and Abbreviations and as listed herein.

1.03 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Execute Work by methods to minimize raising dust from construction operations. Provide positive means to prevent airborne dust from dispersing into atmosphere.

1.04 COORDINATION

A. Coordinate scheduling, submittals, and requirements of Detailed Provisions Section 01 3100 Project Management and Coordination to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Notify and coordinate with affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduits, as closely as practicable; place runs parallel with lines of building.

Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. After County occupancy of facility, coordinate access to the Site for correction of defective Work and Work not in accordance with Contract Documents, to minimized disruption of County's activities.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. The Contractor shall require the Subcontractors, suppliers, and installers of each element of the Work to perform a detailed inspection of work conditions prior to its performance of Work.

1. Inspect substrates, quality of Work, conditions of the Work area, and activities associated with adjacent and concurrent Work by others.
2. Examine and verify specific conditions described in individual Detailed Provisions Sections.
3. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
4. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.
5. Review all Contract Documents, RFI responses, Changes to the Work, Shop Drawing reviews.

B. Contractor Responsibilities for Existing Underground Conditions, Utilities, Structures, and Improvements.

1. Certain Available Information and Drawings provided by the County indicate existence of underground conditions, obstructions, utilities, structures, and improvements known to the County prior to execution of the Contract, which are within the Construction Limits.
   a. Review the Available Information and Drawings prior to performing Work adjacent, above or otherwise potentially affecting underground conditions, obstructions, utilities, structures, and improvements.
   b. Immediately notify the County of conditions which are not as indicated within the Available Information and Drawings.
2. Coordinate efforts to locate existing underground utilities.
   a. Contractor shall call Underground Service Alert of Southern California (USA/SC) at 811, the one-call underground facility locating service two (2) Working Days prior to making an excavation. Contractor shall be responsible

for such notification of Subcontractor's Work, or shall require Subcontractor to assume this responsibility.

b. The Contractor's attention is directed to the possible existence of pipe, conduit and other underground improvements which may or may not be shown on the Project Drawings. Preserve and protect any such improvements whether shown on the Project Drawings or not. Expose such improvements in advance of the underground construction to allow for changes in alignment as necessary. Where it is necessary to remove and replace or to relocate such improvements in order to prosecute Work, they shall be removed, maintained, and permanently replaced by the Contractor at their expense. Relocation of said improvements shall not be performed without written permission of the County or the Owner of the utility. Unless otherwise noted, existing underground utilities shall be protected in place.

3. Examine, mark, and record location of existing underground utilities, structures and improvements prior to commencing other Work activities.

4. Repair or replace any underground utilities, structures or improvements which are damaged or destroyed or rendered unusable by actions caused by or arising from the performance of Work by the Contractor or its Subcontractors

C. Contractor Responsibilities for Existing Above-Grade Utilities:

1. The Contractor shall be responsible to coordinate its Work activities around existing above-grade utilities, e.g. meters, power poles, light poles, electrical lines, transformers.

2. In the event the Contractor elects to adjust, move or relocate existing above-grade utilities, the Contractor shall obtain the approval of the County or utility owner, and furnish notification and Work plan information fourteen (14) Calendar Days prior to making such adjustments or relocations.

3. The Contractor shall be responsible for costs associated with its decision to adjust, move, or relocate existing above-grade utilities.

4. No additional costs shall be paid by the County if the Contractor elects to make such adjustments or relocations, except those noted to be relocated in the Project Drawings.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting Work.

B. Promptly notify County of any discrepancies discovered.

C. Protect survey control points prior to starting site Work; preserve permanent reference points during construction.

D. Promptly report to County the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written approval from the County.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:

1. Site improvements, including: pavements, stakes for grading, fill and topsoil placement, utility locations, slopes, and invert elevations.

2. Grid or axis for structures.

3. Building foundation, column locations, and ground floor elevations.

H. See Detailed Provisions Section 01 4320 – Surveying.

3.04 INSTALLATION

A. General:

1. Provide all attachments, connection devices, and accessory components necessary for the completion and physical attachment and support of the Work.

2. Comply with requirements of Regulatory Agencies and Authorities having jurisdiction for bracing, restraints, supports, and attachments.

3. Install products as specified in individual Detailed Provisions Sections, in accordance with Manufacturer's Instructions and recommendations to avoid waste due to necessity for replacement.

4. Unless otherwise noted, make vertical elements plumb and horizontal elements level.

5. Unless otherwise noted, install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines.

B. Make neat transitions between different surfaces, maintaining texture and appearance.

C. Install equipment, products, coatings, materials, and finishes in accordance with the Contract Documents and manufacturer's written installation instructions.

1. In the event there is a conflict or inconsistency between the Contract Documents and manufacturer's written installation instructions, promptly inform the County of such issue through a Request for Information (RFI).

D. Work Results:

1. Install components, products, materials, equipment, and other items, and assemblies, only during appropriate weather conditions for that Work.
2. Coordinate installation activities such that these activities do not subject unfinished Work to adverse weather, cold temperatures, or other conditions detrimental to the Work.

E. Cutting and Patching:

1. Whenever possible, execute the Work by methods that avoid cutting or patching.
2. Execute Work by methods that avoid damage to other Work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
3. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
4. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
5. Restore Work with new products in accordance with requirements of Contract Documents.
6. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
7. Patching:
    a. Finish patch surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
    b. Match color, texture, and appearance.
    c. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.05 CONSTRUCTION

A. All construction means and methods, and any specialized techniques, employed or selected by the Contractor in the performance of the Work are the sole responsibility of the Contractor.

B. The Contractor's Work shall be coordinated to correctly interface, fit and come together with adjacent surfaces and utility structures, roadway structures, and grades.

3.06 TOLERANCES

A. Substantial Completion Conditions:

1. Earthwork and Paving:
    a. Conform to the grades and contours indicated on the Project Drawings.

b. For benches, canyon floor areas, and access roads within the project limits the variation from design elevation: +/- 0.1 foot.

c. All remaining earthwork within the project limits: +/- 0.25 foot.

2. Structures and Structural Elements:

a. Deviation for Design Elevation: +/- 0.1 foot.

b. Variation from Design Horizontal Location: +/-0.1 foot in any direction.

c. Variation in Plumb: two-tenths of one percent (0.2%).

3. Retaining Walls:

a. Deviation for Design Elevation: +/- 0.1 foot.

b. Variation from Design Horizontal Location: +/- 0.1 foot in any direction.

c. Variation in Plumb: one-half of one percent (0.5%).

4. Anchor Bolts, Base Plates and Concrete Embeds:

a. Deviation from Design Elevation: +/- 0.1 foot .

b. Variation from Design Horizontal Location: +/- 0.1 foot in any direction.

5. Utility Systems:

a. Deviation from Design Elevation: +/- 0.05 foot .

b. Deviation from Design Horizontal Position: +/- 0.1-foot .

c. Deviation from Design Pipe Slope (gravity lines only): plus ½-inch per foot or minus zero (0) inch per foot.

6. Review other individual Detailed Provisions Sections for additional tolerance information. More stringent tolerances in other Detailed Provisions Sections or required by manufacturers of products and equipment being supplied on the Project shall supersede the tolerances above.

3.07 SITE RESTORATION

A. All areas, items, utilities or structures damaged or destroyed by the Contractor or its Subcontractors and suppliers during the construction of the Project, whether inside or outside of the Construction Limits, shall be restored by the Contractor to the satisfaction of the County, prior to the issuance of the Certificate of Substantial Completion.

3.08 CLEANING

A. Maintain the Project Location in a neat and orderly condition, removing empty containers, rags and rubbish daily.

B. Cleaning of Vehicles:

1. Before leaving the Project Location, all vehicles and equipment shall be free of dust, mud, rocks, debris, and soils.

C. Street Cleaning:

1. If Contractor earthwork operations affect landfill and public roadways, all paved roadways used by the Contractor's trucks or any other equipment hauling material to and from the area shall be kept clean by the Contractor and shall be continuously serviced by the Contractor's use of broomed vacuum sweeper trucks to control dust and mud.

    a. Contractor shall comply with all permit requirements to keep public roadways clean of dust, dirt, and debris. Any associated costs shall be borne by the Contractor at no additional cost to the County.

2. Damage to roadway surfaces from the direct or indirect result of the Contractor's operation shall be repaired by the Contractor to the satisfaction of the responsible agency and the County at no additional cost to the County.

3. Do not allow sediment laden or contaminated surface water to enter storm water systems.

D. Remove rocks, dirt, debris, trash, shavings, filings, and surface dust from limited access spaces, vaults, pull boxes, and similar spaces.

E. Clean Project Location:

1. Sweep paved areas to a broom-clean condition.

2. Remove stains, petrochemical spills, and other foreign deposits.

3.09 PROTECTION

A. Temporary Protective Coverings:

1. Temporary protective coverings shall include sheet plastic, tarpaulins, sand bags, geotextiles, matting, and accessories as identified in the Contract Documents.

2. Apply temporary protective coverings when, where, and to the degree required by the Contract Documents to ensure continuous protection from damage, deterioration, and prohibited exposures until Substantial Completion of the Work is issued by the County.

3. Apply temporary protective coverings appropriate to the installation.

4. Removal:

    a. Remove temporary protection devices and facilities when requested by the County.

    b. Do not remove protection when subsequent Work activities including corrective Work could damage surfaces.

B. Limitation of Exposures:

1. Supervise and coordinate construction activities to ensure no part of the construction completed, or in progress, is subject to deleterious exposure during the construction period.

2. Protect against the following exposures:
    a. Excessive loading, including static and dynamic forces.
    b. Excessive pressures.
    c. Excessive high and low temperatures.
    d. Ice contamination of materials and products.
    e. Air contamination, pollution, solvents, chemical, including release of volatile organic compounds.
    f. Construction traffic.
    g. Soiling, staining.
    h. Mold, mildew, bacteria, and other organic processes.
    i. Excessive electrical current or load.
    j. Inadequate separation and/or isolation between dissimilar metals.
    k. Improper shipping, handling, packing.
    l. Unprotected, improper, insufficient storage.

3.10 SYSTEM START-UP

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify County seven (7) days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequences, and for conditions that may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Execute start-up under supervision of applicable Contractor personnel, County and manufacturer's representative in accordance with Manufacturer's Instructions.

F. When specified in individual Detailed Provisions Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

3.11 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance and shutdown of each item of equipment at scheduled time, at equipment location.

B. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of County personnel.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

END OF SECTION 01 7000

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 01 7700: CLOSEOUT PROCEDURES

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SECTION 01 7700
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for cCntract closeout, including, but not limited to:

1. Final Completion/Final Acceptance procedures.
2. Project Record Documents
3. Warranties.
4. Repair Work.
5. Final Cleaning.

B. Related Sections:

1. General Provisions.
2. Detailed Provisions Section 01 7823 – Operation and Maintenance Manuals.

1.02 REFERENCES

A. Comply with the requirements of Detailed Provisions Section 01 4200 – Reference Standards and Abbreviations and as listed herein.

1.03 DEFINITIONS

A. Project Record Documents: Various documents that define the constructed facility that are kept current by neat, legible hand annotation of all deviations from what is shown or required by the Contractor during the course of construction to accurately document the "as-built" facility, including, but not limited to:

1. Project Drawings.
2. Shop Drawings.
3. Contract Documents (Administrative Provisions, General Provision, Special Provisions, and Detailed Provisions).
4. Addenda.
5. Change Orders.
6. Request for Information (RFI).
7. Completed Work Verification Survey: electronic copy and one (1) full-size hard copy.
8. Coordinate utility plans.

9. Field Directives.
10. Correspondence.
11. Submittals.

1.04 PUNCH LIST PROCEDURES

A. The County shall prepare the Punch List (list of incomplete items of Work including discrepancies found in the Completed Work Verification Survey) one (1) month before the end of the contract.

B. The Contractor shall correct all Punch List items and re-issue the County Punch List, with their initials and date complete, along with a written statement that the entire Project is physically complete.

C. The County shall perform all necessary inspections to verify that all Punch List items of Work are complete.

1.05 FINAL INSPECTION AND FINAL PUNCH LIST

A. All remaining Punch List items shall be successfully completed by the Contractor prior to the Contractor's request for Final Acceptance. When the Contractor considers that all Contract Work is ready for final inspection and Final Acceptance, the Contractor shall give written notice to the County.

B. County shall promptly perform a final inspection of the Work and, if necessary, prepare a Final Punch List (a list of items to be completed or corrected by the Contractor prior to the County granting Final Acceptance).

C. Final Punch List items may include, but are not limited to: Copies of warranties and guarantees required by the Contract; permit approvals and Certificates of Occupancy/Use; Operation and Maintenance Manuals, Project Record Documents; Right of Way, Easements and Property Releases, and any other documents called for elsewhere in the Contract Documents.

D. The Contractor shall complete or correct the items identified in the Final Punch List by the end of the contract. Should the Contractor fail to complete or correct all remaining Final Punch List items before the end of the contract, the County may assess Liquated Damages against the Contractor for failure to achieve Final Acceptance in a timely manner.

E. After the Contractor completes all items identified in the Final Punch List(s), the Contractor shall notify the County in writing that the Final Punch List items have been successfully completed. After verification by the County that such completion was satisfactory, the Contractor shall submit a Final Application for Payment.

1.06 REQUIREMENTS FOR FINAL APPLICATION FOR PAYMENT

A. In addition to any other requirement identified in the Contract Documents, the Final Application for Payment shall include the following documents:

1. Affidavit of Wages Paid for Contractor and all Subcontractors in accordance with state law;
2. Contractor's release of Claims against the County from all parties who are entitled to Claims against the subject Project, property or improvement pursuant to the provisions of law;
3. Contractor certification that all Subcontractors and suppliers have been paid and there are no outstanding liens;
4. Right of Way, Easements and Property Releases;
5. Final, Project Record Documents ten (10) Working Days following completion of final punch list.
    a. One (1) complete set of Contractor's correspondence, including but not limited to RFIs, memorandums, and e-mails.
6. Final Application for Payment; and
7. Complete the following:
    a. Complete Final Cleaning and Project Location cleanup.
    b. Complete all remaining obligations as set forth within this Section.

1.07 FINAL COMPLETION/FINAL ACCEPTANCE

A. Final Completion/Final Acceptance shall be achieved when all the obligations of the Contract have been successfully performed by the Contractor in accordance with the Contract and accepted by the County.

B. Neither Final Acceptance, nor Final Payment, shall release Contractor or its Sureties from any obligations under this Contract or the Performance and Payment Bonds, or constitute a waiver of any Claims by the County arising from or related to Contractor's performance or failure to perform the Work and to meet all contractual obligations in accordance with the Contract, including but not limited to:

1. Unsettled liens, security interests or encumbrances;
2. Damaged, non-conforming, or defective Work discovered by the County;
3. Terms of any warranties or guarantees required by the Contract; and
4. Payments made in error.

C. Except for any Claims properly submitted in accordance with the General Provisions, acceptance of Payment on the Final Application for Payment by the Contractor shall, on behalf of itself and its Subcontractors or Sureties, forever and unconditionally release and discharge the County, its officers, agents, employees, from:

1. Any and all disputes or Claims, including but not limited to Claims for damages, fines, interest, taxes, attorney fees, or costs, demands, rights, actions or causes of actions, known or unknown, arising out of or in any way related to the parties' performance under the Contract and/or Project; and

2. Any and all known and/or unknown liabilities, obligations, demands, actions, suits, debts, charges, causes of action, requests for money and/or payment under the Contract, outstanding invoices, or Claims directly or indirectly arising out of or related to the Contract and/or Project.

1.08 PROJECT RECORD DOCUMENTS

A. Provide to the County one (1) complete set of the Project Record Documents in accordance with the requirements of this Section.

B. Store Project Record Documents separate from documents used for construction.

1.09 WARRANTIES/GUARANTEES

A. A two (2) year guarantee shall be applicable to all Work.

B. The Contractor will provide the County a copy of all warranties corresponding to products furnish and installed during the course of the project at each location.

1.10 SCHEDULE OF CONTRACT CLOSEOUT PROCEDURES

A. The following Closeout Procedures Checklist gives the order and responsibility for the requirements of the Final Contract Closeout. This list may not include all items required by the General Provisions and Detailed Provisions.

B. Contract Closeout Documents Checklist: Complete the items indicated, and submit this Checklist when directed by the County.

Checklist Item No.	Responsibility	Procedure	Date
1	County	Inspect the Work, prepare Punch List and identify items requiring completion/correction.	
2	Contractor	Complete/correct punch list items.	
3	County	Verify Punch List items have been completed/corrected.	
4	Contractor	Notify County in writing that the Work is ready for Final Acceptance: Prepare Final Application for Payment that includes the following: a. Affidavit of Wages Paid for Contractor and all Subcontractors. b. Contractor release of Claims. c. Release of Liens Certificate from all Subcontractors. d. Project Record Documents. e. Operation and Maintenance Manuals. f. Warranties. g. Permits and Certificates of Occupancy/Use.	
5	County	Perform Final Inspection and if necessary issue Final Punch List.	
6	Contractor	Complete/correct Final Punch List items.	
7	County	Verify completion/correction of Final Punch List items. Prepare Notice of Completion and Final Payment for County Board of Supervisors Approval.	
8	County	County Board of Supervisor approves Notice of Completion and Final Payment. Notice of Completion is recorded.	
9	County	Release of all retention funds shall be within thirty-five (35) days after the recordation of the Notice of Completion. See General Provisions, Section. 7-3.3.2 – Final Payment.	

1.11 SUBMITTALS

A. Warranties:

1. Organize any product or material warranty documents into an orderly sequence based on the Detailed Provision Sections:

a. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 by 11 inch paper.

b. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and name, address, and telephone number of Installer.

c. Identify each binder on the front and spine with the typed title "WARRANTIES," Project name, and name of Contractor.

d. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

2. Provide additional copies of each warranty to include in Operation and Maintenance Manuals.

B. Final, Project Record Documents:

1. One (1) complete set of Contractor's correspondence, including but not limited to: RFIs, memorandums, and e-mails.

2. Project Record Documents Digital Data Files:

a. Format: Scan Project Record Documents and assemble submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

C. Affidavit of Wages Paid for Contractor and all Subcontractors in accordance with state law.

D. Contractor's release of Claims against the County from all parties who are entitled to Claims against the subject Project, property or improvement pursuant to the provisions of law.

E. Contractor certification that all Subcontractors and suppliers have been paid and there are no outstanding liens;

F. Final Application for Payment;

G. Completed permits and/or Certificates of Occupancy/use.

PART 2 PRODUCTS

2.01 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 EXECUTION

3.01 REPAIR OF THE WORK

A. Complete any repairs before requesting inspection for final acceptance.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. When damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.

2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.

    a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs and bulbs noticeably dimmed by hours of use to comply with requirements for new fixtures.

3.02 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental regulations.

3.03 PROJECT RECORD DOCUMENTS – RECORDING AND MAINTENANCE

A. Recording: Maintain one (1) copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until the end of the Project.

END OF SECTION 01 7700

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 02 0100: MAINTENANCE OF EXISTING CONDITIONS

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SECTION 02 0100
MAINTENANCE OF EXISTING CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Identification and field mark out of any and all on-site utility lines to remain in operation during construction.
2. Identification and in-place protection of existing groundwater monitoring wells and gas monitoring probes.
3. Identification and in-place protection of existing drainage features.
4. Identification and in-place protection of existing subgrade sections.
5. Repair of any damage during construction operations.

B. Related Contract Document Sections include, but are not limited to:

1. Detailed Provisions Section 01 1400 – Work Restrictions
2. Detailed Provisions Section 01 4320 – Surveying
3. Detailed Provisions Section 01 5000 – Temporary Facilities and Controls
4. Project Drawings

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 IDENTIFICATION

A. Locate all existing utilities which are to remain in service during construction as shown on the Project Drawings.

B. Identify all existing concrete slabs and drainage structures within the project limits as shown on the Project Drawings.

C. Identify subgrade section where design contours match existing contours as shown on the Project Drawings.

3.02 PROTECTION

A. Flag, barricade or suitably protect existing utilities during construction operations and equipment movement. Install shoring and bracing as required.

B. Prevent interruption of existing utility service to occupied or used facilities, except when authorized in writing by authorities having jurisdiction.

C. Existing utility lines that are indicated on the Project Drawings or which are made known to the Contractor prior to grading activities, and all utility lines that are constructed during grading activities shall be protected from damage during grading activities.

D. All existing hardscape, which includes, but is not limited to: curb and gutters, drainage driveways, and concrete slabs-on-grade shall be protected in place during construction activities to prevent damage.

E. Existing subgrade sections that are to remain in-place as shown on Project Drawings shall be identified and marked by means of survey as outlined in Detailed Provision Section 01 4320 – Surveying. Grading activities involving excavation or backfill for anything other than utility trenching and backfilling shall not take place within the existing subgrade section. Contractor shall keep subgrade section marked and protected for the duration of all grading activities.

3.03 REPAIR

A. Any damage to existing, operational utilities by the Contractor or his/her subcontractors during the ongoing construction operation shall be immediately repaired to operational standards at the Contractor's expense. If the repairs are not immediately addressed by the Contractor, the County shall contract for the repair at the Contractor's expense.

B. Any and all damage to protected features shall be repaired by the Contractor at his/her own expense. Protected features include, but are not limited to: existing drainage structures, concrete slabs-on-grade, and subgrade sections. In the event the County elects to make necessary repairs with their own workforce, the Contractor shall reimburse the County for the cost of repairs. Contractor shall repair or replace any and all damaged features as required to return it to its original state before final payment shall be issued by the County.

END OF SECTION 02 0100

SPECIFICATIONS – DETAILED PROVISIONS

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SECTION 02 4100
DEMOLITION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Deconstruction, removal, abandonment, and salvage, recycle, or disposal of various existing improvements including, but not limited to: guardrails, 3”-6” Rock Channel, Reinforced Shotcrete, Aggregate Base, Asphalt Concrete Pavement and other incidental items necessary for the completion of the Project.
2. Furnish all labor, materials, tools, equipment, and services for demolition, as indicated, in accordance with provisions of the Contract Documents.
3. Completely coordinate Work with other trades.

B. Related Specification Sections include, but are not limited to:

1. Section 01 1100 -Summary of Work
2. Section 01 1400 – Work Restrictions
3. Section 01 3300 – Submittal Procedures
4. Section 31 2300 - Earthwork
5. Section 31 2500 – Soil Erosion and Sediment Control

1.02 QUALITY ASSURANCE

A. Conduct Work in accordance with Cal-OSHA and EPA requirements.

B. Comply with American National Standards Institute (ANSI) /American Society of Safety Engineers (ASSE) A10.6 – Safety and Health Program Requirements for Demolition Operations.

C. Comply with National Fire Protection Agency (NFPA) 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.

D. Use only firms or individual trades qualified to perform Work required under this Section.

1.03 DEFINITIONS

A. Abandon: Cut, cap, and fill a feature, as approved by County,and leave in place.

B. Relocate: Preserve a feature and the functionality of a feature. Move the feature to a designated location on the Site.

C. Remove: Take appropriate action to eliminate a feature from the Project Site. Removal may include disposal, recycling, or salvage.

D. Salvage: Preserve and protect a feature and the functionality of the feature. Move the feature to the designated location and turn over custody to the County.

E. Cal-OSHA: California Department of Industrial Relations – Division of Occupational Safety and Health.

F. EPA: United States Environmental Protection Agency.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Demolition Plan not later than thirty (30) Calendar Days prior to the intended start of demolition work. Demolition Plan shall include, but is not limited to::

a. Sequencing of the Work.

b. Protection of workers and the public.

c. Traffic control, where demolition is adjacent to existing operations or as required in public right-of-way.

d. Environmental protection.

e. Means and methods to minimize disposal and maximize salvage and recycling.

f. Demolition disposal procedures.

g. Salvaged items to be delivered to County.

h. Disposal of demolition debris.

1) Non-hazardous demolished material shall be hauled to onsite project locations as directed by County staff.

1.05 DESCRIPTION

A. Work includes:

1. Demolition of structures, utilities, and other site features as indicated.

2. Removal of demolition debris.

3. Protection of existing structures to remain, including:

a. Utilities.

b. Other items, as indicated.

B. Condition of existing structures to be demolished:

1. County assumes no responsibility for actual condition of structures to be demolished.

2. Conditions existing at time of inspection for bidding purposes will be maintained by County insofar as practicable.

3. Hazardous Waste Assessment – Does not apply.

1.06 JOB CONDITIONS

A. Perform preliminary investigations as required to ascertain extent of Work.

1. Conditions which would be apparent by such investigation will not be allowed as cause for Claims for extra costs.

B. Before start of Work, obtain and pay for permits required by Authorities having Jurisdiction and notify interested utility companies.

C. Observe safety precautions in all phases of the Work. Included shall be: trench shoring, bracing, lighting, and barricades as dictated by reason and by Safety Orders of the Division of Industrial Safety, State of California (Cal-OSHA). Shoring is required for all trench portions greater than 4-feet in depth. Trenches greater than 20-feet in depth require protection systems designed by a Professional Structural Engineer licensed in the state of California.

D. Hazardous Materials and Dangerous Wastes – If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify the County. Hazardous materials will be removed by County under a separate Contract or negotiated with the Contractor via a Change Order.

E. When performing underground work, the Contractor shall call Underground Service Alert of Southern California (USA/SC) at 811, the one-call underground facility locating service, two (2) Working Days prior to making an excavation. Contractor shall be responsible for such notification of Subcontractor's Work, or shall require Subcontractor to assume this responsibility.

F. On-site storage or sale of removed items or materials is not permitted.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 PREPARATION

A. Identification:

1. Field locate and mark all structures to be removed.

2. Existing Utilities:

a. Locate utilities within or adjacent to the Site.

b. Take all necessary precautionary measures to protect utilities.

c. Provide adequate means of support and protection during removal operations for utilities that are to remain in service.

d. Do not interrupt existing utility services, except when permitted in writing by the County, and then only after acceptable temporary utility services have been provided if required by the County and utility owner.

1) Provide a minimum seven (7) Calendar Days notice to County and utility owner, and receive written notice to proceed before interrupting any utility.

B. Protection:

1. Maintain facility operations and traffic for the duration of the Work in accordance with Detailed Provisions Section 01 1400 – Work Restrictions.

2. Take all necessary precautionary measures to protect all utilities, structures and surrounding areas.

C. Comply with all requirements of ANSI/ASSE A10.6 and NFPA 241.

3.02 POLLUTION CONTROLS

A. Provide erosion and sediment controls in accordance with Detailed Provisions Section 31 2500 – Soil Erosion and Sediment Control prior to initiating Work.

B. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations.

C. Alleviate dust and provide dust control measures as needed.

D. Return adjacent areas to condition existing prior to start of Work.

3.03 ITEMS TO BE SALVAGED FOR COUNTY

A. Unless determined as unsalvageable by the County, all items designated for salvage shall be removed with care to prevent damage.

B. If, in the opinion of the County, salvageable features were unnecessarily damaged, damaged salvageable features shall be replaced or repaired, to the satisfaction of the County, by the Contractor at no additional cost to the County.

C. Remove salvage items at appropriate stage of demolition, but early enough to prevent damage to them by demolition operations.

D. Coordinate with County on items the County wants to salvage or relocate:

1. Three to six inch (3-6”) Rock Channel.

2. Unsuitable fill material, excavated on-site that contains no contaminants or chemicals and is approved by the County for landfill soil cover material. Refer to Specification Section 31 2300 – Earthwork.

3.04 ITEMS SALVAGED FOR CONTRACTOR

A. Items of salvage value to Contractor not designated in Contract Documents as items to salvage or relocate may be removed from the Site as Work progresses.

B. Transport salvaged items from Site as they are removed. Storage or sale or removed items are not permitted on the Site.

3.05 ITEMS TO BE REMOVED FOR RE-INSTALLATION IN PROJECT

A. Remove items designated for re-use:

1. Tag, protect from damage, store, if required, and deliver to designated locations.

3.06 GENERAL DEMOLITION PROCEDURES

A. Remove features/structures as indicated on the Project Drawings and as necessary to complete the Project.

B. Comply with all requirements of ANSI/ASSE A10.6 and NFPA 241.

C. Demolition of entire features/structures:

1. Demolish completely and remove from site.

2. Use such methods as required to complete Work within limitations of governing regulations.

D. Demolition of portions of features/structures:

1. Cut, cap, sawcut, or otherwise provide clean break between the portion of the feature to be demolished and portion to remain.

2. Protect portion of feature to remain in place from damage during demolition.

E. Start and complete Work as established by approved schedule; operational procedures and sequence of Work are optional provided schedule is maintained.

F. Protect property to remain:

1. Promptly repair damage caused by demolition, as directed by the County, at no cost to the County.

2. Conduct operations to prevent damage by falling debris or other cause to adjacent structures or features as well as persons.

3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures.

G. Conduct operations to ensure minimum interference with roads, walkways, entrances, exits, and other adjacent occupied facilities.

1. Do not close or obstruct public thoroughfares or walkways unless approved by Authorities having Jurisdiction.

2. Provide alternate routes around closed or obstructed traffic ways.

H. Provide covered passageways where necessary to ensure safe passage of persons in or near areas of Work.

I. Provide barricades and safety lights as required.

J. Abandon utilities that are indicated to be abandoned.

K. If suspected, hazardous materials or unexpected structures such as underground storage tanks are encountered, Contractor shall stop Work and notify the County immediately for further direction.

L. Structural Demolition:

1. Demolish concrete and masonry in small sections.
2. Perform removal to avoid excessive loads on supporting walls, floor, or framing.

M. Contractor is responsible for all disposal fees.

3.07 SAWCUTTING

A. Make a neat vertical saw cut at the boundaries of the asphalt and/or concrete area to be removed.

1. Care shall be taken when saw cutting so as not to damage any of the existing asphalt concrete pavement to remain in place.
2. Sawcutting shall extend through the full slab/pavement depth, or to a maximum depth of 12-inches, whichever is less.
3. Any slab/pavement damaged by Contractor due to its operations shall be repaired or replaced at no cost to the County.
4. Contractor is responsible for ensuring that special precautions are taken so that no concrete or concrete by-products, or products and by-products used in the sawcut of asphalt or concrete, are discharged into any storm water drainage system or surface waters.

B. Wastewater from Cutting Operations:

1. Wastewater from Portland Cement Concrete, masonry, and asphalt concrete cutting operations shall not be discharged to storm water drainage system or surface waters.
2. Cutting operations typically increase the pH of wastewater, therefore, just filtering of wastewater at treatment prior to discharge is not acceptable.
3. To thoroughly clean saw cuts where necessary, use high pressure water (high pressure water is considered greater than 1400 psi).
4. All wastewater shall be collected using a wet-dry vacuum or pumped into appropriate storage containers for proper disposal.
5. Impervious surfaces contaminated with sediment and grit from cutting or pulverizing operations shall be cleaned by sweepers to prevent contaminants from entering the storm water drainage system or surface waters.

3.08 REMOVAL OF PAVEMENT AND CURBS

A. Pavement and curbs shall be sawcut in such a fashion to form a neat break line.

B. All transitions to existing asphalt or cement concrete roadways and curb and gutter shall be vertically sawcut the full depth with straight, uniform edges.

C. Removing Asphalt Concrete Pavement:

1. Existing asphalt concrete pavement shall be removed at the locations indicated in the Project Drawings or as designated by the County.
    a. Concrete and asphalt pavement that have been exposed to solid waste, leachate and wastewater are not recyclable.
2. Removal shall be accomplished by making a neat longitudinal vertical cut along the boundaries of the area to be removed.
3. Sawcutting shall be accomplished with a self-propelled machine capable of cutting to a depth of 12-inches. The use of pneumatic hammers or punches will not be permitted.
4. Care shall be taken in removing the pavement not to damage any of the existing pavement that is to remain in place.
5. Any remaining pavement damaged due to Contractor operations shall be replaced by the Contractor, to the satisfaction of the County, at Contractor's expense.

D. Removing Cement Concrete Curb and Gutter:

1. Existing cement concrete curb and gutter shall be removed at the locations indicated in the Project Drawings or as designated by the County.
2. Removal shall be accomplished by making a neat longitudinal vertical cut along the boundaries of the area to be removed or closest expansion/construction joint.
3. Care shall be taken in removing the curb and gutter such as not to damage any curb and gutter or pavement that is to remain in place.
4. Any remaining curb and gutter damaged due to Contractor operations shall be replaced by the Contractor, to the satisfaction of the County, at Contractor's expense.

E. Removing Pavement Markings:

1. Existing pavement markings including plastic stop bars and traffic arrows, and lane markers shall be removed at all locations indicated on the Project Drawings and as required for revisions to traffic lanes.
2. Removal of existing pavement markings shall be conducted using such methods to prevent damage to the remaining pavement. Do not use chemicals that may be harmful to the pavement.
3. Damaged pavement shall be replaced at Contractor's expense.
4. Painted and thermoplastic pavement markings shall be removed by sandblasting, grinding, or other method approved by the County. All markers to be removed shall be done without damaging the pavement section.

3.09 REMOVAL OF EXISTING UTILITY STRUCTURES

A. Vaults and Catch Basins

1. All existing concrete vaults and catch basins shall be removed and disposed of off the Site.

a. Concrete vaults and catch basins that have been exposed to leachate and wastewater are not recyclable.

3.10 EXISTING PIPE ABANDONMENT

A. Clean interior contact surfaces of all pipes to be cut off and abandoned.

B. Construct concrete plug in ends of pipes.

1. Minimum length of plug shall be equal to two (2) diameters of the pipe.

C. Concrete shall completely fill the pipe opening.

3.11 REMOVAL AND/OR RESETTING OF MISCELLANEOUS ITEMS

A. Remove and/or reset miscellaneous items as described in the Project Drawings and as necessary to satisfactorily complete the Project.

B. Items requiring resetting shall be protected from damage during removal. If, in the opinion of the County, an item requires replacement due to the Contractor's operations it shall be replaced at Contractor's expense.

C. Fencing and signs identified for removal shall be properly disposed of by Contractor. Post holes shall be filled with approved excavated material from elsewhere on-site.

D. Lighting fixtures identified for removal shall be disconnected and removed, including foundations and associated wiring.

3.12 CLEAN-UP AND DISPOSAL OF DEMOLTION MATERIALS

A. Materials, except those identified as salvage, resulting from the removal of structures and obstructions shall be hauled to an approved waste disposal site, secured by the Contractor, and shall be disposed of in such a manner as to meet the requirements of federal, state, county, and municipal regulations regarding health, safety, and public welfare.

B. Clean up other debris resulting from this Work.

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 0505: CONCRETE TESTING

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SECTION 03 0505
CONCRETE TESTING

PART 1 GENERAL

1.01 SUMMARY

A. Description:

1. This Work consists of testing concrete and grout where required by the Contract Documents or where designated by the County.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 01 4300 – Quality Assurance and Control
2. Section 03 2100 – Concrete Reinforcement
3. Section 03 3100 – Cast-in-Place Structural Concrete
4. Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing
5. Section 03 3713 - Shotcrete

1.02 RESPONSIBILITY AND PAYMENT

A. County will hire a Testing/Inspection Provider to perform the following testing and inspection services and provide test results to the County and Contractor.

1. Testing and inspection of concrete, grout, and concrete reinforcement produced for incorporation into the Work during the construction of the Project for compliance with the Contract Documents.
2. Additional testing or retesting of materials occasioned by their failure, re-test or inspection, to meet requirements of the Contract Documents.
3. Strength testing on concrete required by the County or Special Inspector when the water-cement ratio exceeds the water-cement ratio of the typical test cylinders.
4. In-place testing of concrete as may be required by County when strength of structure is considered potentially deficient.
5. Other testing services needed or required by Contractor such as field curing of test specimens and testing of additional specimens for determining when forms, form shoring or reshoring may be removed.
6. County will pay for services defined in Paragraph 1.02A.1.
7. See Detailed Provisions Section 01 4300 – Quality Assurance and Control.

B. Contactor shall hire a qualified testing agency to perform the following testing and provide test results to the County.

1. Testing of materials and mixes proposed by the Contractor for compliance with the Contract Documents and retesting in the event of changes.

2. Additional testing and inspection required because of changes in materials or proportions requested by Contractor.
3. Contractor shall pay for services defined in Paragraphs 1.02B.1. and 1.02B.2.
4. Contractor shall reimburse County for testing services defined in Paragraphs 1.02A.2., 1.02A.3., 1.02A.4., and 1.02A.5.
5. See Detailed Provisions Section 01 4300 – Quality Assurance and Control.

C. Duties and Authorities of Testing/Inspection Provider:

1. Any Testing/Inspection Provider or agencies and their representatives retained by Contractor or County for any reason are not authorized to revoke, alter, relax, enlarge, or release any requirement of Contract Documents, nor to reject, approve or accept any portion of the Work.
2. Testing/Inspection Provider shall inform the Contractor and County regarding acceptability of or deficiencies in the Work including materials furnished and Work performed by Contractor that fails to fulfill requirements of the Contract Documents.
3. Testing/Inspection Provider shall submit test reports and inspection reports to the County and Contractor immediately after they are performed.
    a. All test reports shall include exact location in the Work at which batch represented by a test was placed.
    b. Reports of strength tests shall include detailed information on storage and curing of specimens prior to testing.
4. County retains the responsibility for ultimate rejection or approval of any portion of the Work.

1.03 QUALITY ASSURANCE

A. Referenced Standards:

1. American Association of State Highway and Transportation Officials (AASHTO):
    a. AASHTO T260 – Standard Method of Test for Sampling and Testing for Chloride Ion in Concrete and Concrete Raw Materials.
2. American Concrete Institute (ACI):
    a. ACI 318 – Building Code Requirements for Structural Concrete.
3. American Society for Testing and Materials (ASTM):
    a. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field.
    b. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
    c. ASTM C42 – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.

d. ASTM C109 – Standard Test Method for Compressive Strength of Hydraulic Cement Mortars

e. ASTM C138 – Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.

f. ASTM C143 – Standard Test Method for Slump of Hydraulic-Cement Concrete.

g. ASTM C157 – Standard Test Method for Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete.

h. ASTM C172 – Standard Practice for Sampling Freshly Mixed Concrete.

i. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by Volumetric Method.

j. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

k. ASTM C311 – Standard Test Method for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland Cement Concrete.

l. ASTM C596 – Standard Test Method for Drying Shrinkage of Mortar Containing Hydraulic Cement.

m. ASTM C827 – Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures.

n. ASTM C939 – Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete.

o. ASTM C1077 – Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.

p. ASTM C1090 – Standard Test Method for Measuring Changes in Height of Cylindrical Specimens of Hydraulic-Cement Grout.

q. ASTM C1218 – Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.

r. ASTM C1260 – Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method).

s. ASTM E329 – Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.

4. National Bureau of Standards (NBS):

a. Cement and Concrete Reference Laboratory (CCRL).

B. Qualifications:

1. Contractor’s testing agency:

a. Meeting requirements of ASTM E329.

b. Provide evidence of recent inspection by CCRL of NBS, and correction of deficiencies noted.

1.04 DEFINITIONS

A. Testing/Inspection Provider: A professional testing/inspection firm or service hired by the County to perform testing, inspection or analysis services as directed, and as provided in the Contract Documents.

1.05 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data, including, but not limited to:

a. Concrete materials and concrete mix designs proposed for use.

1) Include results of all testing performed to qualify materials and to establish mix designs.

2) Place no concrete until approval of mix designs has been received in writing.

3) Submittal for each concrete mix design to include:

(a) Sieve analysis and source of fine and coarse aggregates.
(b) Test for aggregate organic impurities.
(c) Proportioning of all materials.
(d) Type of cement with mill certificate for the cement.
(e) Brand, quantity and class of fly ash proposed for use along with other submittal data as required for fly ash by Detailed Provisions Section 03 3100 – Cast-In-Place Structural Concrete.
(f) Slump.
(g) Brand, type and quantity of air entrainment and any other proposed admixtures.
(h) Shrinkage test results in accordance with ASTM C157.
(i) Total chloride ion content per cubic yard of concrete determined in accordance with AASHTO T260.
(j) 28-day compression test results and any other data required by Detailed Provisions Section 03 3100 – Cast-In-Place Structural Concrete to establish concrete mix design.

C. Quality Assurance Submittals: Testing agency qualifications.

PART 2 PRODUCTS – (NOT APPLICABLE TO THIS SECTION)

PART 3 EXECUTION

3.01 TESTING SERVICES TO BE PERFORMED BY COUNTY

A. When determined by the County as necessary, the following concrete testing will be performed by the County's Testing/Inspection Provider:

1. Concrete strength testing:

a. Secure concrete samples in accordance with ASTM C172.

1) Obtain each sample from a different batch of concrete on a random basis, avoiding selection of test batch other than by a number selected at random before commencement of concrete placement.

b. For each strength test, mold and cure five (5) cylinders from each sample in accordance with ASTM C31. Samples shall be formed in 6" x 12" long non-absorbent cylindrical molds.

1) Record any deviations from requirements on test report.

2) Cylinder size: Per ASTM C31.

c. Field cure one cylinder for the seven (7) day test.

1) Laboratory cure the remaining cylinders.

d. Test cylinders in accordance with ASTM C39.

1) Test one (1) cylinder at seven (7) days.

2) Test one (1) cylinder at fourteen (14) days.

3) Test two (2) cylinders at twenty-eight (28) days.

4) Hold remaining cylinder in reserve.

e. Strength test result:

1) Average of strengths of two (2) cylinders from the same sample tested at twenty-eight (28) days.

2) If one (1) cylinder in a test manifests evidence of improper sampling, molding, handling, curing, or testing, discard and test reserve cylinder; average strength of remaining cylinders shall be considered strength test result.

3) Should all cylinders in a test show any of above defects, discard entire test.

f. Frequency of tests:

1) Concrete sand cement grout: One (1) strength test for each four (4) hour period of grout placement or fraction thereof.

2) Precast concrete, concrete topping, concrete fill and lean concrete: One (1) strength test for each ten cubic yards (10 CY) or fraction thereof placed in any one (1) day.

3) All other concrete:

(a) One (1) strength test consisting to be taken not less than once a day, nor less than once for each sixty cubic yards (60 CY) or fraction thereof placed in any one (1) day.

(b) If total volume of concrete on the Project is such that frequency of testing required in above paragraph will provide less than five (5) strength tests for each concrete mix, tests shall then be made from at least five (5) randomly selected batches or from each batch if fewer than five (5) batches are provided.

2. Slump testing:

   a. Determine slump of concrete sample for each strength test.

      1) Determine slump in accordance with ASTM C143.

   b. If consistency of concrete appears to vary, the County shall be authorized to require a slump test for each concrete truck.

      1) This practice shall continue until the County deems it no longer necessary.

3. Air content testing: Determine air content of concrete sample for each strength test in accordance with either ASTM C231 or ASTM C173.

4. Fly ash testing in compliance with ASTM C311 with a minimum of one (1) sample weighing four pounds (4 lbs.) taken from each two hundred (200)tons of fly ash supplied for the Project.

5. Temperature testing: One (1) test hourly when air temperature is 40 Deg F and below and when 80 Deg F and above and one (1) test for each composite sample per ASTM C1064.

6. In-place concrete testing (if required).

3.02 SAMPLING ASSISTANCE AND NOTIFICATION FOR COUNTY

A. To facilitate testing and inspection, perform the following:

   1. Furnish any necessary labor to assist Testing/Inspection Provider in obtaining and handling samples on-site.

   2. Provide and maintain for sole use of Testing/Inspection Provider adequate facilities for safe storage and proper curing of test specimens on-site for first 24 hours as required by ASTM C31.

B. Notify County sufficiently in advance of operations (minimum of 48 hours) to allow completion of quality tests for assignment of personnel and for scheduled completion of quality tests.

3.03 ACCEPTANCE

A. Completed concrete work which meets applicable requirements will be accepted without qualification.

B. Completed concrete work which fails to meet one or more requirements, but which has been repaired to bring it into compliance will be accepted without qualification.

C. Completed concrete work which fails to meet one or more requirements and which cannot be brought into compliance may be accepted or rejected as provided in these Contract Documents.

1. In this event, modifications may be required to assure that concrete work complies with requirements.

2. Modifications, as directed by County, to be made at no additional cost to County.

D. Dimensional Tolerances:

1. Formed surfaces resulting in concrete outlines smaller than permitted by tolerances shall be considered potentially deficient in strength and subject to modifications required by the County.

2. Formed surfaces resulting in concrete outlines larger than permitted by tolerances may be rejected and excess material subject to removal.

   a. If removal of excess material is permitted, accomplish in such a manner as to maintain strength of section and to meet all other applicable requirements of function and appearance.

3. Concrete members cast in the wrong location may be rejected if strength, appearance or function of structure is adversely affected or misplaced items interfere with other construction.

4. Inaccurately formed concrete surfaces exceeding limits of tolerances and which are exposed to view, may be rejected.

   a. Repair or remove and replace if required.

5. Finished slabs exceeding tolerances may be required to be repaired provided that strength or appearance is not adversely affected.

   a. High spots may be removed with a grinder, low spots filled with a patching compound, or other remedial measures performed as permitted or required.

E. Appearance:

1. Concrete surfaces exposed to view with defects which, in opinion of County, adversely affect appearance as required by specified finish shall be repaired by approved methods.

2. Concrete not exposed to view is not subject to rejection for defective appearance unless, in the opinion of the County, the defects impair the strength or function of the member.

F. High Water-Cement Ratio:

1. Concrete with water in excess of the specified maximum water-cement ratio will be considered potentially deficient in durability.

2. Remove and replace concrete with high water-cement ratio or make other corrections as directed by County.

G. Strength of Structure:

1. Strength of structure in place will be considered potentially deficient if it fails to comply with any requirements which control strength of structure, including but not limited to the following:

    a. Low concrete strength:

        1) Test results for standard molded and cured test cylinders to be evaluated separately for each mix design.

            (a) Such evaluation shall be valid only if tests have been conducted in accordance with specified quality standards.

            (b) For evaluation of potential strength and uniformity, each mix design shall be represented by at least three (3) strength tests.

            (c) A strength test shall be the average of two (2) cylinders from the same sample tested at twenty-eight (28) days.

        2) Acceptance:

            (a) Strength level of each specified compressive strength shall be considered satisfactory if both of the following requirements are met:

                i. Average of all sets of three (3) consecutive strength tests equal or exceed the required specified twenty-eight (28) day compressive strength.

                ii. If an individual strength tests falls below sixty percent (60%) or the required minimum twenty-eight (28) day strength, the concrete shall be immediately rejected and shall be removed and replaced at no additional cost to the County.

    b. Reinforcing steel size, configuration, quantity, strength, position, or arrangement at variance with requirements in Detailed Provisions Section 03 2100 – Concrete Reinforcement or requirements of the Project Drawings or approved Shop Drawings.

    c. Concrete which differs from required dimensions or location in such a manner as to reduce strength.

    d. Curing time and procedure not meeting requirements of this Detailed Provisions Section.

    e. Inadequate protection of concrete from extremes of temperature during early stages of hardening and strength development.

    f. Mechanical injury, construction fires, accidents or premature removal of formwork likely to result in deficient strength.

    g. Concrete defects such as voids, honeycomb, cold joints, spalling, cracking, etc., likely to result in deficient strength or durability.

2. Structural analysis and/or additional testing may be required when strength of structure is considered potentially deficient.

3. In-place testing of concrete may be required when strength of concrete in place is considered potentially deficient.

a. Testing by impact hammer, sonoscope, or other nondestructive device may be permitted by the County to determine relative strengths at various locations in structure or for selecting areas to be cored.

1) Such tests shall not be used as a basis for acceptance or rejection.

b. Core tests:

1) Where required, test cores will be obtained in accordance with ASTM C42.

(a) If concrete in structure will be dry under service conditions, air dry cores (temperature 60 to 80 Deg F, relative humidity less than sixty percent (60%)) for seven (7) days before test then test dry.
(b) If concrete in structure will be wet or subjected to high moisture atmosphere under service conditions, test cores after immersion in water for at least forty (40) hours and test wet.
(c) Testing wet or dry to be determined by County.

2) Three (3) representative cores may be taken from each member or area of concrete in place that is considered potentially deficient.

(a) Location of cores shall be determined by the County so as least to impair strength of structure.
(b) If, before testing, one (1) or more of cores shows evidence of having been damaged subsequent to or during removal from structure, damaged core shall be replaced.

3) Concrete in area represented by a core test will be considered adequate if average strength of three (3) cores is equal to at least eighty-five percent (85%) of specified strength and no single core is less than seventy-five percent (75%) of specified strength.

4) Fill core holes with nonshrink grout and finish to match surrounding surface when exposed in a finished area.

4. If core tests are inconclusive or impractical to obtain or if structural analysis does not confirm safety of structure, load tests may be required and their results evaluated in accordance with ACI 318, Chapter 20.

5. Correct or replace concrete work judged inadequate by structural analysis or by results of core tests or load tests with additional construction, as directed by County, at Contractor's expense.

6. Contractor to pay all costs incurred in providing additional testing and/or structural analysis required.

7. Should test samples fail strength testing, the County may require changes in proportions or materials, or both, to apply to the remainder of the Work. Furthermore, the County may require additional curing on those portions of the structure represented by the test samples which fall below the specified values. The cost of such additional curing shall be at no additional cost to the County. In the event that such additional curing does not give the strength required, as evidenced by core and/or load tests, the County may require strengthening or replacement of those portions of the structure which fail to develop the required strength. Coring

and testing and/or load tests and any strengthening or concrete replacement required because of strengths or test samples are below specified values, shall be at no additional cost to the County. In such cases of failure to meet strength requirements the Contractor and County shall confer to determine what adjustment, if any, can be made in compliance with Sections titled "Strength" and "Failure to Meet Strength Requirements" of ASTM C94. The "purchaser" referred to in ASTM C94 is the Contractor.

END OF SECTION 03 0505

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 1113: FORMWORK – STRUCTURAL CAST-IN-PLACE CONCRETE

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SECTION 03 1113
FORMWORK – STRUCTURAL CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Formwork requirements for concrete construction.

1. This work includes but is not limited to:

a. Structural foundations/footings.

b. Structural slabs, girders, beams, and columns.

c. Structural walls, stem walls, and curbs.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 2100 – Concrete Reinforcement
2. Section 03 0505 – Concrete Testing
3. Section 03 3100 – Cast-In-Place Structural Concrete
4. Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing
5. Section 03 3132 – Concrete Finishing and Repair of Surface Defects

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):

a. ACI 116R –Cement and Concrete Terminology.

b. ACI 301 – Specifications for Structural Concrete.

c. ACI 347 – Guide to Formwork for Concrete.

2. California Building Code (CBC):

a. 2016 CBC, referred to herein as Building Code.

3. APA – Engineered Wood Association (APA)

B. Qualifications:

1. Formwork, shoring and reshoring to be designed by a Professional Structural Engineer currently registered in California and having a minimum of three (3) years experience in this type of design work.

a. Above qualification applies to slabs and beams not cast on the ground, wall and column pours over 15 feet high.

C. Miscellaneous:

1. Design and engineering of formwork, shoring and reshoring as well as its construction is the responsibility of the Contractor.
2. Design requirements:
    a. Design formwork for loads, lateral pressures and allowable stresses outlined in ACI 347 and for design considerations, wind loads, allowable stresses and other applicable requirements of the CBC.
        1) Where conflicts occur between the above two (2) standards, the more stringent requirements shall govern.
    b. Design formwork to limit maximum deflection of form facing materials reflected in concrete surfaces exposed to view to 1/240 of span between structural members.
    c. Conform to all requirements of CBC 2016.

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:
1. Product technical data, including, but not limited to:
    a. Acknowledgement that products submitted meet requirements of standards referenced.
    b. Manufacturer's installation instructions.
    c. Manufacturer and type of proposed form materials.
    d. Manufacturer and type of proposed form ties.
    e. Manufacturer and type of proposed form coating and release agent materials.
    f. Manufacturer and type of void forms including compressive strength.
2. Samples:
    a. A 12-inch square of each form finish.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Void Forms:
1. SureVoid Products, Inc.; www.surevoid.com
2. Deslauriers, Inc.; www.deslinc.com
3. Or approved equal.

B. Stay-In-Place Forms:

1. AMICO a part of Gibraltar Industries Company; www.amicoglobal.com/
2. Nuform Building Technologies Inc.; www.nuformdirect.com
3. Or approved equal.

C. Tubular Fiber Forms:

1. Sonoco Products Company, plastic lined; www.sonotube.com
2. Or approved equal.

2.02 MATERIALS

A. Forms for Surfaces Exposed to View:

1. Wood forms:
   a. New $^{5}/_{8}$ or $^{3}/_{4}$-inch 5-ply structural APA plywood of concrete form grade.
   b. Built-in-place or prefabricated type panel.
   c. 4 x 8-foot sheets for built-in-place type except where smaller pieces will cover entire area.
   d. When approved by County, plywood may be reused.
2. Metal forms:
   a. Metal forms excluding aluminum may be used.
   b. Forms to be tight to prevent leakage, free of rust and straight without dents to provide members of uniform thickness.

B. Forms for Surfaces Not Exposed to View:

1. Wood or metal sufficiently tight to prevent leakage.
2. Do not use aluminum forms.

C. Tubular Fiber Forms:

1. Tubular column forms spirally constructed of laminated piles of fiber. Piles shall be laminated using a non-water sensitive adhesive and surface wax impregnated for moisture protection. Forms shall give a smooth and seamless appearance to the cast concrete. Provide reveals, as shown on the Project Drawings, as supplied by the form manufacturer.

2.03 ACCESSORIES

A. Form Ties:

1. Commercially fabricated for use in form construction.
   a. Do not use wire ties.
2. Constructed so that ends or end fasteners can be removed without causing spalling at surfaces of the concrete.

3. ¾-inch minimum to 1-inch maximum diameter cones on both ends.
4. Embedded portion of ties to be not less than 1½-inch from face of concrete after ends have been removed.
5. Provide ties with built-in waterstops in all walls that will be in contact with liquid.
6. Through-wall ties that are designed to be entirely removed are not allowed in all walls that will be in contact with liquid.

B. Form Coating:

1. Non-grain and non-staining types of form coating that will not leave residual matter on the face of the concrete or adversely affect proper bonding of any subsequent paint or other surface applications.
    a. Form coating containing mineral oils or other non-drying materials will not be permitted for any concrete work.
    b. For project pursuing sustainable design, provide a concrete form release agent with a volatile organic compound (VOC) content less than one hundred (100) grams per liter.

PART 3 EXECUTION

3.01 PREPARATION

A. Form Surface Treatment:

1. Before placing of either reinforcing steel or concrete, cover surfaces of forms with an approved coating material that will effectively prevent absorption of moisture and prevent bond with concrete, will not stain concrete or prevent bonding of future finishes.
    a. A field applied form release agent or sealer of approved type or a factory applied non-absorptive liner may be used.
2. Do not allow excess form coating material to stand in puddles in forms nor in contact with hardened concrete against which fresh concrete is to be placed.

B. Provide temporary openings at base of column and wall forms and at other points where necessary to facilitate cleaning and observation immediately before concrete is placed, and to limit height of free fall of concrete to prevent aggregate segregation.

1. Temporary openings to limit height of free fall of concrete shall be spaced no more than eight (8) feet apart.

C. Clean surfaces of forms, reinforcing steel and other embedded materials of any accumulated mortar or grout from previous concreting and of all other foreign material before concrete is placed.

3.02 ERECTION

A. Install products in accordance with manufacturer's instructions. Construct substantial forms to the shapes, lines, grades and elevations necessary to complete Work.

B. Tolerances:

1. Variation in thickness of slabs: Maximum of -¼-inch, +½-inch.

2. Footings and foundations:

a. Variations in concrete dimensions in plan: -½-inch, +2-inch.

b. Misplacement or eccentricity:

1) Two2 percent (2%) of footing width in direction of misplacement but not more than 2- inches.

c. Thickness:

1) Decrease in specified thickness: five 5 percent (5%).

2) Increase in specified thickness: No limit except that which may interfere with other construction.

3. Establish and maintain in an undisturbed condition and until Final Completion and Acceptance of the Project, sufficient control points and benchmarks to be used for reference purposes to check tolerances.

4. Regardless of tolerances listed allow no portion of structure to extend beyond legal boundary of the Project.

5. To maintain specified tolerances, camber formwork to compensate for anticipated deflections in formwork prior to hardening of concrete.

C. Plywood joints shall be square and tight; plywood shall be arranged in such manner as to minimize number of joints and to provide a smooth, attractive finished concrete surface.

D. Make forms sufficiently tight to prevent loss of mortar from concrete. Forms shall be tied, clamped and braced to prevent spreading, shifting or settling.

E. At construction joints, overlap contact surface of form sheathing for flush surfaces exposed to view over hardened concrete in previous placement by at least 1-inch.

1. Hold forms against hardened concrete to prevent offsets or loss of mortar at construction joint and to maintain a true surface.

F. Anchor formwork to shores or other supporting surfaces or members so that movement of any part of formwork system is prevented during concrete placement.

G. Provide positive means of adjustment (wedges or jacks) of shores and struts and take up all settlement during concrete placing operation.

1. Securely brace forms against lateral deflection.

2. Fasten wedges used for final adjustment of forms prior to concrete placement in position after final check.

3.03 REMOVAL OF FORMS

A. Do not remove forms before the concrete has attained a strength of at least seventy percent (70%) of its specified design strength for beams and slabs and at least thirty percent (30%) of its specified design strength for walls and vertical surfaces, nor before reaching the following number of day-degrees of curing (whichever is the longer):

B. When required for concrete curing in hot weather, required for repair of surface defects or when finishing is required at an early age, remove forms as soon as concrete has hardened sufficiently to resist damage from removal operations or lack of support.

C. In cold weather, when temperature of concrete exceeds ambient air temperature by 20 Deg F. at the end of the protection period, loosen forms and leave in place for at least 24-hours to allow concrete to cool gradually to ambient air temperature.

D. Remove top forms on sloping surfaces of concrete as soon as concrete has attained sufficient stiffness to prevent sagging.

   1. Perform any needed repairs or treatment required on such sloping surfaces at once, followed by curing specified in Section 03 3131- Concrete Mixing, Placing, Jointing and Curing.

END OF SECTION 03 1113

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 2100: CONCRETE REINFORCEMENT
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SECTION 03 2000
CONCRETE REINFORCEMENT

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Reinforcing bar requirements for concrete construction. Furnish and install reinforcing for all concrete, including dowels, bars, chairs, spacers, stirrups, ties, bolsters, etc., necessary for supporting and fastening reinforcement in place as shown on the Project Drawings and specified herein.

1. This Work includes but is not limited to:

a. Structural foundations/footings/slabs.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 0505 – Concrete Testing
2. Section 03 1113 – Formwork – Structural Cast-In-Place Concrete
3. Section 03 3100 – Cast-In-Place Structural Concrete
4. Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):

a. ACI 66 – ACI Detailing Manual.

b. ACI 301 – Specifications for Structural Concrete for Buildings

c. ACI 315 – Details and Detailing of Concrete Reinforcing

d. ACI 318 - Building Code Requirements for Structural Concrete.

2. American Society for Testing and Materials (ASTM):

e. ASTM A615 – Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.

f. ASTM A706 – Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.

g. ASTM A775 – Standard Specification for Epoxy-Coated Steel Reinforcing Bars.

h. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

3. American Welding Society (AWS);

a. AWS D1.4 – Structural Welding Code – Reinforcing Steel.

4. California Building Code (CBC)
5. Concrete Reinforcing Steel Institute (CRSI):
    a. Manual of Standard Practice.
6. Federal Specifications (FS)

B. Qualifications:

1. Welding operators, processes and procedures to be qualified in accordance with AWS D1.4.
    a. Welders whose work fails to pass inspection shall be re-qualified before performing welding.
2. Welding operators to have been qualified during the previous twelve (12) months prior to commencement of welding.

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data, including, but not limited to:
    a. Acknowledgement that products submitted meet requirements of standards referenced.
    b. Manufacturer's installation instructions.
    c. Mill certificates for all reinforcing indicating chemical and physical analysis. Tensile and bend tests shall be performed by the mill in accordance with ASTM A615.
    d. Manufacturer and type of proprietary rebar mechanical splices.
    e. Manufacturer and type of rebar adhesive anchor including installation instructions.
2. Qualifications of welding operators, welding processes and procedures.
3. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement. Drawings shall be prepared in accordance with ACI 315.
    a. Shop Drawings shall not be prepared by reproducing the plans and details indicated on the Project Drawings, but shall consist of completely redrawn plans and details as necessary to indicate complete fabrication and installation of all reinforcing steel.
    b. Sufficient rebar details to permit installation of reinforcing. Areas of high congestion, including member joints and embedded locations shall be fully

detailed to verify clearances and assembly parameters and coordination with other trades.

c. Rebar details in accordance with ACI SP 66.

d. No reinforcing steel shall be fabricated without approved Shop Drawings.

e. Locations where proprietary rebar mechanical splices are required or proposed for use.

f. Shop Drawings shall be in sufficient detail to permit installation of reinforcing without reference to Project Drawings.

1.04 DELIVERY, STORAGE AND HANDLING

A. Support and store all reinforcing above ground.

B. Ship to jobsite in bundles with attached plastic or metal tags with permanent mark numbers which match the Shop Drawing mark numbers and indicate bar size/length.

C. Deliver and store welding electrodes in accordance with AWS D1.4.

D. Handling of Epoxy-Coated Rebar:

1. Use padded or nonmetallic slings and padded straps to protect coated reinforcement from damage.
2. Handle bundled bars to prevent sagging that could damage the coating.
3. Do not drop or drag rebar.
4. Store on wooden cribbing.
5. Coated rebar subject to rejection by County if rebar coating has been damaged.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Reinforcing steel bar and welded wire fabric:

1. Manufacturer regularly engaged in the production of steel bar and welded wire fabric reinforcement.

B. Rebar adhesive anchors:

1. HIT-HY 200 System by Hilti Fastening Systems, Inc.; www.us.hilti.com
2. HIT-RE 500 V3 System by Hilti Fastening Systems, Inc.; www.us.hilti.com
3. SET-XP Adhesive Anchor System by Simpson Strong-Tie Company, Inc.; www.strongtie.com
4. Or approved equal.

C. Rebar mechanical splices:

1. Lenton Rebar Splicing by ERICO, Inc.; www.erico.com/lenton.asp

2. Bar-Grip Systems by Barsplice Products, Inc.; www.barsplice.com
3. Or approved equal.

2.02 MATERIALS

A. Reinforcing Bars: ASTM A615, Grade 60, deformed.

B. Reinforcing Bars to be Welded:

1. ASTM A706, Grade 60.
2. ASTM A615, with supplemental reports as required.

C. Welded Wire Reinforcement: ASTM A1064.

D. Smooth Dowel Bars: ASTM A615, grade 60 with metal end cap to allow longitudinal movement equal to joint width plus 1-inch.

E. Stirrups and Ties: ASTM A615, Grade 60.

F. Epoxy-Coated Rebar: ASTM A775 and ASTM A615, grade 60, meeting Annex A1 for epoxy coating.

G. Epoxy-Coated Rebar Patching Material:

1. Compatible with the coating material.
2. Inert in concrete.
3. Meet requirements of Annex A1 or ASTM A775.
4. Obtained from the manufacturer of the epoxy resin that was used to originally coat the rebar.

H. Proprietary Rebar Mechanical Splices: To develop in tension and compression a minimum of one hundred and twenty-five percent (125%) of the yield strength of the rebar being spliced. Must be approved by the County and be in compliance with latest ICC-ES evaluation reports and ACI 318.

I. Welding Electrodes: Low hydrogen, E70 or E90 meeting requirements of AWS D1.4.

J. Rebar Adhesive Anchors:

1. Manufactured for the specific purpose of embedding and developing the yield strength of rebar in hardened concrete.

2.03 ACCESSORIES

A. Metal Chairs, Runners, Bolsters, Spacers, Hangers, and Other Rebar Supports:

1. Unless noted otherwise, CRSI Class 2 wire supports.
2. Plastic-coated tips in contact with forms.
3. Plastic coating meeting requirements of CRSI Manual of Standard Practice.

B. Tie Wires: FS-QQ-W-461, annealed steel, black, 16 gauge minimum.

C. Protective plastic caps at mechanical splices.

2.04 FABRICATION AND SOURCE QUALITY CONTROL

A. Shop fabricate reinforcement to meet requirements of Project Drawings. Fabricate reinforcement in accordance with the requirements of ACI 315 where specific details are not shown or where Project Drawings and Detailed Provisions are not more demanding.

B. Tolerances:

1. Sheared lengths: +1-inch.
2. Overall dimensions of stirrups, ties, and spirals: +½-inch.
3. All other bends: +0-inch, -½-inch.

C. Minimum diameter of bends measured on the inside of the rebar to be as indicated in ACI 318, Paragraph 7.2.

D. Steel reinforcement shall not be bent or straightened in a manner that will degrade the material. Bars with kinks or bends not shown on the Shop Drawings shall not be used. Heating of bars for bending will not be permitted.

E. Ship rebar to jobsite with attached plastic or metal tags.

1. Place on each tag the mark number of the rebar corresponding to the mark number indicated on the Shop Drawings.
2. Mark numbers on tags to be so placed that the numbers cannot be removed.
3. Mark bar size and length on tags.
4. For epoxy-coated rebar, use only plastic tags secured to rebar by nylon or plastic ties.

F. Make completed reinforcement available for inspection at manufacturer's shop prior to packaging for shipment. Notify County at least seven (7) Calendar Days before inspection is allowed.

G. Fabricator shall perform one tensile and one bend test for each 2½ tons of steel or fraction thereof in accordance with ASTM A615. Contractor shall be responsible for costs associated with fabricator testing.

H. When fabricator is approved by authority having jurisdiction, submit Certificate of Compliance indicating Work performed at manufacturer's facility conforms to the Contract Documents.

2.05 REINFORCED CONCRETE SWALE

A. Reinforced Concrete Swale's reinforcing steel shall be ASTM A615, Grade 60.

B. Rebar size shall be #4 placed 12" on center.

2.06 SHOTCRETE DRAINAGE CHANNELS

A. Reinforced Concrete Swale's reinforcing steel shall be ASTM A615, Grade 60.

B. 6x6, 6/6 (W2.9/W2.9) and (W1.4/W1/.4) Carbon-Steel welded wire reinforcement shall be used for reinforcing shotcrete drainage structures.

PART 3 EXECUTION

3.01 INSTALLATION

A. All reinforcement shall be accurately set in place, lapped, spliced, spaced, rigidly and securely held in place and tied with specified wire at all splices and crossing points. All wire tie ends shall point away from the form. Carefully locate all dowel steel to align with wall and column steel.

B. Tolerances:

1. Rebar placement:
    a. Clear distance to formed surfaces: + ¼-inch.
    b. Minimum spacing between bars: - ¼-inch.
    c. Top bars in slabs and beams:
        1) Members 8-inch deep or less: +¼-inch.
        2) Members between 8-inch and 2-feet deep: -¼-inch, +½-inch.
        3) Members more than 2-feet deep: -¼-inch, +1-inch.
    d. Crosswise of members: Spaced evenly within +1-inch.
    e. Lengthwise of members: +2-inch.
2. Minimum clear distances between rebar:
    a. Slabs: Distance equal to rebar diameter or 1-inch, whichever is greater.
    b. Slab rebar shall be threaded through the column vertical rebar without displacing the column vertical rebar and still maintaining the clear distances required for the beam and slab rebar.

C. Minimum concrete protective covering for reinforcement, unless otherwise shown on the Project Drawings:

1. Concrete against and permanently exposed to earth: 3-inch.
2. Concrete exposed to earth or weather:
    a. No. 6 bars and larger: 2-inch.
    b. No. 5, W31 or D31 wire, and smaller: 1½-inch.
3. Concrete not exposed to weather or in contact with earth:
    a. Slabs, walls and joists (No. 11 rebar and smaller): ¾–inch.
    b. Slabs, walls and joists (No. 11 rebar and larger): 1½-inch.
    c. Beams and columns: 1½-inch.

4. Slabs-on-grade:
    a. Top reinforcement: 2-inches.
    b. Bottom reinforcement: 3-inches.

D. Unless indicated otherwise, provide splice lengths for reinforcing as follows:
    1. For rebar: Class B splice meeting the requirements of Paragraph 12.15 of ACI 318.
    2. For welded wire reinforcement:
        a. Splice lap length measured between outermost cross wires of each fabric sheet shall not be less than one (1) spacing of cross wires plus 2-inches, nor less than 1.5 x development length nor less than 6-inches.
        b. Development length shall be as required for the yield strength of the welded wire reinforcement in accordance with Paragraph 12.8 of ACI 318.
    3. Provide splices of reinforcing not specifically indicated or specified subject to approval by the County.
        a. Mechanical proprietary splice connectors may only be used when approved by the County and shall be in compliance with current ICC-ES evaluation reports.

E. Welding:
    1. Welding is not permitted unless specifically detailed on Drawings or approved by the County prior to welding reinforcement.
    2. Perform welding of rebar in accordance with requirements of AWS D1.4.
    3. Welding shall not be done within two bar diameters of any bent portion of a bar which has been bent cold.
    4. Welding of crossing bars is not permitted.
    5. Have each welder place an approved identifying mark near each completed weld.

F. Placing Rebar:
    1. Assure that reinforcement at time concrete is placed is free of mud, oil or other materials that may affect or reduce bond.
    2. Reinforcement with rust, mill scale or a combination of both will be accepted as being satisfactory without cleaning or brushing provided dimensions and weights including heights of deformations on a cleaned sample is not less than required by applicable ASTM Specification that governs for the rebar supplied.
    3. Rebar support:
        a. Uncoated rebar:
            1) Support rebar and fasten together to prevent displacement by construction loads or placing of concrete.
                (a) Locate and support reinforcement with bar supports to maintain minimum concrete cover.
                (b) Set wire ties with ends directed into concrete, not toward exposed

concrete surfaces.

2) On ground, provide supporting concrete blocks or metal bar supports with bottom plate.

(a) Do not use concrete blocks to support slab-on-grade reinforcing.

3) Over formwork, provide plastic-coated metal chairs, runners, bolsters, spacers, hangers and other rebar support.

(a) Only tips in contact with the forms need to be plastic coated.

b. Coated rebar:

1) Support coated rebar and fasten together to prevent displacement.

2) Use plastic or nylon ties to hold rebar rigidly in place.

3) Support rebar by use of plastic or plastic-coated chairs, runners, bolsters, spacers, hangers and rebar supports as required.

4. Extend reinforcement to within 2-inches of concrete perimeter edges.

a. If perimeter edge is formed by earth or stay-in-place forms, extend reinforcement to within 3-inches of the edge.

5. To assure proper placement, furnish templates for all column vertical bars and dowels.

6. Do not bend reinforcement after embedding in hardened concrete unless approved by County.

a. Do not bend reinforcing by means of heat.

7. Do not tack weld reinforcement.

8. Embed rebar into hardened concrete utilizing adhesive anchor system specifically manufactured for such installation:

a. Drill hole in concrete with diameter and depth as indicated on Shop and/or Project Drawings and per manufacturer's instructions.

b. Clean holes per manufacturer's recommendations.

c. Place adhesive in drilled hole.

d. Insert rebar into hole and adhesive in accordance with manufacturer's instructions.

G. Placing Welded Wire Mesh:

1. See Detailed Provision – 03 3713 Shotecrete for welded wire mesh installation.

3.02 FIELD QUALITY CONTROL

A. County and/or Testing/Inspection Provider retained by the County shall perform field inspection in accordance with CBC requirements. When required, County shall procure services of a Special Inspector to inspect reinforcing placement per CBC Section 1704.

B. All reinforcing steel whose properties are not identifiable by mill test reports shall be tested in accordance with ASTM A615. One series of tests for each missing report, costs to be borne by the Contractor.

C. Reinforcement Congestion and Interferences:

1. Notify County whenever the specified clearances between rebar cannot be met.
2. Do not place any concrete until the County approves a solution to rebar congestion problem.
3. Rebar may be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items.
4. If rebar are moved more than one (1) bar diameter, obtain County approval of resulting arrangement of rebar.
5. No cutting of rebar shall be done without written approval from the County.

D. Inspection of Epoxy-Coated Rebar:

1. Coated rebar will be inspected on the jobsite for handling defects, coating abrasion, coating thickness and continuity of coating.
2. County may defer final inspection of rebar coating integrity and repairs until the rebar have been erected and all handling is completed.
3. Repair coated areas as directed by the County.
    a. Do not place concrete until all repairs to coatings have been completed.

E. Patching of Epoxy-Coated Rebar:

1. Patching and repair to be performed in accordance with the instructions of patching material manufacturer.
2. Patching material to provide a minimum film thickness of 5 mils over the bare area.
    a. Thickness of area adjacent to patched area not to exceed 15 mils.
3. Areas to be patched to be clean and free of surface contaminants.
    a. Treat areas in accordance with patching material manufacturer’s instructions before oxidation occurs.
4. Total surface area covered by patching material not to exceed two percent (2%) of total surface area of the rebar.
5. Rebar welds and adjacent bare rebar areas to also be patched after welding is completed.

F. Welding:

1. County’s Testing/Inspection Provider shall:
    a. Review and approve Contractor proposed welding procedures and processes for conformance with AWS D1.4.
    b. Qualify welders in accordance with AWS D1.4.

c. Test three (3) samples of each bar size and each type of weld in accordance with AWS D1.4.

d. The tensile strength of each test shall be not less than one hundred and twenty-five percent (125%) of the required yield strength of the rebar tested.

e. Conduct nondestructive field tests (radiographic or magnetic particle) on not less than one (1) random sample for each ten (10) welds.

f. In addition, if any welds are found defective, test five (5) previous welds performed by same welder.

g. Visually inspect each weld for presence of cracks, undercuts, inadequate size and other visible defects.

2. With the exception of re-tests associated with Contractor's workmanship, costs associated with welding qualification, observation, and testing shall be borne by the County. Contractor shall reimburse the County for all costs associated with re-testing.

END OF SECTION 03 2100

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 3100: CAST-IN-PLACE STRUCTURAL CONCRETE CONTENTS

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SECTION 03 3100
CAST-IN-PLACE STRUCTURAL CONCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Furnish concrete materials in the proportions and strengths necessary to complete the Work specified.
2. This Work includes but is not limited to:
    a. Reinforced Concrete Swale
    b. Wall Footings

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 0505 – Concrete Testing
2. Section 03 2100 – Concrete Reinforcement
3. Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing
4. Section 3 3132 – Concrete Finishing and Repair of Surface Defects

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):
    a. ACI 211.1 – Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
    b. ACI 212.3R – Chemical Admixtures for Concrete.
    c. ACI 232.2R – Use of Fly Ash in Concrete.
    d. ACI 301 – Specification for Structural Concrete.
    e. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.
    f. ACI 305R – Hot Weather Concreting.
    g. ACI 306R – Cold Weather Concreting.
    h. ACI 318 - Building Code Requirements for Structural Concrete.
    i. ACI 350 – Code Requirements for Environmental Engineering Concrete Structures.
    j. ACI CT-XX – Concrete Terminology.
2. American Society for Testing and Materials (ASTM):
    a. ASTM C33 – Standard Specification for Concrete Aggregates.

b. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

c. ASTM C94 – Standard Specification for Ready-Mixed Concrete.

d. ASTM C109 – Standard Test Method for Compressive Strength of Hydraulic Cement Mortars

e. ASTM C150 – Standard Specification for Portland Cement.

f. ASTM C157 – Standard Test Method for Length Change of Hardened Hydraulic-Cement, Mortar, and Concrete.

g. ASTM C192 – Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.

h. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

i. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.

j. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete.

k. ASTM C595 – Standard Specification for Blended Hydraulic Cements.

l. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

m. ASTM C685 – Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.

n. ASTM C827 – Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures.

o. ASTM C939 – Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete.

p. ASTM C1017 – Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.

q. ASTM C1064 – Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.

r. ASTM C1090 – Standard Test Method for Measuring Changes in Height of Cylindrical Specimens of Hydraulic-Cement Grout.

s. ASTM C1107 – Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).

3. National Bureau of Standards (NBS):

   a. NBS Handbook No. 44

4. National Ready Mixed Concrete Association (NRMCA)

   a. Quality Control Manual, Section 3 – Certification of Ready Mixed Concrete Production Facilities.

5. Truck Mixer Manufacturers Bureau (TMMB)
    a. TMMB 100 – Truck Mixer, Agitator and Front Discharge Concrete Carrier Standards.
6. Standard Specifications for Public Works Construction

1.03 DEFINITIONS

A. Words and terms used in these Detailed Provisions are defined in ACI CT-XX.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:
    1. Product technical data, including, but not limited to:
        a. Acknowledgement that products submitted meet requirements of standards referenced.
        b. Manufacturer's instructions.
        c. Concrete mix designs as required by Detailed Provisions Section 03 0505 – Concrete Testing.
        d. Manufacturer and type of proposed admixtures.
        e. Manufacturer and type of proposed non-shrink grout and grout cure/seal compound.

C. Quality Assurance Submittals:
    1. Certifications:
        a. Certification of standard deviation data for each proposed concrete mix based on statistical records. Provide the following for each strength data point used in the calculation of the standard deviation for determination of the minimum required average strength:
            1) Date of sampling and name of testing laboratory.
            2) Name of concrete batch plant.
            3) Water cementitious ratio.
            4) Slump of batch.
            5) Air content of batch.
            6) 28-day compression test results.
            7) If available, temperature and unit weight of batch.

Provide data from projects not more strictly controlled than outlined in these Detailed Provisions. Provide summary sheet showing all pertinent data and the computation of the standard deviation.

b. Certification that the fly ash meets the quality requirements of ASTM C618, and fly ash supplier's certified test reports for each shipment of fly ash delivered to concrete supplier.

c. Certification that the class of coarse aggregate meets the requirements of ASTM C33 for type and location of concrete construction.

d. Certification of aggregate gradation.

2. Test reports:

a. Cement mill reports for all cement to be supplied.

3. Delivery Tickets:

a. Furnish a delivery ticket for ready mixed concrete to the County as each truck arrives. Provide a printed record of the weight of cement and each aggregate as batched individually on each ticket. Use the type of indicator that returns for zero punch or returns to zero after a batch is discharged. Indicate for each batch the weight of fine and coarse aggregate, cement, fly ash, and water, moisture content of fine and coarse aggregate at time of batching, and types, brand and quantity of each admixture, the quantity of concrete delivered, the time any water is added and the amount, and the numerical sequence of the delivery. Show the time of day batched and time of discharge from the truck. Indicate the number of revolutions of transit mix truck.

1.05 DELIVERY, STORAGE AND HANDLING

A. Delivery, Storage, and Handling shall be made in accordance with the following:

1. Store cement and pozzolan in weathertight buildings, bins, or silos which will exclude moisture and contaminants.

2. Arrange aggregate stockpiles and use in a manner to avoid excessive segregation and to prevent contamination with other materials or with other sizes of like aggregates.

3. Allow natural sand to drain until it has reached a relatively uniform moisture content before use.

4. Store admixtures in such a manner as to avoid contamination, evaporation, or damage.

a. For those used in form of suspensions or non-stable solutions, provide agitating equipment to assure thorough distribution of ingredients.

b. Protect liquid admixtures from freezing and temperature changes which would adversely affect their characteristics and performance.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the manufacturers listed in the applicable Sections below are acceptable.

B. Submit request for substitution in accordance with Detailed Provisions Section 01 6000 – Product Requirements.

2.02 MATERIALS

A. General:

1. The County and Testing/Inspection Provider shall have access to and have the right to inspect all batch plants, cement mills and supply facilities providing products under these Detailed Provisions. Batch plants shall have current certificates that all scales have been tested and are certified within the tolerances as set forth in the National Bureau of Standards Handbook No. 44.

B. Portland Cement:

1. ASTM C150, Type II, Low Alkali.

2. Cement type used shall correspond to that upon which selection of concrete proportions was based in the mix design.

C. Fly Ash:

1. ASTM C618, Class F, including the requirements of Section 2.8 but with the Loss of Ignition (LOI) limited to three percent (3%) maximum and the optional physical requirements of Table 3.

2. Non-staining.

3. Suited to provide hardened concrete of uniform light gray color.

4. Maximum loss on ignition: three percent (3%).

5. Compatible with other concrete ingredients and having no deleterious effects on the hardened concrete.

6. Cement and fly ash type used shall correspond to that upon which selection of concrete proportions was based in the mix design.

D. Admixtures:

1. Air entraining: ASTM C260.

2. Water reducing, retarding, and accelerating: Conform to ASTM C494, Types A through E, and provisions of ACI 212.3R. Follow manufacturer's instructions.

3. High range water reducers (superplasticizers): Conform to ASTM C494, Types F or G.

4. Admixtures to be chloride free.

a. Do not use calcium chloride or admixtures containing calcium chloride.

5. Do not use admixtures causing retarded or accelerated setting of concrete without written approval from the County.
6. Provide admixtures of same type, manufacturer and quantity as used in establishing required concrete proportions in the mix design.

E. Water:
1. ASTM C94 and potable.
2. Clean and free from deleterious substances.
3. Free of oils, acids, and organic matter.

F. Aggregates for Normal Weight Concrete:
1. ASTM C33, graded.
2. All concrete aggregates shall be obtained from sources acceptable to the County, shall be non-reactive, sound, uniformly graded and free of deleterious material.
3. Fine and coarse aggregates to be regarded as separate ingredients.
4. Coarse aggregate shall consist of gravel, crushed gravel or crushed stone made up of clean, hard, durable particles free from coatings, organic matter or other foreign substances. Thin or elongated pieces having a length greater than four (4) times the average thickness shall not exceed fifteen percent (15%) by weight.
5. Fine aggregates for concrete or mortar shall consist of clean, natural sand or combination of natural and manufactured sands that are hard and durable. Fine aggregates shall be free of materials with deleterious reactivity to alkali in cement.
6. Coarse aggregate sieve analysis:
   a. For lean concrete, concrete topping, and integral wearing course: ASTM C33, size number 7 (maximum ½-inch).
   b. For foundations: ASTM C33, 1-inch nominal maximum.
   c. For slabs on grade, walls, and all other concrete: ASTM C33, ¾-inch nominal maximum.

G. Maximum total chloride ion content for concrete mix including all ingredients measured as a weight percent of cement:
1. Prestressed concrete: 0.06.
2. All other concrete: 0.10.

H. Sand Cement Grout:
1. Approximately three (3) parts sand, one (1) part Portland cement, 6 +/- 1 percent entrained air and water to produce a slump which allows grout to completely fill required areas and surround adjacent reinforcing.
   a. Provide sand in accordance with requirements for fine aggregate for concrete.
2. Minimum 28-day compressive strength: 3,000 psi.

I. Non-shrink Grout:

1. Non-shrink, non-metallic, non-corrosive, and non-staining conforming to ASTM C1107.
2. Premixed with only water to be added in accordance with manufacturer's instructions at jobsite.
3. Shrinkage: 0% at 28 days when tested in accordance with ASTM C827 and ASTM C1090.
4. Expansion: 0.4% maximum at 28 days when tested in accordance with ASTM C157.
5. Minimum 28-day compressive strength: 5,000 psi when tested in accordance with ASTM C109.
6. Add the minimum amount of water necessary to produce the desired flow not exceeding a flow of twenty (20) seconds per ASTM C939.
7. Acceptable manufacturers:
   a. Euclid Chemical Company "NS Grout"; www.euclidchemical.com
   b. L&M Construction Chemicals a part of LATICRETE International, Inc., "Crystex"; www.lmcc.com
   c. Master Builders Solutions by BASF "MasterFlow, 713"; www.master-builders-solutions.basf.us
   d. Sauereisen Cements "F-100 Level Fill Grout"; www.sauereisen.com
   e. Sika Corporation "Sika Grout 212"; www.usa.sika.com
   f. U.S. Grout, LLC. "Five Star Grout"; www.usgrout.com
   g. Or approved equal.

J. Epoxy Grout:

1. Three-component epoxy resin system:
   a. Two (2) liquid epoxy components.
   b. One (1) inert aggregate filler component.
2. Adhesive acceptable manufacturers:
   a. Euclid Chemical Company "E3-FLOWABLEG"; www.euclidchemical.com
   b. Master Builders Solutions by BASF "MasterFlow 648"; www.master-builders-solutions.basf.us
   c. Sika Corporation "Sikadur-32 Hi-Mod"; www.usa.sika.com
   d. U.S. Grout, LLC. "Five Star Epoxy Grout"; www.usgrout.com
   e. Or approved equal.
3. Aggregate acceptable manufacturers:

a. Euclid Chemical Company “Euclid aggregate”; www.euclidchemical.com

b. Master Builders Solutions by BASF “MasterFlow 648”; www.master-builders-solutions.basf.us

c. Sika Corporation “Sika aggregate”; www.usa.sika.com

d. U.S. Grout, LLC. “U.S. Grout aggregate”; www.usgrout.com

e. Or approved equal.

4. Aggregate manufacturer shall be the same as the adhesive manufacturer.
5. The aggregate shall be compatible with the adhesive.
6. Each component furnished in separate package for mixing at jobsite.

2.03 MIXES

A. General: Mixing of concrete shall be done in accordance with:

1. Provide concrete capable of being placed without aggregate segregation and, when cured, of developing all properties specified.
2. Ready-mixed concrete shall conform to ASTM C94.
3. All concrete to be normal weight concrete, weighing approximately 145 to 150 lbs. per cu. ft. at 28 days after placement.
4. Portland Cement Concrete (PCC) for reinforced concrete structures shall be Class 560-C-3250 in conformance with Section 201-1 of the Standard Specifications for Public Works Construction unless otherwise called out on the project drawings.

B. Minimum 28-Day Compressive Strengths shall be 3,250 psi unless otherwise called out on the project drawings.

C. Air Entrainment:

1. Provide air entrainment in all concrete resulting in a total air content percent by volume as follows:

a. 1½-inch maximum aggregate size: 4½ to 6½ percent total air content.

b. 1-inch maximum aggregate size: 5 to 7 percent total air content.

c. ¾-inch maximum aggregate size: 5 to 7 percent total air content.

d. ½-inch maximum aggregate size: 5½ to 8 percent total air content.

e. Interior slabs and mats with power trowel finish: Maximum 3 percent total air content.

D. Slump:

1. 4-inch maximum, 1-inch minimum measured at point of discharge into the concrete construction member.
2. Concrete of lower than minimum slump may be used provided it can be properly placed and consolidated.

3. Provide additional water or water reducing admixture at ready mix plant for concrete that is to be pumped to allow for slump loss due to pumping.
    a. Provide only enough additional water so that slump of concrete at discharge end of pump hose does not exceed maximum slump specified and the maximum specified water-cement ratio is not exceeded.

E. Proportioning:
1. General:
    a. Proportion ingredients to produce a mixture which will work readily into corners and angles of forms and around reinforcement by methods of placement and consolidation employed without permitting materials to segregate or excessive free water to collect on surface.
    b. Proportion ingredients to produce proper placability, durability, strength, maximum specified allowable shrinkage and other required properties.
2. Minimum Compressive Strength: As indicated on Project Drawings.
3. Maximum Water-Cementitious Materials Ratio: 0.45.
4. Maximum concrete shrinkage shall comply with ASTM C157 for testing indicated.
5. Fly ash:
    a. For cast-in-place concrete only.
    b. If fly ash is used, the water to fly ash plus cement ratio not to exceed the maximum water cement ratio specified in this Detailed Provisions Section.
6. Water reducing, retarding, and accelerating admixtures:
    a. Use in accordance with manufacturer's instructions.
    b. Do not use unless required by these Detailed Provisions or approved for use by the County.
7. High range water reducers (superplasticizers):
    a. Use in accordance with manufacturer's instructions.
    b. Do not use unless required by these Detailed Provisions or approved for use by

2.04 SOURCE QUALITY CONTROL

A. To assure stockpiles are not contaminated or materials are segregated, perform any test for determining conformance to requirements for cleanness and grading on samples secured from aggregates at point of batching.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Perform concrete tests per this Section and Detailed Provisions Section 03 0505 – Concrete Testing.

B. Perform strength test on any concrete to which water has been added at the jobsite.

END OF SECTION 03 3100

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 3131: CONCRETE MIXING, PLACING, JOINTING, AND CURING

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SECTION 03 3131
CONCRETE MIXING, PLACING, JOINTING, AND CURING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Mixing, placing, jointing, and curing of concrete construction.

1. This Work includes but is not limited to:

a. Structural foundations/footings.

b. Equipment crossings.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 0505 – Concrete Testing
2. Section 03 2100 – Concrete Reinforcement
3. Section 03 3100 – Cast-In-Place Structural Concrete
4. Section 03 3132 – Concrete Finishing and Repair of Surface Defects
5. Section 07 9200 – Joint Sealants

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):

a. ACI 301 – Specification for Structural Concrete.

b. ACI 302.1R – Guide for Concrete Floor and Slab Construction.

c. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.

d. ACI 305R – Hot Weather Concreting.

e. ACI 306R – Cold Weather Concreting.

f. ACI 308R – Guide to Curing Concrete.

g. ACI 309R – Guide for Consolidation of Concrete.

h. ACI CT-XX – Concrete Terminology.

2. American Society for Testing and Materials (ASTM):

a. ASTM C94 – Standard Specification for Ready-Mixed Concrete.

b. ASTM C156 – Standard Test Method for Water Loss (from a Mortar Specimen) Through Liquid Membrane-Forming Curing Compounds for Concrete.

c. ASTM C171 – Standard Specification for Sheet Materials for Curing Concrete.

d. ASTM C309 – Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

e. ASTM D994 – Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).

f. ASTM D1056 – Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.

g. ASTM D1751 – Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

3. National Bureau of Standards (NBS):

a. NBS Handbook No. 44

4. Truck Mixer Manufacturers Bureau (TMMB)

b. TMMB 100 – Truck Mixer, Agitator and Front Discharge Concrete Carrier Standards.

5. National Ready Mixed Concrete Association (NRMCA):

a. Checklist for Certification of Ready Mixed Concrete Production Facilities.

6. NSF International (NSF)

B. Qualifications:

1. Ready Mixed Concrete Batch Plant: Certified by NRMCA.

1.03 DEFINITIONS

A. Words and terms used in these Detailed Provisions are defined in ACI CT-XX.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Shop Drawings:

a. Complete drawings with details and dimensions showing proposed location of all construction joints and joint keyways. Drawings shall be scaled, minimum $^1/_8$-inch = 1 foot.

2. Product technical data, including, but not limited to:

a. Acknowledgement that products submitted meet requirements of standards referenced.

b. Manufacturer's installation instructions.

1) Procedure for adding high-range water reducer at the jobsite.

c. Manufacturer and types:

1) Joint fillers.

2) Curing agents.

3) Construction joint bonding adhesive.

3. Cold Weather Plan.
4. Hot Weather Plan.

C. Quality Assurance Submittals:

1. Certifications:

a. Ready mix concrete plant certification.

D. Closeout Submittals: Copies of concrete delivery tickets.

1.05 DELIVERY, STORAGE AND HANDLING

A. Delivery:

1. Concrete:

a. Prepare a delivery ticket for each load ready mixed concrete.

b. Truck operator shall hand ticket to Contractor at the time of delivery.

c. Provide a printed record of the weight of cement and each aggregate as batched individually on each ticket. Use the type of indicator that returns for zero punch or returns to zero after a batch is discharged. Indicate for each batch the weight of fine and coarse aggregate, cement, fly ash, and water, moisture content of fine and coarse aggregate at time of batching, and types, brand and quantity of each admixture, the quantity of concrete delivered, the time any water is added and the amount, and the numerical sequence of the delivery. Show the time of day batched and time of discharge from the truck. Indicate the number of revolutions of transit mix truck.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the manufacturers listed in the applicable Sections below are acceptable. Placement shall be in accordance with manufacturer's written instructions.

B. Submit request for substitution in accordance with Detailed Provisions Section 01 6000 – Product Requirements.

2.02 COMPONENTS

A. Neoprene Expansion Joint Fillers:

1. Acceptable manufacturers:

a. Euclid Chemical Company; www.euclidchemical.com

b. Master Builders Solutions by BASF; www.master-builders-solutions.basf.us

c. Rubatex a part of GCP Industrial Products; www.rubatexusa.com

d. W.R. Meadows, Inc.; www.wrmeadows.com

e. Or approved equal.

2. Materials:

a. Closed cell neoprene.

b. ASTM D1056, Class SC.

c. Compression deflection: As required to limit deflection to fifty percent (50%) of joint thickness under pressure from concrete pour height.

B. Epoxy Joint Fillers:

1. Comply with requirements of ACI 302.1R.

2. Acceptable manufacturers:

a. Euclid Chemical Company; www.euclidchemical.com

b. Master Builders Solutions by BASF; www.master-builders-solutions.basf.us

c. W.R. Meadows, Inc.; www.wrmeadows.com

d. Or approved equal.

C. Polyurea Joint Fillers:

1. Comply with requirements of ACI 302.1R.

2. Acceptable manufacturers:

a. Euclid Chemical Company, Euco QWIKjoint UVR; www.euclidchemical.com

b. Master Builders Solutions by BASF, MasterSeal CR 100; www.master-builders-solutions.basf.us

c. W.R. Meadows, Inc.; www.wrmeadows.com

d. Or approved equal.

D. Sand cement grout, non-shrink grout and epoxy grout: See Detailed Provisions Section 03 3100 – Cast-In-Place Structural Concrete.

E. Curing Materials:

1. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

2. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

3. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet. The loss of moisture, when determined in accordance with the requirements of ASTM C156, shall not exceed 0.055 grams per square centimeter of surface.

4. Polyethylene sheet for use as concrete curing blanket shall be white and shall have a normal thickness of 6 mils.
5. Water: Potable.
6. White Pigmented Curing Compound: ASTM C309, Type 2, Class B, dissipating. Curing compound shall be non-yellowing and have a unit moisture loss no greater than 0.15 kilogram per square meter in 24 hours nor 0.45 kilogram per square meter in 72 hours, as measured by ASTM C156. Curing compound shall comply with Federal, State, and local VOC limits.
    a. Acceptable manufacturers:
        1) Euclid Chemical Company; www.euclidchemical.com
        2) W.R. Meadows, Inc.; www.wrmeadows.com
        3) Or approved equal.

PART 3 EXECUTION

3.01 PREPARATION

A. General:

1. Complete formwork.
    a. See Detailed Provisions Section 03 1113 – Formwork – Structural Cast-In-Place Concrete.
2. Remove earth, water, ice, and other foreign materials form areas that will receive concrete.
3. Secure reinforcement in place.
    a. See Detailed Provisions Section 03 2100 – Concrete Reinforcement.
4. Position expansion joint material, anchors and other embedded items. Pipe, conduit, dowels, sleeves and other ferrous items required to be embedded in concrete construction shall be adequately positioned and supported prior to placement of concrete. There shall be a minimum of 2-inches clearance between embedded items and any of the concrete reinforcement. Securing embeddments in position by wiring or welding them to the reinforcement will not be permitted. Embedded items shall be clean and free of rust, mud, dirt, grease, oil, ice, or other contaminants which would reduce or prevent bonding with concrete. Close open ends of piping, conduits, and sleeves embedded in concrete with caps or plugs prior to placing concrete. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Obtain approval of reinforcement erection and placement prior to placing concrete.
6. Do not place concrete during rain, sleet, or snow, unless adequate protection is provided and County approval is obtained.

a. Plan size of crews with due regard for effects of concrete temperature and atmospheric conditions on rate of hardening of concrete as required to obtain good surfaces and avoid unplanned cold joints.

b. Do not allow rainwater to increase mixing water nor to damage surface finish.

7. Prepare all construction joints for proper bond per Paragraph 3.04.C of this Detailed Provisions Section.

8. Where concrete is to be cast against old existing concrete, the old concrete shall be thoroughly roughened to expose hard aggregate by sandblasting or chipping. Any additional surface preparation shall be as called for in the Drawings.

9. No concrete shall be placed in any structure until all water entering the space to be filled with concrete has been properly cut off or diverted out of the forms and clear of the Work. No concrete shall be deposited under water or allowed to rise on any concrete until the concrete has attained its initial set. Pumping or other necessary dewatering operations for removing groundwater, if required, shall be the responsibility of the Contractor and will be subject to review by the County.

10. Remove hardened concrete and foreign materials form inner surfaces of conveying equipment and formwork.

11. Provide slabs and beams of minimum indicated required depth when sloping structural foundation base slabs and elevated slabs to drains.

a. For floor slabs on grade, slope top of subgrade to provide slab of required uniform thickness.

B. Preparation of Subgrade for Slabs on Ground:

1. Subgrade drained and of adequate and uniform load-bearing nature.

2. Obtain approval of subgrade compaction density prior to placing slabs on ground.

3. Maintain subgrade at a temperature above 32 Deg F before concrete placing begins for a sufficient amount of time to remove frost.

4. Moisten subgrade to eliminate absorption.

a. Keep subgrade moist at time of concreting.

b. Allow no free-standing water on subgrade or soft or muddy spots when concrete is placed.

5. Furnish, place, protect, and repair sheet vapor retarder according to ASTM E1643 and manufacturer's written instructions.

a. Lap joints 6-inches and seal with manufacturer's recommended tape.

C. Edge Forms and Screeds:

1. Set accurately to produce designated elevations and contours of finished surface.

2. Sufficiently strong to support vibrating screeds or roller pipe screeds, if required.

3. Use strike off templates, or approved vibrating type screeds, to align concrete surfaces to contours of screed strips.

D. Concrete Washout Area:

1. The Contractor shall provide a temporary concrete washout area at a location approved by the County within the project limits. The concrete washout area shall be identified as a BMP in the Contractor's SWPPP, see Detailed Provisions Section 01 5600 – Project Environmental Controls.

3.02 CONCRETE MIXING

A. General:

1. Provide all concrete from a central plant conforming to Checklist for Certification of Ready Mixed Concrete Production Facilities of the NRMCA.
2. Comply with ACI 318, ASTM C94, and TMMB 100 for all central plant and rolling stock equipment and methods.
3. Measure, batch, mix, and transport in accordance with ASTM C94 and furnish batch ticket information.
    a. When air temperature is between 85 and 90 Deg F, reduce mixing and delivery time from 1½ hours to seventy-five (75) minutes; when air temperature is above 90 Deg F, reduce mixing and delivery time to sixty (60) minutes.
4. Mixing equipment shall be subject to the County's approval. Mixers shall be of the stationary plant or truck mixer type. Adequate equipment and facilities shall be provided for accurate measurement and control of all materials and for readily changing the proportions of the material. The mixing equipment shall be maintained in good working order and shall be capable of combining the aggregates, cement and water within the specified time into a thoroughly mixed and uniform mass and of discharging the mixture without segregation. Cement and aggregate shall be proportioned by weight.
5. Select equipment of size and design to provide continuous flow of concrete at the delivery end. Use metal of metal-lined non-aluminum discharge chutes with slopes not exceeding one (1) vertical to two (2) horizontal and not less than one (1) vertical to three (3) horizontal. Chutes more than 20-foot long and chutes not meeting slope requirements may be used if concrete is discharged into a hopper before distribution.
6. The batch plant shall be capable of controlling and delivering of all material to within one percent (1%) by weight of the individual material. If bulk cement is used, it shall be weighed on a separate visible scale which will accurately register the scale load at any stage of the weighing operation from zero to full capacity.
7. Cement shall not come in contact with aggregate or with water until the materials are in the mixer ready for complete mixing with all mixing water. The procedure of mixing cement with sand or with sand and coarse aggregate for delivery to the jobsite for final mixing and an addition of mixing water will not be permitted. Re-tempering of concrete will not be permitted. The entire batch shall be discharged before recharging. The volume of the mixed material per batch shall not exceed the manufacturers rated capacity of the mixer.

8. Each mixer shall be equipped with a device for accurately measuring and indicating the quantity of water entering the concrete, and the operating mechanism shall be such that leakage will not occur when the valves are closed. Each mixer shall be equipped with a device for automatically measuring, indicating and controlling the time required for mixing. This device shall be interlocked to prevent the discharge of concrete from the mixer before the expiration of the mixing period.

9. Transit-mixed concrete shall be mixed and delivered in accordance with ASTM C94. After the drum is once started, it shall be revolved continuously until it has completely discharged its batch. Water shall not be admitted to the mix until the drum has started revolving. The right is reserved to increase the required minimum number of revolutions allowed, if necessary, to obtain satisfactory mixing, and the Contractor will not be entitled to additional compensation because of such an increase or decrease.

10. Mixed concrete shall be delivered to the site of the Work and discharge shall be completed within one (1) hour after the addition of the cement to the aggregates. In hot weather or under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85 Deg F or above, the time between the introduction of the cement to the aggregates and discharge shall not exceed forty-five (45) minutes. The use of non-agitating equipment for transporting concrete will not be permitted.

11. Truck mixers shall be equipped with counters so that the number of revolutions of the drum may be readily verified. The counter shall be resettable type and shall be actuated at the time of starting mixers at mixing speeds. Concrete shall be mixed in a truck mixer for not less than seventy (70) revolutions of the drum or blades at the rate of rotation designated by the manufacturer of the equipment. Additional mixing, if any, shall be at the speed designated by the manufacturer of the equipment as agitating speed. All materials including mixing water shall be in the mixer drum before actuating the revolution counter for determining the number of revolutions of mixing.

12. Truck mixers and their operation shall be such that the concrete throughout the mixed batch as discharged is within acceptable limits of uniformity with respect to consistency, mix, and grading. If slump tests taken at approximately the ¼ and ¾ points of the load during discharge give slumps differing by more than one (1) inch when the specified slump is more than three (3) inches, the mixer shall not be used on the work unless the causing condition is corrected and satisfactory performance is verified by additional slump test. All mechanical details of the mixer, such as water measuring and discharge apparatus, condition of the blades, speed of rotation, general mechanical condition of the unit, and clearance of the drum, shall be checked before a further attempt to use the unit will be permitted.

B. Control of Admixtures:

1. Charge admixtures into mixer as solutions.

   a. Measure by means of an approved mechanical dispensing device.

   b. Liquid considered a part of mixing water.

c. Admixtures that cannot be added in solution may be weighed or measured by volume if so recommended by manufacturer.

2. Add separately, when two or more admixtures are used in concrete, to avoid possible interaction that might interfere with efficiency of either admixture, or adversely affect concrete.

3. Complete addition of retarding admixtures within one (1) minute after addition of water to cement has been completed, or prior to beginning of last three quarters of required mixing, whichever occurs first.

C. Tempering and Control of Mixing Water:

1. Mix concrete only in quantities for immediate use.

2. Discard concrete which has set.

3. Discharge concrete from ready mix trucks within time limit and drum revolutions stated in ASTM C94.

4. Addition of water at the jobsite:

a. See Detailed Provisions Section 03 3100 – Cast-In-Place Structural Concrete for specified water cement ratio and slump.

b. Do not exceed maximum specified water cement ratio or slump.

c. Incorporate water by additional mixing equal to at least half of total mixing required.

d. Perform strength test on any concrete to which water has been added at the jobsite.

1) See Detailed Provisions Section 03 0505 – Concrete Testing.

3.03 PLACING OF CONCRETE

A. General:

1. Comply with ACI 301, 304R, 304.2R and 318.

2. No concrete shall be placed until all formwork, installation of parts to be embedded, reinforcement steel and preparation of surfaces involved in the placing have been completed and accepted by the County at least four (4) hours before placement of concrete. All reinforcement, anchor bolts, sleeves, inserts and similar items shall be set and secured in the forms where shown on Drawings and shall be acceptable to the County before any concrete is placed.

3. Deposit concrete:

a. Continuously to avoid cold joints.

b. In horizontal layers not to exceed 24-inches in depth.

c. Uniformly distributed during the placing process and in no case after depositing shall any portion be displaced in the forms more than 2-feet in horizontal direction.

4. Locate construction joints at locations approved by the County.
    a. Plan size of crews with due regard for effects of concrete temperature and atmosphere conditions to avoid unplanned cold joints.
5. Place concrete at such a rate that concrete, which is being integrated with fresh concrete, is still workable.
6. Do not deposit concrete which has partially hardened or has been contaminated by foreign materials.
7. Spreaders:
    a. Temporary: Remove as soon as concrete placing renders their function unnecessary.
    b. Embedded:
        1) Obtain County approval.
        2) Materials: Concrete or metal.
        3) Ends of metal spreaders coated with plastic coating 2-inches from each end.
8. Deposit concrete as nearly as practicable in its final position to avoid segregation.
    a. Maximum free fall: 4 feet.
    b. Free fall exceeding 4 feet: Place concrete by means of hopper, elephant trunk or tremie pipe extending down to within 4 feet of surface placed upon.
9. Perform the following operations before bleeding water has an opportunity to collect on surface:
    a. Spread.
    b. Consolidate.
    c. Straightedge.
    d. Darby or bull float.

B. Admixtures:
1. All admixtures to be introduced at the batch plant in accordance with manufacturer's recommendations.

C. Cold Weather Concrete Placement:
1. For this Detailed Provision Section, "cold weather" is defined as a period when for more than three (3) successive days, the average daily outdoor temperature drops below 40 Deg F. Calculate average daily temperature as the average of the highest and the lowest temperature during the period from midnight to midnight.
2. Batch, deliver, place, cure and protect concrete during cold weather in compliance with the recommendations of ACI 306R and the additional requirements of this Section.
3. Review the cold weather concreting plan at the preconstruction meeting. Include

the methods and procedures for use during cold weather including the production, transportation, placement, protection, curing and temperature monitoring of the concrete and the procedures to be implemented upon abrupt changes in weather conditions or equipment failures.

4. Do not place concrete or substrates that are below 32 Deg F or contain frozen material.
5. Maintain all materials, forms, reinforcement, subgrade and any other items which concrete will come in contact with free of frost, ice or snow at time of concrete placement.
6. The minimum temperature of concrete immediately after placement and during the protection periods shall be:

Minimum Concrete Temperature for Sections with Dimension Less than 12-inches (Deg F)	Minimum Concrete Temperature for Sections with Dimension 12-inches to 36-inches (Deg F)
55	50

The temperature of the concrete in place and during the protection period shall not exceed these values by more than 20 Deg F. Prevent overheating and non-uniform heating of the concrete.

7. Protect concrete during periods of cold weather to provide continuous warm, moist curing (with supplementary heat when required by weather conditions) for a total of at least 350 degree-days of curing.
    a. Degree-days are defined as the total number of twenty-four (24) hour periods multiplied by the weighted average daily air temperature at the surface of the concrete (e.g. 7 days at an average 50 Deg F = 350 degree-days).
    b. To calculate the weighted average daily air temperature, sum hourly measurements of the air temperature in the shade at the surface of the concrete taking any measurement less than 50 Deg F as 0 Deg F. Divide the sum thus calculated by 24 to obtain the weighted average temperature for that day.
8. Do not use salt, manure or other chemicals for protection.
9. At the end of the protection period, allow the concrete to cool gradually to the ambient temperature. If water curing has been used, do not expose concrete to temperatures below those listed in this Section until at least twenty-four (24) hours after water curing has been terminated and air dry concrete for at least three (3) days prior to first exposure to freezing temperatures.
10. Heat subgrade, forms, and reinforcement so the temperature of the subgrade, forms, and reinforcement will be between 45 and 70 Deg F, when temperature of surrounding air is 40 Deg F or below at time concrete is placed.

a. Remove all frost from subgrade, forms and reinforcement before concrete is placed.

11. Do not place slabs on ground if temperature is below 40 Deg F or if temperature surrounding the slab will be below 40 Deg F before structure is enclosed and heated.

12. During periods not defined as cold weather, but when freezing temperatures are expected or occur, protect concrete surfaces from freezing for the first seventy-two (72) hours.

D. Hot Weather Concrete Placement:

1. For this Detailed Provision Section, "hot weather" is defined as any combination of high air temperatures, low relative humidity and wind velocity which produces a rate of evaporation as estimated in ACI 305R, approaching or exceeding 0.2 pounds per square foot per hour (lb/sq ft/hr).

2. Batch, deliver, place, cure and protect concrete during hot weather in compliance with the recommendations of ACI 305R and the additional requirements of this Section.

a. Temperature of concrete being placed shall not exceed 90 Deg F. Maintain a uniform concrete mix temperature below this level. The temperature of the concrete shall not cause loss of sump, flash set or cold joints.

b. Promptly deliver concrete to the site and promptly place the concrete upon its arrival at the site, not exceeding the maximum time interval specified in Paragraph 3.02.A.10. Provide vibration immediately after placement.

c. The County may direct the Contractor to immediately cover concrete with sheet curing material.

3. Review the hot weather concreting plan at the preconstruction meeting. Include the methods and procedures for use during hot weather including production, placement, and curing.

4. Cool ingredients before mixing, or add flake ice or well crushed ice of a size that will melt completely during mixing for all or part of mixing water if high temperature, low slump, flash set, cold joints, or shrinkage cracks are encountered.

5. Temperature of concrete when placed:

a. Not to exceed 90 Deg F.

b. Not so high to cause:

1) Shrinkage cracks.

2) Difficulty in placement due to loss of slump.

3) Flash set.

6. Temperature of forms and reinforcing when placing concrete:

a. Not to exceed 90 Deg F.

b. May be reduced by spraying with water to cool below 90 Deg F.

1) Leave no standing water to contact concrete being placed.

E. Consolidating:

1. Consolidate in accordance with ACI 309R except as modified herein.
2. Consolidate by vibration so that concrete is thoroughly worked around reinforcement, embedded items and into corners of forms.
    a. Eliminate:
        1) Air or stone pockets.
        2) Honeycombing or pitting.
        3) Planes of weakness.
3. Internal vibrators:
    a. Minimum frequency of 8,000 vibrations per minute.
    b. Insert and withdraw at points approximately 18-inches apart.
        1) Allow sufficient duration at each insertion to consolidate concrete but not to cause segregation.
    c. Use in:
        1) Beams and girders of framed slabs.
        2) Columns and walls.
    d. Size of vibrators shall be in accordance with ACI 309R, Table 5.1.5.
4. Obtain consolidation of slabs with internal vibrators, vibrating screeds, roller pipe screeds, or other approved means.
5. Do not use vibrators to transport concrete within forms.
6. Provide spare vibrators on jobsite during all concrete placing operations.
7. Bring a full surface of mortar against form by vibration supplemented if necessary by spading to work coarse aggregate back from formed surface, where concrete is to have an as-cast finish.
8. Use suitable form vibrators located just below top surface of concrete, where internal vibrators cannot be used in areas of congested reinforcing.
9. Prevent construction equipment, construction operations, and personnel from introducing vibrations into freshly placed concrete after the concrete has been placed and consolidated.

F. Handle concrete from mixer to place of final deposit by methods which will prevent segregation of loss of ingredients and in a manner which will assure that required quality of concrete is maintained.

1. Use truck mixers, agitators, and non-agitating units in accordance with ASTM C94.
2. Horizontal belt conveyors:
    a. Mount at a slope which will not cause segregation or loss of ingredients.

b. Protect concrete against undue drying or rise in temperature.

c. Use an arrangement at discharge end to prevent segregation.

d. Do not allow mortar to adhere to return length of belt.

e. Discharge conveyor runs into equipment specially designed for spreading concrete.

3. Metal or metal line chutes:

a. Slope not exceeding 1 vertical to 2 horizontal (1V:2H) and not less than 1 vertical to 3 horizontal (1V:3H).

b. Chutes more than 20 feet long and chutes not meeting slope requirements may be used provided they discharge into a hopper before distribution.

c. Provide end of each chute with a device to prevent segregation.

4. Pumping or pneumatic conveying equipment:

a. Designed for concrete application and having adequate pumping capacity.

b. Control pneumatic placement so segregation is avoided in discharged concrete.

c. Loss of slump in pumping or pneumatic conveying equipment shall not exceed 1½-inch.

d. Do not convey concrete through pipe made of aluminum or aluminum alloy.

e. Provide pumping equipment without Y sections.

3.04 JOINTS AND EMBEDDED ITEMS

A. Construction Joints – General:

1. Locate joints as indicated on Contract Drawings or as shown on approved Shop Drawings.

a. Where construction joint spacing shown on Drawings exceeds the joint spacing indicated in Paragraph B. below, submit proposed construction joint location in conformance with this Detailed Provisions Section.

2. Unplanned construction joints will not be allowed.

a. If concrete cannot be completely placed between planned construction joints, then it must be removed.

3. In general, locate joints near middle of spans of slabs, beams and girders unless a beam intersects a girder at this point, in which case, offset joint in girder a distance equal to twice the width of the beam.

4. Locate joints in walls and columns at underside of floors, slabs, beams, or girders, and at tops of foundations or floor slabs, unless shown otherwise.

a. At Contractor's option, beam pockets may be formed into concrete walls.

b. Size pockets to allow beam reinforcing to be placed as detailed on Drawings.

5. Place beams, girders, column capitals and drop panels at same time as slabs.
6. Make joints perpendicular to main reinforcement with all reinforcement continuous across joints.
7. Provide roughened construction joints at all construction joints unless indicated otherwise.
    a. Clean the previously hardened concrete interface and remove all laitance.
    b. Intentionally roughen the interface to a full amplitude of ¼-inch.
    c. Provide recessed flat surface as required to install strip type waterstops.
8. Provide continuous keyways only where indicated.
    a. Construction joint keyways in walls, as indicated on Drawings.
    b. Construction joint keyways in footings, foundations, base slabs, and structural or elevated slabs as indicated.
9. Allow a minimum of forty-eight (48) hours before placement of adjoining concrete construction.

B. Construction Joints – Spacing:
1. Structures not intended to contain liquid:
    c. Base slab, floor, and roof slab construction joints as indicated on Drawings.

C. Construction Joints – Bonding:
1. Obtain bond between concrete pours at construction joints by thoroughly cleaning and removing all laitance from construction joints.
    a. Before new concrete is placed, all construction joints shall be coated with cement grout, or dampened.
        1) General: Use cement grout or dampening for all construction joints.
2. Roughened construction joints:
    a. Roughen the surface of the concrete to expose the aggregate uniformly.
    b. Remove laitance, loosened particles of aggregate or damaged concrete at the surface, or at the Contractor's option, use an approved chemical retarder which delays but does not prevent setting of the surface of the mortar in accordance with the manufacturer's recommendations.
        1) Retarded mortar shall be removed within twenty-four (24) hours after placing to produce a clean exposed aggregate bonding surface.
    c. Cover the hardened concrete of horizontal joints with a coat of cement grout of similar proportions to the concrete, except substitute fine aggregate for coarse aggregate.
    d. Place 1-inch layer of grout in bottoms of wall or column lifts immediately before placing concrete.

1) Vibrate grout and first layer of concrete simultaneously.

e. Place fresh concrete before the grout has attained its initial set.

3. Other keyed construction joints:

a. Thoroughly clean construction joints and remove all laitance.

b. Dampen the hardened concrete (but do not saturate) immediately prior to placing of fresh concrete.

D. Locate control joints in slabs on grade as indicated on Drawings.

1. Time cutting properly with set of concrete, if saw cut joints are required or permitted.

a. Start cutting as soon as concrete has hardened sufficiently to prevent aggregates being dislodged by saw.

b. Complete before shrinkage stresses become sufficient to produce cracking.

2. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:

a. Grooved Joints: Form joints after initial floating by grooving and finishing each edge of joint to a radius of $^1/_8$-inch. Repeat grooving of joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

b. Sawed Joints: Form joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut $^1/_8$-inch wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random cracks. Seal all sawed joints with polyurea joint filler see Detailed Provisions Section 07 9200 – Joint Sealants.

E. Isolation Joints in Slabs on Grade:

1. After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

F. Expansion Joints:

1. Do not permit reinforcement or other embedded metal items bonded to concrete (except smooth dowels bonded on only one (1) side of joint) to extend continuously through an expansion joint.

2. Use neoprene expansion joint fillers, unless noted otherwise.

3. Seal expansion joints as shown on Drawings.

a. See Detailed Provisions Section 07 9200 – Joint Sealants for requirements.

G. Other Embedded Items:

1. Place sleeves, inserts, anchors, and embedded items required for adjoining Work or for its support, prior to initiating concreting.

2. Do not place electrical conduit, drains, or pipes in of thru concrete slabs, walls,

columns, foundations, beams or other structural members unless approved by the County.

H. Placing Embedded Items:

1. Position expansion joint material and other embedded items accurately.
2. Support against displacement.
3. Fill voids in sleeves, inserts and anchor slots temporarily with readily removable material to prevent entry of concrete into voids.

3.05 FINISHING

A. See Detailed Provisions Section 03 3132 – Concrete Finishing and Repair of Surface Defects.

B. Coordinate mixing and placing with finishing.

3.06 INSTALLATION OF GROUT

A. Grout Schedule of Use:

1. Sand cement grout:
   a. General use.
2. Non-shrinking, non-metallic grout:
   a. Filling form tie holes.
   b. Under column and beam base plates.
   c. Other uses indicated on the Drawings.
3. Epoxy grout:
   a. Patching cavities in concrete.
   b. Other uses indicated on the Drawings.

B. Grout Installation:

1. Sand cement grout:
   a. Cure grout by one (1) of methods specified.
2. Non-shrink, non-metallic grout:
   a. Clean concrete surface to receive grout.
   b. Saturate concrete with water for twenty-four (24) hours prior to grouting.
   c. Mix in a mechanical mixer.
   d. Use no more water than necessary to produce flowable grout.
   e. Place in accordance with manufacturer's instructions.
   f. Provide under beam, column, and equipment base plates, in joints between precast concrete filter slabs, and in other locations indicated on the Drawings.

g. Completely fill all spaces and cavities below the top of base plates.

h. Provide forms where base plates and bed plates do not confine grout.

i. Where exposed to view, finish grout edges smooth.

j. Except where a slope is indicated on the Drawings, finish edges flush at the base plate, bed plate, member or piece of equipment.

k. Coat exposed edges of grout with cure or seal compound recommended by the grout manufacturer.

3. Epoxy grout:

a. Mix and place in accordance with manufacturer's instructions.

b. Apply only to clean, dry, sound surface.

c. Obtain manufacturer's field technical assistance as required to assure proper placement.

3.07 CURING AND PROTECTION

A. Protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury immediately after placement, and maintain with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement, hardening, and compressive strength gain.

1. Comply with ACI 306R for cold-weather protection during curing.

2. Comply with ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lbs/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. In accordance with ACI 308.1, apply one of the following curing procedures immediately after completion of placement and finishing, for concrete surfaces not in contact with forms.

1. Moisture Curing: Keep surfaces continuously moist for not less than seven (7) days.

2. Moisture-Retaining Cover Curing: Cover concrete surfaces with moisture retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12-inches, and sealed by waterproof tape or adhesive. Cure for not less than seven (7) days. Immediately repair any holes or tears during curing period using cover material and waterproof tape. Application of waterproof sheet materials, conforming to ASTM C171.

3. Curing Compound: Application of a curing compound conforming to ASTM C309.

a. Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's recommendations immediately after any water sheen which may develop after finishing has disappeared from concrete surface.

b. Recoat areas subjected to heavy rainfall within three (3) hours after initial application. Maintain continuity of coating and repair damage during curing period.

c. Do not use on any surface against which additional concrete or other material is to be bonded unless it is proven that curing compound will not prevent bond.

d. Where a vertical surface is cured with a curing compound, the vertical surface shall be covered with a minimum of two (2) coats of the curing compound.

1) Apply the first coat of curing compound to a vertical surface immediately after form removal.

2) The vertical concrete surface at the time of receiving the first coat shall be damp with no free water on the surface.

3) Allow the preceding coat to completely dry prior to applying the next coat.

4) A vertical surface: Any surface steeper than 1 vertical to 4 horizontal (1V:4H).

D. Curing Concrete in Contact with Forms:

1. Minimize moisture loss from and temperature gain of concrete placed in forms exposed to heating by sun by keeping forms wet and cool until they can be safely removed.

2. After form removal, cure concrete until end of time prescribed.

a. Use one (1) of methods listed above.

3. Forms left in place shall not be used as a method of curing in hot weather.

4. In hot weather, remove forms from vertical surfaces as soon as concrete has gained sufficient strength so that the formwork is no longer required to support the concrete.

E. Continue curing for at least seven (7) days for all concrete except high early strength concrete for which period shall be at least three (3) days.

1. If one of curing procedures indicated above is used initially, it may be replaced by one of other procedures indicated any time after concrete is one (1) day old, provided concrete is not permitted to become surface dry during transition.

F. Cold Weather:

1. Follow recommendations of ACI 306R.

2. Maintain temperature of concrete between 50 and 70 Deg F for required curing period, when outdoor temperature is 40 Deg F, or less.

3. Use heating, covering, insulating, or housing of the concrete work to maintain required temperature without injury due to concentration of heat.

4. Do not use combustion heaters unless precautions are taken to prevent exposure of concrete to exhaust gases which contain carbon dioxide.

5. Interior slabs in areas intended to be heated shall be adequately protected so that

frost does not develop in the supporting subgrade.

G. Hot Weather:

1. Follow recommendations of ACI 301.
2. Make provision for cooling forms, reinforcement and concrete, windbreaks, shading, fog spraying, sprinkling, ponding, or wet covering with a light colored material.
3. Provide protective measures as quickly as concrete hardening and finishing operations will allow.

H. Rate of Temperature Change:

1. Keep changes in temperature of air immediately adjacent to concrete as uniform as possible, during and immediately following curing period.
2. Do not exceed a temperature change of 5 Deg F in any one (1) hour or 50 Deg F in any twenty-four (24) hour period.

I. Protection from Mechanical Injury:

1. Protect concrete from damaging mechanical disturbances, such as load stresses, heavy shock, and excessive vibration.
2. Protect finished concrete surfaces from damage by construction equipment, materials, or methods, and by rain or running water.
3. Do not load self-supporting structures in such a way as to overstress concrete.

3.08 CLEAN UP

A. Upon completion of all concrete work and before Substantial Completion, the Contractor shall remove all tools, surplus materials, apparatus, debris, etc., from the site and the site shall be left in a clean, neat, and acceptable condition to the County.

B. Hardened concrete material accumulated in the designated washout area for the Project shall be recycled by the Contractor, using a "no charge" account, at the Lamb Canyon Landfill. The Contractor shall break-up material to the County's satisfaction, load, and haul the material through the Lamb Canyon Landfill fee booth/scale and unload material in an area within the landfill unit designated for construction and demolition (C&D) debris recycling. The material shall be accepted by the County as "beneficial reuse" material for future use at the landfill for soil stabilization projects.

3.09 FIELD QUALITY CONTROL

A. Tests in accordance with Detailed Provisions Section 03 0505 – Concrete Testing.

1. Perform a strength test on all concrete to which water or superplasticizer, above the amount stated in the approved concrete mix design, has been added.
   a. Perform sampling after water or superplasticizer has been added and additional mixing has been performed.

B. All cracks wider than $^{1}/_{64}$-inch in new concrete appearing within six (6) months of concrete placement shall be repaired using epoxy adhesive injection by the Contractor at no cost to the County.

END OF SECTION 03 3131

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 3132: CONCRETE FINISHING AND REPAIR OF SURFACE DEFECTS

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SECTION 03 3132
CONCRETE FINISHING AND REPAIR OF SURFACE DEFECTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: This Work consists of providing concrete surface finishes and repairing surface finishes of all defects.

1. This Work includes but is not limited to:

a. Structural Foundations/Footings.

b. Structural Slabs

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 1113 – Formwork – Structural Cast-In-Place Concrete
2. Section 03 3100 – Cast-In-Place Structural Concrete
3. Section 03 3131 – Concrete Mixing, Placing, Jointing and Curing

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):

a. ACI 301 – Specification for Structural Concrete.

b. ACI CT-XX – Concrete Terminology.

2. American Society for Testing and Materials (ASTM):

a. ASTM C150 – Standard Specification for Portland Cement.

b. ASTM D4258 – Standard Practice for Surface Cleaning Concrete for Coating.

c. ASTM D4259 – Standard Specification for Abrading Concrete.

3. The Society for Protective Coatings/NACE International (SSPC/NACE):

a. SSPC/NACE No. 6 – Surface Preparation of Concrete

B. Qualifications:

1. Manufacturer of acrylic epoxy surface/filler shall have minimum of five (5) years experience in manufacturing of same with documented performance history for similar installations.

2. Installer/applicator of acrylic epoxy surfacer/filler shall have minimum of three (3) years experience installing similar materials and shall be licensed or approved in writing by manufacturer to install/apply this product.

1.03 DEFINITIONS

A. Vertical Surface Defects:

1. Any void in the face of the concrete deeper than $^1/_8$-inch, such as:

a. Tie holes.

b. Air pockets (bug holes).

c. Honeycombs.

d. Rock holes.

2. Scabbing:

a. Scabbing is defect in which parts of the form face, including release agent, adhere to concrete.

3. Foreign material embedded in face of concrete.

4. Fins $^1/_{16}$-inch or more in height.

B. Installer or Applicator:

1. Installer or applicator is the person actually installing or applying the product in the field at the Project Location.

2. Installer or applicator are synonymous.

C. Other words and terms used in this Detailed Provisions Section are defined in ACI CT-XX.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data, including, but not limited to:

a. Acknowledgement that products submitted meet requirements of standards referenced.

b. Manufacturer's installation instructions.

C. Quality Assurance Submittals:

1. Certifications:

a. Certification of aggregate gradation.

b. Certification that products being used will not interfere with bonding of future floor or wall finishes.

1.05 DELIVERY, STORAGE AND HANDLING

A. Comply with manufacturer's recommendations and requirements for materials used.

B. Materials shall be delivered to the jobsite in sealed, undamaged containers. Each container shall be clearly marked with manufacturer's label showing type of material, color and lot number.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:

1. Bonding agents:

a. Euclid Chemical Company; www.euclidchemical.com

a. L&M Construction Chemicals a part of LATICRETE, Inc.; www.lmcc.com

b. Master Builders Solutions by BASF; www.master-builders-solutions.basf.us

c. Or approved equal.

B. Submit request for substitution in accordance with Detailed Provisions Section 01 6000 – Product Requirements.

2.02 MATERIALS

A. Bonding Agent:

1. For use only on concrete surfaces not receiving liquid water repellent coating:

a. High solids acrylic latex base liquid for interior or exterior application as a bonding agent to improve adhesion and mechanical properties of concrete patching mortars.

2. For use only on concrete surface receiving liquid water repellent:

a. Non-acrylic base liquid for interior or exterior application as a bonding agent to improve adhesion and mechanical properties of concrete patching mortars.

B. Cement:

1. ASTM C150, Type II Portland.

C. Aggregate:

1. Sand: Maximum size #30 mesh sieve.

2. For exposed aggregate finish surfaces: Same as surrounding floor and/or wall.

D. Water: Potable.

E. Non-Shrink Grout: See Detailed Provisions Section 03 3100 – Cast-In-Place Structural Concrete and Detailed Provisions Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing.

2.03 MIXES

A. Bonding Grout: One (1) part cement to one (1) part aggregate.

B. Patching Mortar:

1. One (1) part cement to two and one-half (2½) parts aggregate by damp loose volume.

a. Substitute white Portland cement for a part of gray Portland cement to produce color matching surrounding concrete.

PART 3 EXECUTION

3.01 PREPARATION

A. For methods of curing, see Detailed Provisions Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing.

B. Preparation of Bonding Grout Mixture:

1. Mix cement and aggregate.

2. Mix bonding agent and water together in separate container in accordance with manufacturer's instructions.

3. Add bonding agent/water mixture to cement/aggregate mixture.

4. Mix to consistency of thick cream.

5. Bonding agent itself may be used as bonding grout if approved by manufacturer and County.

C. Preparation of Patching Mortar Mixture:

1. Mix cement and aggregate.

2. Mix bonding agent and water together in separate container in accordance with manufacturer's instructions.

3. Add only enough bonding agent/water mixture to cement/aggregate mixture to allow handling and placing.

4. Let stand with frequent manipulation with a trowel, until mix has reached stiffest consistency to allow placement.

D. Clean surfaces in accordance with ASTM D4258 to remove dust, dirt, form oil, grease, or other contaminants prior to abrasive blasting, chipping, grinding or wire brushing.

1. Abrasive blast surfaces in accordance with ASTM D4259 and SSPC/NACE No. 6 to completely open defects down to sound concrete and remove laitance.

a. If additional chipping or wire brushing is necessary, make edges perpendicular to surface or slightly undercut.

b. No featheredges will be permitted.

2. Rinse surface with clean water and allow surface water to evaporate prior to repairing surface defects.

E. Repairing Surface Defects:

1. Fill and repair using patching mortar mix specified in Paragraph 2.03.
    a. Use non-shrink grout to fill tie-holes as outlined in this Detailed Provisions Section.
2. If required by bonding agent manufacturer, etch surfaces with a muriatic acid solution followed by a thorough rinse with clean water.
    a. Test concrete to determine pH level and continue flushing with clean water until surface pH is within acceptable limits.
3. Dampen area to be patched and an area at least 6-inches wide surrounding it prior to application of bonding grout.
4. Brush bonding grout into the surface after the surface water has evaporated.
5. Allow bonding grout to set for period of time required by bonding agent manufacturer before applying premixed patching mortar.
6. Fill tie-holes with non-shrink nonmetallic grout.
    a. Where exposed to view and scheduled to receive concrete Finish #2 or #5, hold grout below surface of concrete and fill with patching mortar to match surrounding concrete.
7. Fill all other defects with patching mortar.
    a. Match color of surrounding floor and/or wall.
    b. Do not use acrylic bonding agent in patching mortar for filling defects in surfaces to be treated with liquid water repellent.
8. Consolidate grout or mortar in place and strike off so as to leave patch slightly higher than surrounding surface.
9. Leave undisturbed for at least sixty (60) minutes before finishing level with surrounding surface.
    a. Do not use metal tools in finishing a patch in a formed wall which will be exposed or coated with other materials.
10. Keep areas damp in accordance with grout manufacturer or bonding agent manufacturer's directions.

3.02 INSTALLATION AND APPLICATION

A. Concrete Finishes for Horizontal Slab Surfaces:

1. General:
    a. Tamp concrete to force coarse aggregate down from surface.
    b. Screed with straightedge, eliminate high and low places, bring surface to required finish elevations; slope uniformly to drains.
    c. Dusting of surface with dry cement or sand during finishing processes not

permitted.

2. Unspecified slab finish:
    a. When type of finish is not indicated, use following finishes as applicable:
        1) All slabs to receive a floated finish before final finishing with a broom finish.
3. Scratched slab finish: After concrete has been placed, consolidated, struck off, and leveled to a Class B tolerance, roughen surface with stiff brushes or rakes before final set.
4. Floated finish:
    a. After concrete has been placed, consolidated, struck off, and leveled, do no further work until ready for floating.
    b. Begin floating when water sheen has disappeared and surface has stiffened sufficiently to permit operations.
        1) Use wood or cork float.
    c. During or after first floating, check planeness of entire surface with a 10-foot straightedge applied at not less than two (2) different angles.
    d. Cut down all high spots and fill all low spots to produce a surface with Class B tolerance throughout.
    e. Refloat slab immediately to a uniform texture.
5. Troweled finish:
    a. Float finish surface to true, even plane.
    b. Power trowel, and finally hand trowel.
    c. First troweling after power troweling shall produce a smooth surface which is relatively free of defects, but which may still show some trowel marks.
    d. Perform additional trowelings by hand after surface has hardened sufficiently.
    e. Final trowel when a ringing sound is produced as trowel is moved over surface.
    f. Thoroughly consolidate surface by hand troweling.
    g. Leave finished surface essentially free of trowel marks, uniform in texture and appearance and plane to a Class A tolerance.
    h. On surfaces intended to support floor coverings, remove any defects that would show through floor covering by grinding.
6. Broom of belt finish: Immediately after concrete has received a float finish as specified, give it a transverse scored texture by drawing a broom or burlap belt across surface.
7. Underside of concrete slab finish:
    a. Match finish as specified for adjacent vertical surfaces.

b. If more than one (1) finish occurs immediately adjacent to underside of slab surface, provide surface with most stringent formed surface requirement.

3.03 FIELD QUALITY CONTROL

A. Horizontal slab finishes will be accepted provided:

1. Applicable specification requirements are satisfied.
2. Water does not pond in areas sloped to drain.
3. Gap between a 10-foot straightedge placed anywhere and the finished surface does not exceed:
   a. Class A tolerance: $^1/_8$-inch.
   b. Class B tolerance: ¼-inch. The Badlands Landfill's Reinforced concrete equipment crossing is Class B.
   c. Class C tolerance: ½-inch.
4. Accumulated deviation from intended true plane of finished surface does not exceed ½-inch.

B. Unacceptable finishes shall be replaced or, if approved in writing by County, may be corrected provided strength and appearance are not adversely affected.

1. High spots to be removed by grinding and/or low spots filled with a patching compound or other remedial measures to match adjacent surfaces.

END OF SECTION 03 3132

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 03 3713: SHOTCRETE

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SECTION 03 3713
SHOTCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Pneumatically placed concrete.
2. This work includes but is not limited to:
    a. Drainage structures

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements
2. Section 03 2100 – Concrete Reinforcement
3. Section 03 3100 – Cast-In-Place Structural Concrete

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):
    a. ACI 117R – Specifications for Tolerances for Concrete Construction and Materials.
    b. ACI 301 – Specifications for Structural Concrete.
    c. ACI 305R – Hot Weather Concreting.
    d. ACI 306.1 – Specification for Cold Weather Concreting.
    e. ACI 506R – Guide to Shotcrete.
    f. ACI 506.2 – Specification for Materials, Proportioning, and Application of Shotcrete.
    g. ACI CT-XX – Concrete Terminology.
2. American Society for Testing and Materials (ASTM):
    a. ASTM A123 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
    b. ASTM A615 – Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
    c. ASTM A884 – Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcement.
    d. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.

e. ASTM C33 – Standard Specification for Concrete Aggregates.

f. ASTM C42 – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.

g. ASTM C94 – Standard Specification for Ready Mixed Concrete.

h. ASTM C131 – Standard Test Method for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

i. ASTM C150 – Standard Specification for Portland Cement.

j. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

k. ASTM C260 – Standard Specification for Air Entraining Admixtures for Concrete.

l. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

m. ASTM C330 – Standard Specification for Lightweight Aggregates for Structural Concrete.

n. ASTM C332 – Standard Specification for Lightweight Aggregates for Insulating Concrete.

o. ASTM C494 – Standard Specification for Chemical Admixtures for Concrete.

p. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

q. ASTM C1064 – Standard Test Method for Temperature of Freshly Mixed Hydraulic Cement Concrete.

r. ASTM C1077 – Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.

s. ASTM C1140 – Standard Practice for Preparing and Testing Specimens from Shotcrete Test Panels.

t. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.

u. ASTM D1751 – Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction.

v. ASTM E329 – Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.

1.03 DEFINITIONS

A. Words and terms used in this Detailed Provisions Section are defined in ACI CT-XX.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data, including, but not limited to:

    a. Acknowledgement that products submitted meet requirements of standards referenced.

    b. Manufacturer's instructions.

    c. Concrete mix designs as required by Detailed Provisions Section 03 0505 – Concrete Testing.

    d. Manufacturer and type of proposed admixtures.

    e. Manufacturer and type of proposed non-shrink grout and grout cure/seal compound.

C. Quality Assurance Submittals

1. Certifications:

    a. Certification of standard deviation data for each proposed concrete mix based on statistical records. Provide the following for each strength data point used in the calculation of the standard deviation for determination of the minimum required average strength:

        1) Date of sampling and name of testing laboratory.

        2) Name of concrete batch plant.

        3) Water cementitious ratio.

        4) Slump of batch.

        5) Air content of batch.

        6) 28-day compression test results.

        7) If available, temperature and unit weight of batch.

        Provide data from projects not more strictly controlled than outlined in these specifications. Provide summary sheet showing all pertinent data and the computation of the standard deviation.

    b. Certification that fly ash meets the quality requirements of ASTM C618, and fly ash supplier's certified test reports for each shipment of fly ash delivered to concrete supplier.

    c. Certification that the class of coarse aggregate meets the requirements of ASTM C33 for type and location of concrete construction.

    d. Certification of aggregate gradation.

2. Test reports: Cement mill reports for all cement to be supplied.

3. Delivery tickets: Furnish a delivery ticket for ready mixed concrete to the County as each truck arrives. Provide a printed record of weight of cement and each aggregate as batched individually on each ticket. Use the type of indicator that returns for zero punch or returns to zero after a batch is discharged. Indicate for each batch the weight of fine and coarse aggregate, cement, fly ash, and water, moisture content of fine and coarse aggregate at time of batching, and types, brand, and quantity of each admixture, the quantity of concrete delivered, the time any water is added and the amount, and the numerical sequence of the delivery. Show the time of day batched and time of discharge from the truck. Indicate the number of revolutions of transit mix truck.

1.05 DELIVERY, STORAGE AND HANDLING

A. Delivery, storage, and handling shall be made in accordance with the following:

1. Store cement and Pozzolan in weathertight buildings, bins, or silos which will exclude moisture and contaminants.
2. Arrange aggregate stockpiles and use in a manner to avoid excessive segregation and to prevent contamination with other materials or with other sizes of like aggregates.
3. Allow natural sand to drain until it has reached a relatively uniform moisture content before use.
4. Store admixtures in such a manner as to avoid contamination, evaporation, or damage.
    a. For those used in form of suspensions or non-stable solutions, provide agitating equipment to assure thorough distribution of ingredients.
    b. Protect liquid admixtures from freezing and temperature changes which would adversely affect their characteristics and performance.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the manufacturers listed in the applicable articles below are acceptable.

B. Submit requests for substitution in accordance with Detailed Provisions Section 01 6000 – Product Requirements.

2.02 MATERIALS

A. General:

1. The County and Testing/Inspection Provider shall have access to and have the right to inspect all batch plants, cement mills, and supply facilities providing products under this Detailed Provisions Section. Batch plants shall have current certificates

that all scales have been tested and are certified within the tolerances as set forth in the National Bureau of Standards Handbook No. 44.

2. The Contractor shall not use calcium chloride or fly ash and related materials. The County does not require admixtures; however, if the Contractor proposes admixtures, they shall conform to SIKA Chemical Corporation's "Plastiment", or approved equal, and shall be applied in accordance with manufacturer's directions and also conform to Section 201-1.2.4, "Chemical Admixtures" requirements of the Standard Specifications. Any admixture proposal shall be approved by the County. Upon review of any proposed admixture, the County may accept or reject any proposal.

B. Portland Cement:

1. Cement shall be Class 650-D-3250P (Shotcrete) in conformance with Section 201-1 of the Standard Specifications and shall be air-placed with a 4-inch maximum slump in conformance with sub-section 303-2.1.3 Method B (Shotcrete) of the Standard Specifications.

C. Aggregate:

1. Concrete coarse aggregate shall conform to ASTM C33-86, "Specifications for Concrete Aggregates" requirements, and also meet the requirements of Section 201-1.2.2, "Aggregates" of the Standard Specifications, or nonconforming aggregate which by test or actual service produces concrete of required strength and conforms to local governing codes. Aggregates shall be uniformly graded and conform to ASTM C-131 Test Grading C.

2. Fine aggregates shall conform to ASTM C33-86, "Specifications for Concrete Aggregates" requirements, and also meet the requirements of Section 200-1.5.3, "Sand for Portland Cement Concrete" of the Standard Specifications.

D. Water:

1. ASTM C94 and potable.

2. Clean and free from deleterious substances.

3. Free of oils, acids, and organic material.

E. Curing Compound:

1. Type II, white-pigmented curing compound for concrete/shotcrete structures shall conform to Sub-section 201-4.1.1 of the Standard Specifications.

F. Welded Wire Reinforcement:

1. Welded Wire Reinforcement (WWR) for downdrains and drainage swales shall conform to Sub-section 201-2.2.3 of the Standard Specifications. The gage of wire and dimensions of the mesh are specified in the Project Drawings. If deemed to be more efficient, Contractor may use the reinforcing steel (rebar) equivalent in lieu of WWR for the reinforcement of shotcrete downdrains not warranting additional compensation.

2.03 MIXES

A. General: Mixing of concrete shall be done in accordance with:

1. Provide concrete capable of being placed without aggregate segregation and, when cured, of developing all properties specified.

2. Ready-mixed concrete shall conform to ASTM C94.

B. Minimum 28-Day Compressive Strength: As indicated on Project Drawings.

PART 3 EXECUTION

3.01 PREPARATION

A. Subgrade:

1. The subgrade for shotcrete structures shall be prepared to conform to lines, grades, and cross-sections as shown on the Project Drawings or as directed by the County.

    a. Where the structures are in native cut, the upper six (6) inches of subgrade shall be compacted to a minimum of ninety percent (90%) of the maximum density as determined per ASTM D1557. This shall be achieved by scarifying the exposed surface to a depth of six (6) inches and recompacting.

    b. Where structures are in engineered fill, the finished subgrade shall be firm and suitable for placement of shotcrete structures and shall be compacted to a minimum of ninety percent (90%) of the maximum density as determined per ASTM D1557.

B. Welded Wire Reinforcement:

1. Forms and ground wires for shotcrete drainage structures shall be installed in accordance with Sub-section 303-2.7 of the Standard Specifications. Ground wires shall be placed at approximately 5-foot intervals.

2. Welded wire mesh shall be spliced not less than two (2) meshes. Mortar blocks with wire ties, or other means acceptable to the County shall be used to secure the reinforcement firmly in position.

3.02 APPLICATION

A. Concrete Mixing

1. Concrete mixing shall comply with Detailed Provisions Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing.

B. Concrete Placement

1. Concrete placement for shotcrete drainage structures shall be in accordance with Part 3, Section 303-2.1 of the Standard Specifications and Detailed Provisions Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing. Nozzle shall be directed in such a manner as to result in minimum rebound of the shotcrete. The

velocity of the material as it leaves the nozzle shall be maintained at a uniform rate that shall be determined for the given job conditions.

2. When drainage structures and adjoining drainage structures are constructed on multiple pours, Contractor shall utilize a construction joint with adjoining steel dowels between the construction joint. Steel dowels shall adhere to Section 201-2.2.1 of the Standard Specifications.

3. When drainage structures and adjoining drainage structures are constructed on multiple pours, Contractor shall utilize a construction joint with adjoining steel dowels between the construction joint unless directed by the County otherwise. Steel dowels shall adhere to Section 201-2.2.1.

3.03 FIELD QUALITY CONTROL

A. After the shotcrete has been placed as nearly as practicable to the required depth, the surface shall be checked with a straightedge, and any low spots or depressions shall be brought to grad by placing additional shotcrete in such a manner that the finished surface will be reasonably smooth and uniform for the type of work involved. Loose areas of shotcrete shall be removed and replaced by the Contractor at the Contractor's expense.

B. Perform concrete tests per Detailed Provisions Section 03 0505 – Concrete Testing.

END OF SECTION 03 3713

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 04 2200: CONCRETE UNIT MASONRY

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SECTION 04 2200
CONCRETE UNIT MASONRY

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Furnish all labor, materials and equipment to provide concrete unit masonry where shown on the Project Drawings, as specified herein and as needed for a complete and proper installation.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 2100 – Concrete Reinforcement.
2. Section 03 3100 – Cast-In-Place Structural Concrete
3. Section 31 2300 – Earthwork

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Concrete Institute (ACI):
   a. ACI 530 – Building Code Requirements for Masonry Structures
   b. ACI 530.1 – Specifications for Masonry Structures
2. American Society for Testing and Materials (ASTM):
   a. ASTM A153 – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
   b. ASTM C33 – Standard Specification for Concrete Aggregates.
   c. ASTM C55 – Standard Specification for Concrete Building Brick
   d. ASTM C90 – Standard Specification for Loadbearing Concrete Masonry Units.
   e. ASTM C91 – Standard Specification for Masonry Cement.
   f. ASTM C94 – Specification for Ready-Mixed Cement.
   g. ASTM C109 – Standard Test Methods for Compressive Strength of Hydraulic Cement Mortars.
   h. ASTM C140 – Standard Test Methods for Sampling and Testing Concrete Masonry Units.
   i. ASTM C143 – Standard Test Methods for Slump of Hydraulic Cement Concrete.
   j. ASTM C144 – Standard Specification for Aggregate for Masonry Mortar.
   k. ASTM C150 – Standard Specification for Portland Cement.

l. ASTM C207 – Standard Specification for Hydrated Lime for Masonry Purposes.

m. ASTM C216 – Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale).

n. ASTM C270 – Standard Specification for Mortar for Unit Masonry.

o. ASTM C404 – Standard Specification for Aggregates for Masonry Grout.

p. ASTM C426 – Standard Test Method for Drying Shrinkage of Concrete Block.

q. ASTM C476 – Standard Specification for Grout for Masonry.

r. ASTM C780 – Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.

s. ASTM C881 – Standard Specification for Epoxy-Resin Base Bonding Systems for Concrete.

t. ASTM C979 – Standard Specification for Pigments for Integrally Colored Concrete

u. ASTM C1006 – Test Method for Splitting Tensile Strength of Masonry Units

v. ASTM C1019 – Test Method for Sampling and Testing Grout.

w. ASTM C1314 – Standard Method for Constructing and Testing Masonry Prisms Used to Determine Compliance with Specified Compressive Strength of Masonry.

3. American Society of Civil Engineers.

4. California Building Code (CBC):

   a. CBC Chapter 21A.

5. International Code Council (ICC).

6. The Masonry Society (TMS):

   a. Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

7. Standard Specifications for Public Works Construction:

   a. Section 201-2 – Reinforcement for Concrete
   b. Section 202-2 – Concrete Block
   c. Section 202-3 – Mortar, Grout, and Water
   d. Section 303-4 – Masonry Construction

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data, including, but not limited to:
    a. Acknowledgement that products submitted meet requirements of standards referenced.
    b. Mix designs for mortar and grout.
    c. Sources of cement, hydrated lime, and aggregates.
    d. Reinforcing steel mill certifications.
    e. Masonry control joint materials, including, but not limited to: smooth dowels and joint material.
    f. Integral waterproofing: Product data and test information for field-applied water-repellent sealer to be used on all exterior concrete masonry units.
    g. Manufacturer's installation instructions.

C. Quality Assurance Submittals:
1. Test Reports. Reports by an independent testing laboratory engaged by the Contractor and acceptable to the County shall be furnished prior to installation of masonry units.
    a. For each type of masonry unit, certified preconstruction test reports, including compressive strength, absorption, dimensional analysis, unit weight, and moisture content in accordance with ASTM C140.
2. Certifications:
    a. Submit certification stating that concrete masonry units meet specification requirements and that masonry units conform to the special strength requirements of this Detailed Provisions Section. Each certificate shall be signed by the masonry unit manufacturer and shall contain the name of the manufacturer, project location, and the quantity and dates of shipment or delivery to which the certificate applies.
    b. Certify that the Contractor is not associated with the independent testing laboratory and that the Contractor or its officers have no beneficial intent in the laboratory.
3. Qualifications:
    a. Independent Testing Laboratory: Name, address, and qualifications. Laboratories affiliated with the Contractor or in which the Contractor or its officers have a beneficial interest are not acceptable.

1.04 DELIVERY, STORAGE, AND HANDLING

A. All materials for the Work of this Detailed Provisions Section shall be delivered, stored, and handled so as to preclude damage of any nature. Store masonry units off the ground and protected from weather.

B. All masonry shall be shipped stacked with pallets, shrink wrap, banding, plastic, and/or cardboard protection or other suitable protective device, and shall be similarly

protected and stacked off the ground on the project location. Masonry shall be protected from the weather and staining with the use of tarpaulins or other plastic covering approved by the County.

1. Units shall be well covered and protected during manufacture, storage, shipping, and while on the jobsite to prevent contamination which may lead to efflorescence in the finished Work. If efflorescence occurs in the finished Work, the County may order the removal and replacement of areas so affected at no additional cost to the County.

C. Store masonry accessories including metal items to prevent corrosion and the accumulation of dirt and oil.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:

1. Concrete Masonry Units:
   a. Angelus Block Company, Inc.; www.angelusblock.com
   b. Orco Block Company; www.orco.com
   c. RCP Block and Brick, Inc.; www.rcpblock.com
   d. Or approved equal.
2. Grout Admixture:
   a. Grout Aid Type 2 by Sika Corporation; www.sika.com
   b. Or approved equal.
3. Concrete Masonry Unit Sealer (Non-Paint Finish):
   a. Dayton Superior Corporation, Weather Worker J-29; www.daytonsuperior.com.
   b. Thoro Consumer Products a part of BASF Chemical Company; Concrete and Masonry Sealer, https://www.master-builders-solutions.com/
   c. Or approved equal.
4. Cleaning Materials:
   a. Sure Klean No. 600 by PROSOCO, Inc.; www.prosoco.com
   b. Or approved equal.

B. Submit request for substitution in accordance with Detailed Provisions Section 01 6000 – Product Requirements.

2.02 MATERIALS

A. Concrete Masonry Units (Concrete Block):

1. Concrete block masonry units (CMU) for wall structure shall be six-inch by eight-inch by eighteen-inch (6" x 8" x 18") CMU, or as specified in Project Drawings, and shall conform to sub-section 202-2.2 of the Standard Specifications.
2. Reinforced concrete for wall footing shall be Class 560-C-3250 in conformance Section 201-1 of the Standard Specifications.
3. Reinforcing steel (rebar) for wall footing shall be grade 60 and shall conform to sub-section 201-2.2.1 of the Standard Specifications.
4. Mortar, grout, and water used in construction of CMU shall conform to sub-section 202-2.1 and Section 202-3 of the Standard Specifications. Mortar shall attain a minimum compressive strength of 1,800 psi and grout shall attain a minimum compressive strength of 2,000 psi in 28 days when tested in accordance with ASTM C109.

PART 3 EXECUTION

3.01 MASONRY SPLASH WALL AND/OR CONCRETE BLOCK MASONRY WALLS

A. Concrete block masonry wall structure shall be constructed in accordance with Section 303-4 of the Standard Specifications.

B. Concrete block masonry wall structure shall be placed along entire length of horizontal curve and constructed in accordance with the relevant details on the Project Drawings.

C. The subgrade for the concrete block masonry wall and shotcrete gutter shall be prepared to the specified elevations, compacted to 90% relative compaction, contain no loose material, and subject to the approval of the County and QA/QC Consultant.

3.02 REINFORCING STEEL

A. Concrete block masonry wall reinforcing steel shall be constructed in accordance with Section 303-4.1.3 of the Standard Specifications.

3.03 GROUTING

A. Grouting Requirements:

1. Cells of concrete unit masonry shall be filled solid with grout where indicated. Cells containing reinforcement and anchorage or built-in items shall be filled solid with grout. Comply with applicable requirements of ACI 530.1.
2. Reinforcing steel shall be secured in place, inspected, and approved before grouting starts.

3. Mortar droppings and projections shall be kept out of the grout space. Webs, wythes, and reinforcement shall be cleaned of mortar droppings before grout is placed.

4. Grout shall be consolidated by mechanical vibration.

5. Cells shall be filled solid with grout, and pours shall be stopped 1½ inches below the top of a course to form a key at pour joints.

B. Grout Construction:

1. Grout construction, including grout placement, consolidation, and reconsolidation, shall conform with applicable requirements of ACI 530.1, except as otherwise specified herein.

2. Grout shall be placed in lifts not to exceed two (2) feet, with a waiting period of one (1) hour between lifts. The full height of the wall or masonry section shall be placed in one (1) day.

3. Vibrate grout thoroughly the entire height of the pour when first placed to push grout into all spaces and interstices. After the waiting period of one (1) hour, place second lift and vibrate the pour again to penetrate not more than half way into the first lift. Repeat this placing operation, waiting period, and consolidating technique until the top is reached. The top pour of lift shall likewise be reconsolidated after waiting period to allow excess water to be absorbed and escape.

3.04 REPAIRING AND POINTING

A. Upon completion of the Work, carefully examine masonry surfaces and cut out and replace broken or defective units. Rake out defective mortar joints and repoint.

3.05 CLEANING

A. After erection and pointing, masonry shall be cleaned down with stiff brushes and water, followed by a thorough rinsing with clean water. All mortar deposits, stains, or other foreign matter shall be removed from masonry surfaces.

B. After masonry has been fully grouted, laitance and stains that have percolated through the blocks and mortar joints shall be hosed off with water under pressure.

3.06 CURING

A. Masonry work and top of the grout pour shall be damp-cured for at least seven (7) days to prevent too rapid drying during hot or drying weather, and drying winds.

B. Walls shall be kept moist or damp with water from a fogging nozzle, but shall not be wet to the point that free water drops from the surface.

3.07 FIELD QUALITY CONTROL

A. Slump Tests:

1. Perform slump tests of grout during grout placement in accordance with ASTM

C1019 and ASTM C143.

B. Strength Tests:

1. Provide laboratory tests conforming to the following requirements:

   a. Concrete Masonry Units: Compressive and tensile strength tests shall be performed in accordance with ASTM C240 and C1006. Three units shall be tested for each 2,000 square feet, or fraction thereof, of wall area.

   b. Mortar: Compressive strength tests shall be performed in accordance with ASTM C109. Three (3) cubes shall be tested for each 2,000 square feet, or fraction thereof, of wall area, one (1) at seven (7) days and two (2) at twenty-eight (28) days.

   c. Grout: Compressive strength tests shall be performed in accordance with ASTM C1019. Three (3) square prisms shall be tested for each batch of grout.

END OF SECTION 04 2200

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 31 1000: SITE CLEARING

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SECTION 31 1000
SITE CLEARING

PART 1 GENERAL

1.01 SUMMARY

A. Description:

1. This Work consists of site clearing, grubbing, stripping of topsoil, and demolition of structures and obstructions found within the limits of the Project including Work for loading, hauling, and disposing of non-salvageable materials obtained as part of the Contractor's site clearing operation.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Section 02 4100 – Demolition
3. Section 31 2133 – Trenching, Backfilling, and Compacting for Utilities.
4. Section 31 2300 – Earthwork.

1.02 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Perform Work, including disposal of debris, in accordance with rules and regulations of Federal, State, and local agencies having jurisdiction.

1.03 SUBMITTALS

A. Project Record Documents

1. Record actual locations of buildings, structures, utilities, and infrastructure improvements and elevations. Identify and describe unexpected variations to subsoil conditions or discovery of undocumented utilities.

1.04 SURROUNDING SITE CONDITION SURVEY

A. Prior to commencing the Work, Contractor and County shall tour the jobsite together to examine and record damage to the site. This record shall serve as basis for determination of subsequent damage due to Contractor's operations and shall be signed by all parties making the tour. Any cracks, sags, or damage to adjacent buildings, structures, and infrastructure improvements not noted in the original survey, but subsequently discovered, shall be reported to the County immediately.

1.05 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. Prior to commencing the Work, Contractor shall locate and surface mark (with colors specified by USA) all known existing underground structures and utilities. Stake and flag utility valve boxes and other surface improvements. Prior to commencing the

Work, call Underground Service Alert of Southern California (USA/SC) at 811, the one-call underground facility locating service two (2) Working Days prior to start. Contractor shall be responsible for such notification of Subcontractor's Work, or shall require Subcontractor to assume this responsibility. Provide USA/SC notification permit number to County prior to starting site Work. Existing underground structures and utilities shall be kept in service unless approval to interrupt or shutdown service is obtained from County. If damaged, the utility shall be repaired at no additional cost to the County.

B. Contractor shall uncover, prior to any earthwork, all existing piping where crossings, interferences, close proximity (five (5) feet or less) or connections are shown on the Project Drawings, from one (1) foot below proposed elevation to the existing ground surface. Any variation in the actual elevations and the indicated elevations shall be brought to the County's attention. If the Contractor does not expose all existing utilities, Contractor shall not be entitled to additional compensation for Work necessary to avoid interferences.

C. If interferences occur at locations other than the general locations shown on the Drawings, and such utilities are damaged before their locations have been established, or create an interference, the Contractor shall notify the County and a method for repairing the damage or correcting the interference shall be provided by the County. Payment for additional Work due to interferences not shown on the Project Drawings shall be in accordance with the General Provisions.

D. Care shall be exercised to prevent damage to adjacent facilities including structures, pavement and drainage facilities from settlement, lateral movement, undermining, and washout and other hazards. Where equipment will pass over obstructions, suitable planking and/or bridging shall be provided by the Contractor. Damaged facilities due to the Contractor's operations shall be removed and replaced at the Contractor's expense.

E. If any structure or utility is damaged, take immediate action to ensure the safety of persons and property. Correct damage immediately. Contractor shall bear all costs of correction, replacement, repair, restoration, including related damages additional testing, inspection, and compensation for County's services and expenses. Compensation to the County shall be made by deducting expenses from final contract payment.

F. No Work is to be performed on energized electrical equipment unless scheduled with the County.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 PREPARATION

A. Notify County before starting Work and comply with County requirements.

B. Do not close or obstruct roadways, structures or utilities without County's approval.

3.02 SITE CLEARING

A. Tribal and Paleontological Monitors have the ability to stop and relocate construction activities if an onsite, tribal or paleontological resource is found.

B. Conduct clearing with minimum interference to public and private access. Maintain egress and access from adjacent areas at all times.

C. Clear the site within the limits shown and remove all pavement, aggregate base, shrubs, remaining brush, stumps, roots and waste material that would interfere with construction operations, except as specifically indicated otherwise on the Project Drawings or as identified by the County.

D. Salvage Existing Aggregate Base:

1. Strip aggregate base materials to depths encountered.

a. Separate from underlying subsoil or objectionable material.

2. Stockpile aggregate base material where directed by County.

a. Construct storage piles to freely drain surface water.

E. Clearing and Grubbing:

1. Clear from within limits of construction all vegetation not marked to remain.

a. Include shrubs, brush, downed timber, rotten wood, heavy growth of grass and weeds, vines, rubbish, pavement, structures and debris.

2. Grub (remove) from within limits of construction all stumps, roots, root mats, logs and debris encountered.

a. Totally grub under areas to be paved and where structures will be constructed.

F. Pollution and Dust:

1. Wet down dirt areas by spraying as required to prevent dust from becoming airborne.

G. In areas not to be further excavated, fill depressions resulting from site clearing. Place and compact satisfactory soil materials to a minimum of ninety percent (90%) compaction in 6-inch lifts, unless specified otherwise.

H. Disposal of Waste Materials:

1. Do not burn combustible materials on-site.

2. Remove all waste materials from site. At the County's direction, topsoil material not containing unreasonable amounts or organic material may be stockpiled on-site in a location as directed by the County.

3. Do not bury organic matter on-site.

4. If approved by the County in writing, waste material may be buried on site at an active dumping area.

3.03 ACCEPTANCE

A. Upon completion of the site clearing, obtain County's acceptance of the extent of clearing, depth of stripping and rough grade.

END OF SECTION 31 1000

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 31 2133: TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES

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SECTION 31 2133
TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES

PART 1 GENERAL

1.01 SUMMARY

A. This Work consists of excavation, backfilling and compacting for all underground utilities.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Division 03 – Concrete
3. Section 31 2300 – Earthwork.

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Society for Testing and Materials (ASTM):
   a. ASTM C33/C33M – Standard Specification for Concrete Aggregates.
   b. ASTM D75/D75M – Standard Practice for Sampling Aggregates.
   c. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).
   d. ASTM D1556/D1556M – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
   e. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).
   f. ASTM D2216 – Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
   g. ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
   h. ASTM D2487 – Classification of Soils for Engineering Purposes (Unified Soil Classification System).
   i. ASTM D2488 – Standard Practice for Description and Identification of Soils
   j. ASTM D4253 – Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
   k. ASTM D4254 – Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
   l. ASTM D4643 – Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating

m. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

2. California Code of Regulations (CCR): CCR Title 8 – Industrial Relations.

3. California Department of Industrial Relations – Division of Occupational Safety and Health (Cal-OSHA).

4. California Labor Code – Section 6705

5. State of California, Business and Transportation Agency, Department of Transportation (Caltrans):

   a. Caltrans Standard Specifications – Division III: Earthwork and Landscape

   b. Caltrans Manual of Uniform Traffic Control Devices; http://www.dot.ca.gov/hq/traffops/engineering/mutcd/

1.03 DEFINITIONS

A. Backfill Material: Backfill for both trench backfill and pipe bedding (or pipe zone backfill).

B. Pipe Bedding: Layer of material immediately below pipe or conduit and extending over the full trench width in which the pipe is bedded. Thickness of pipe bedding shall be a minimum of 6-inches compacted to ninety percent (90%) relative compaction. Bedding material may be specified as sand, rock, gravel, or concrete base, cradle, or encasement.

C. Pipe Zone: The pipe zone shall include the full width of trench from the bottom of the pipe or conduit to a horizontal level 12-inches above the top of the pipe or conduit. Where multiple pipes are placed in the same trench, the pipe zone shall extend from the bottom of the lowest pipe or conduit to a horizontal level above the top of the highest or topmost pipe. Thickness of pipe zone above the highest top of pipe shall be a minimum of 12-inches.

D. Relative Compaction: Ratio, expressed as a percentage of the in-place dry-density as compacted to a laboratory maximum dry-density of representative sample of the same material determined by ASTM D1557.

E. Standard Specifications: Refers to the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation (Caltrans), latest edition. In case of conflict between the Standard Specifications and these Specifications, the strictest specifications shall govern. Provisions for measurement and payment specified within the Standard Specifications shall be disregarded and the provisions of these Contract Documents shall govern.

F. Subgrade: Previously undisturbed material prepared, and compacted to required density and elevation to support a structure, pavement system, or to receive additional specified materials.

G. Trench Zone: The trench zone includes the portion of the trench from the top of the pipe zone to the bottom of the pavement zone or to the existing surface in unpaved areas.

H. Unsuitable Material: Shall consist of materials determined by the County and/or Testing/Inspection Provider to be:

1. Soft, loose, unstable or yielding, or
2. Previously placed uncontrolled fill, or
3. Designated material to be overexcavated per geotechnical report requirements, or
4. Unable to be compacted to specified density using ordinary methods at optimum moisture content, or
5. Contains visible or excessive deleterious material as determined by the County or Testing/Inspection Provider, or
6. Too wet to be properly compacted and circumstances prevent processing suitable in-place drying prior to being used as backfill, or
7. Otherwise unsuitable for planned use.

Such material shall be removed to the limits directed by the County and the resulting excavation backfilled with engineered fill material.

I. Upper Zone: The upper zone includes the portion of the trench from the top of the pipe zone to the bottom of the pavement zone or to the existing surface in unpaved areas.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data including:
   a. Acknowledgement that products submitted meet requirements of standards referenced.
   b. Manufacturer's installation instructions.
2. Submit respective pipe or conduit manufacturer's data regarding bedding methods of installation and general recommendations.
3. Deliver bulk samples of import backfill materials to County in quantities sufficient for testing. Deliver at least fifteen (15) Days prior to use.
4. Excavation Plan:
   a. In accordance with Section 5-5.1.1 – Accident Prevention of the General Provisions, Contractor shall submit to the County a detailed plan showing the design of shoring, bracing, sloping of the sides of trenches, or other provisions to be made for the protection of personnel during earthwork operations.
   b. County acceptance of the Excavation Plan does not release the Contractor of liability in the event of an accident or injury, nor does it place any liability on the County or any County employees.

5. Trench shoring or shield (trench box) certification if employed:
    a. Specific to Project Conditions.
    b. Certified by Professional Structural Engineer, registered in California.
    c. County is not responsible to, and will not, review and approve.
    d. Cal-OSHA Contractor compliance information for trench safety. Submit an exemption letter or trenching permit from Cal-OSHA and comply with California Labor Code Section 6705, Excavation Plans for Worker Protection.
    e. Submit a Confined Space Emergency Plan prior to any personnel entering trenches or excavations greater than four (4) feet in depth.
6. Testing laboratory reports verifying that imported material conforms to the specified gradations or characteristics.

C. Quality Assurance Submittals:
1. Submit sieve analysis reports on all granular materials.
2. Submit field quality control test results.

1.05 SAFETY PRECAUTIONS

A. Observe safety precautions in all phases of the Work. Included shall be trench shoring, bracing, lighting, and barricades as dictated by reason and by Safety Orders of the Division of Industrial Safety, State of California (Cal-OSHA).

B. Acquire an exemption letter or trenching permit from Cal-OSHA and comply with California Labor Code Section 6705, Excavation Plans for Worker Protection. Submit a copy of the exemption letter or trenching permit with excavation drawings to the County prior to excavation work.

C. Install all necessary underpinning, shoring, lagging, cribbing, and bracing of ample strength to support adjoining soils, paving and structures.

D. Barricade open depressions and holes occurring as part of this Work, and post warning lights on property adjacent to or with public access.

E. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

F. No trenches deeper than four (4) feet shall be left open during non-working hours, unless temporary steel plating and shoring support for the plates is provided to completely cover excavation. See Paragraph 1.06.I. herein.

G. Install fences and barricades to secure excavation areas.

1.06 PROJECT CONDITIONS

A. Avoid overloading or surcharge a sufficient distance back from edge of excavation to prevent slides or caving.

1. Maintain and trim excavated materials in such manner to be as little inconvenience as possible to landfill operations.

B. Provide full access to areas required for landfill operations and points as designated by the County to prevent serious interruption of travel.

C. Protect and maintain benchmarks, monuments or other established points and reference points and if disturbed or destroyed, replace items to full satisfaction of the County.

D. Verify location of existing underground utilities.

E. When performing underground work, the Contractor shall call Underground Service Alert of Southern California (USA/SC) at 811, the one-call underground facility locating service two (2) Working Days prior to making an excavation. Contractor shall be responsible for such notification of Subcontractor's Work, or shall require Subcontractor to assume this responsibility.

F. The Contractor's attention is directed to the possible existence of pipe, conduit and other underground improvements which may or may not be shown on the Project Drawings. Preserve and protect any such improvements whether shown on the Project Drawings or not. Expose such improvements in advance of the underground construction to allow for changes in alignment as necessary. Where it is necessary to remove and replace or to relocate such improvements in order to prosecute Work, they shall be removed, maintained, and permanently replaced by the Contractor at their expense. Relocation of said improvements shall not be performed without written permission of the County or the owner of the utility. Unless otherwise noted, existing underground utilities shall be protected in place.

G. Excavation made with power driven equipment is not permitted within five (5) feet of any know utility or subsurface construction. For Work immediately adjacent to or for excavation exposing a utility or other buried obstruction, use hand or light equipment excavation. Start excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing Work as affected by the contract excavation until approval for backfill is granted by the County. The Contractor shall report damage of utility lines or subsurface construction immediately to the County and make repairs at no additional cost to the County.

H. Protect excavations by shoring, bracing, sheeting, underpinning, or other methods as required, to prevent cave-ins or loose dirt from entering excavations. Barricade open excavations and post warning lights at work adjacent to roadways and walks.

I. Contractor shall provide temporary steel plating and shoring support for the plates, to completely cover the excavation created across roadways. Temporary steel plating must be provided by the Contractor for areas which will remain open overnight. The temporary plating shall be a minimum of 0.75-inch thickness steel, but in no case shall the thickness be less than that required to support AASHTO-H20 traffic loading. Provide a visible barrier along the excavation path on each side of the roadway with a combination of highly visible "Caution Tape" and construction cones.

J. Protect existing streams, ditches and storm drain inlets using proper erosion control methodology.

K. Do not use explosives unless approved otherwise in writing by the County.

L. Provide dust alleviation and control measures continuously during the course of the Work to the satisfaction of the County.

1.07 SOILS TESTING

A. A Testing/Inspection Provider will be procured by the County for testing and inspection as required by the Contract Documents.

B. All materials, Work, methods and equipment shall be subject to inspection at the jobsite and import sources. Material or workmanship not complying with the Contract Documents will not be accepted. The Contractor shall give the Testing/Inspection Provider reasonable notice when ready for inspection and shall supply samples for inspection without extra charge.

C. Cost of Testing:

1. With the exceptions of retest due to material or Contractor workmanship, the County will assume the cost for all tests and inspections specified to be performed by the Testing/Inspection Provider. Additional costs of retesting incurred by the County shall be deducted from the Contract Final Payment.

D. Tests performed by the Testing/Inspection Provider may include, but are not limited to:

1. Determine the density of soil in place by the sand cone method, ASTM D1556 or by nuclear methods, ASTM D6938.

2. Determine laboratory moisture-density relations of soils by ASTM D1557.

3. Determine the relative density of cohesion-less soils by ASTM D4253 and D4254.

4. Visual soil classification by ASTM D2488.

5. Sample backfill materials in accordance with ASTM D75.

6. Conduct in-place moisture-density tests for backfilling to assure that all work complies with this Detailed Provisions Section.

E. Make excavation for compaction tests at the locations and to the depths designated by the Testing/Inspection Provider. Backfill and re-compact the excavation at completion of testing. When test indicate that the compaction is less than the specified relative compaction, rework and retest those areas until the specified relative compaction has been obtained.

PART 2 PRODUCTS

2.01 MATERIALS

A. Pipe Bedding and Pipe Zone Materials:

1. Imported sand consisting of natural or manufactured granular material, or a combination thereof, free of deleterious amounts of organic material, mica, loam,

clay, and other substances. The material must have been tested to a minimum Sand Equivalent of 30 within two (2) weeks of its use. Imported sand shall have the following gradation or similar:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3/8”	100
#4	75-100
#30	12-50
#100	5-20
#200	0-15

2. Pipe bedding thickness = $^1/_8$ pipe outside diameter or 6-inches, whichever is greater.
3. Special requirements for bedding may be described as part of the Special Conditions, pipe manufacturer’s instructions or as shown on the Project Drawings shall supersede and take precedence over any and all other requirements found elsewhere in these Detailed Provisions.

B. Trench Zone Backfill Materials - General:

1. Backfill material shall consist of suitable material from excavation or imported when suitable material is not available from the excavated material. All excavated materials incorporated as part of trench backfill must be inspected and approved to be suitable by the County and/or Testing/Inspection Provider. Excavated material may need to be processed to meet specification requirements and shall be provided at the Contractor’s expense.
2. Free of rock cobbles, roots, trash, vegetation or other organic matter.
3. Contains no lumps of rocks over 3-inches in greatest dimension, and with no more than fifteen percent (15%) of rocks over 2-inches in their greatest dimension.
4. Backfill materials that are obtained from trench excavated materials to the extent such material is available, shall be screened at the discretion of the County. Hand selecting of rocks from excavated material will not be permitted in lieu of screening. Under no circumstances will native earth materials be allowed or used in the pipe bedding, pipe zone, or directly under paved roads.
5. Special requirements for trench backfill materials may be described as part of the Special Conditions, pipe manufacturer’s instructions or as shown on the Project Drawings shall supersede and take precedence over any and all other requirements found elsewhere in these Detailed Provisions.

C. Unsuitable Material:

1. Shall consist of materials too wet, soft, or loose to properly support the utility pipe, conduit or appurtenant structure. Such material shall be removed to the limits directed by the County or Testing/Inspection Provider and the resulting excavation backfilled with pipe bedding material compacted to a minimum of ninety percent (90%) relative compaction.

D. Controlled Density Fill (CDF)

1. As approved on a case-by-case basis by the County, controlled density fill (CDF) may be accepted in lieu of standard trench backfill materials. It shall be mandatory in trenches 8-inches wide or less where the prevention of subsequent settlement after placement of backfill is required. CDF shall conform to the following requirements:

   a. CDF shall produce unconfined 28-day compressive strengths from 75 psi to a maximum of 175 psi. CDF material characteristics and approximate quantities for each component per cubic yard of mixed material shall be as follows:

      1) Cement (ASTM C150, Type I or II): 50 lbs.

      2) Fly ash (ASTM C618, for Class F pozzolans): 200 lbs.

      3) Fine sand: 2,700 lbs.

      4) Water: 420 lbs.

      5) Air content (air entraining agent- ASTM C260): 10%.

      6) Actual quantities shall be adjusted to provide a yield of one (1) cubic yard with the materials used.

   b. Fine Sand: Fine sand shall be an evenly graded material having not less than ninety-five percent (95%) passing the No. 4 sieve and not more than five percent (5%) passing the No. 200 sieve.

   c. Mix Design and Proportions:

      1) CDF shall be a mixture of cement, Class F pozzolan, fine sand, water and air having a consistency which will flow under a very low head. CDF shall be batched by a ready-mixed concrete plant and delivered to the site by means of transit mixing trucks.

      2) Mix design shall be submitted for County approval.

      3) Approximate compressive strength should be 85 psi to 175 psi.

      4) Mixing and handling of the material shall be in accordance with Detailed Provisions Section 03 3131 – Concrete Mixing, Placing, Jointing and Curing.

E. Subgrade Stabilization Materials: Clean (less than five percent (5%) fines) compacted structural fill in accordance with Detailed Provisions Section 31 2300 – Earthwork.

PART 3 EXECUTION

3.01 GENERAL

A. Remove and dispose of unsuitable materials as directed by the County.

B. Trenches shall be excavated in such a manner as to ensure that trench sidewalls will be stable under all working conditions.

C. Trench walls shall be sloped and/or supported in conformance with Cal-OSHA standards.

D. All excavations shall be barricaded in conformance with Cal-OSHA standards.

E. Prior to excavation, Contractor shall acquire and submit an exemption letter or trenching permit from Cal-OSHA and comply with Labor Code Section 6705, Excavation Plans for Worker Protection.

F. Sheeting and shoring for the Work and for the safety of personnel shall be in compliance with Cal-OSHA regulations. Shoring is required for all trench portions greater than 4-feet in depth. Trenches greater than 20-feet in depth require protection systems designed by Professional Structural Engineer licensed in California.

3.02 EXCAVATION

A. Unclassified Excavation: Remove rock excavation, clay, silt, gravel, hard pan, loose shale, and loose stone as directed by the County.

B. Excavation for Appurtenances:

1. 12-inch (minimum) clear distance between outer surface and embankment.

2. See Detailed Provisions Section 31 2300 – Earthwork for applicable requirements.

C. Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in an orderly manner at a distance from the banks of the trench equal to one-half the depth of the excavation, but in no instance closer than 2-feet. At Contractor's expense, excavated material not required or not suitable for backfill shall be disposed of or if deemed suitable by the County, may be stockpiled on-site in a location as directed by the County.

D. Grading shall be completed as necessary to prevent surface water from flowing into the excavation, and any water accumulating therein shall be removed to maintain the stability of the bottom and sides of the excavation.

E. Trench Excavation:

1. The trench shall be excavated as recommended by the manufacturer of the pipe or conduit to be installed.

2. Open trench outside buildings, units, and structures:

a. No more than the distance between two vaults, structures, units or three hundred (300) linear feet, whichever is less.

b. Field adjust limitations as weather conditions dictate.

3. Trenching within buildings, units, or structures:

a. No more than one hundred (100) linear feet at any one time.

4. Any trench or portion of trench, which is opened and remains idle for seven (7) Calendar Days, or longer, as determined by the County, may be directed to be immediately refilled, without completion of Work, at no additional cost to the County.

a. Said trench may not be reopened until County is satisfied that Work associated with trench will be prosecuted.

5. Observe following trenching criteria:

a. Trench size:

1) Excavate width to accommodate free working space.

2) Unless otherwise specified in the Special Conditions, pipe manufacturer instructions, or on the Project Drawings, maximum trench width at top of pipe or conduit may not exceed outside diameter of utility service by more than the following dimensions:

OVERALL DIAMETER OF UTILITY SERVICE	EXCESS DIMENSION
33-inches and less	18-inches
More than 33-inches	24-inches

3) Cut trench walls vertically from bottom of trench to 1-foot above top of pipe, conduit, or utility service.

4) Keep trenches free of surface water runoff.

(a) No separate payment for surface water runoff pumping will be made by the County.

6. Where the pipe or conduit is in an existing paved area, the pavement shall be saw cut in a straight line parallel to the pipe on each side. Saw cutting operations shall be performed prior to excavation to avoid excessive removal of pavement. Care shall also be taken during installation of pipe or conduit to avoid damage to adjoining surfaces.

F. Removal of Rock

1. Contractor shall notify County when rock is encountered at the bottom of a trench. Rock shall be removed to a depth and in a manner as directed by the County and replaced with select granular material.

G. Removal of Unsuitable Material

1. Contractor shall notify County when unsuitable material is encountered in the bottom of the trench. Such material shall be removed to the depth directed and replaced to proper grade with select granular material or compacted structural fill in accordance with Detailed Provisions Section 31 2300 – Earthwork.

3.03 PREPARATION OF FOUNDATION FOR PIPE LAYING

A. Over-Excavation:

1. Excavate minimum of 6-inches below bottom exterior surface of the pipe or conduit.

2. Backfill and recompact to ninety percent (90%) of maximum dry density per ASTM D1557.

3. Backfill with granular bedding material as option.

B. Rock Excavation:

1. Excavate minimum of 6-inches below bottom exterior surface of the pipe or conduit.

2. Backfill to grade with suitable earth or granular material to ninety percent (90%) of maximum dry density per ASTM D1557.

3. Form bell holes in trench bottom.

C. Subgrade Stabilization:

1. Stabilize the subgrade when directed by the County.

2. Observe the following requirements when unstable trench bottom materials are encountered.

a. Notify County when unstable materials are encountered.

1) Define by drawing station locations and limits.

b. Remove unstable trench bottom caused by Contractor failure to dewater, rainfall, or Contractor operations.

1) Replace with subgrade stabilization with no additional compensation.

3.04 BACKFILLING METHODS

A. Do not backfill until tests to be performed on system show system is in full compliance to specified requirements.

B. Carefully Compacted Backfill:

1. Furnish where indicated on Drawings, specified for trench embedment conditions and for compacted backfill conditions up to 12-inches above top of pipe or conduit.

2. Comply with the following:

a. Place backfill in lifts not exceeding 8-inch (loose thickness).

b. Hand place, shovel slice, and pneumatically tamp all carefully compacted backfill.

c. Observe specific manufacturer's recommendations regarding backfilling and compaction.

d. Compact each lift to specified requirements.

C. Common Trench Backfill:

1. Perform in accordance with the following:

a. Place backfill in lift thicknesses capable of being compacted to specified densities.

b. Observe specific manufacturer's recommendations regarding backfilling and compaction.

c. Avoid displacing joints and appurtenances or causing any horizontal or vertical misalignment, separation, or distortion.

D. Water flushing (jetting) for consolidation is not permitted.

3.05 COMPACTION

A. General:

1. Place and assure bedding, backfill, and fill materials achieve an equal or higher degree of compaction than undisturbed materials adjacent to the Work.

2. In no case shall degree of compaction below minimum compactions specified shall be accepted.

B. Compaction Requirements:

1. Unless noted otherwise on Drawings or more stringently by other Detailed Provisions Sections, comply with the following minimum trench compaction criteria.

a. Bedding material:

LOCATION	SOIL TYPE	COMPACTION DENSITY
All locations	Cohesionless soils	75% of relative density by ASTM D4253 and ASTM D4254.

b. Carefully compacted backfill:

LOCATION	SOIL TYPE	COMPACTION DENSITY
All applicable areas	Cohesive soils	95% of maximum dry density by ASTM D1557.
	Cohesionless soils	75% of relative density by ASTM D4253 and ASTM D4254.

c. Common trench backfill:

LOCATION	SOIL TYPE	COMPACTION DENSITY
Under pavements, roadways, surfaces within traffic areas.	Cohesive soils	95% of maximum dry density by ASTM D1557.
	Cohesionless soils.	60% of relative density by ASTM D4253 and ASTM D4254.

3.06 FIELD QUALITY CONTROL

A. The County shall procure the services of a Testing/Inspection Provider and laboratory to conduct in-place moisture-density tests for backfilling to assure that all Work complies with this Detailed Provisions Section.

B. Testing:

1. Perform in-place moisture-density tests as directed by the County.
2. Perform tests through recognized testing laboratory approved by the County.
3. Perform additional tests as directed until compaction meets or exceeds requirements.
4. Assure County and Testing/Inspection Provider staff has immediate access for testing of all soils-related work.
5. Ensure excavations are safe for testing personnel.

END OF SECTION 31 2133

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 31 2300: EARTHWORK

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SECTION 31 2300
EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

A. Work includes:

1. Regardless of the nature or type of the materials encountered, includes excavating and grading for site grades, constructing earthen diversion berms; hauling and stockpiling of daily cover material from the designated borrow area to wet weather pad; and removing sediment from the SW Sedimentation Basin at the Badlands Landfill, roadways, excavating below grade, excavating channels and ditches, removing slide material, and disposing of all excavated material. These activities may be performed in making cuts, embankments, slopes, fills, roadways, drainage features, completing finished grade, and in completing related Work where shown on the Project Drawings or as designated by the County.
2. Finish grading shall consist of scarifying and establishing finish grade to conform to Project Drawings.
3. Removal of unsuitable materials.
4. Over-excavation and recompaction of suitable materials.
5. Subgrade preparation and engineered fill placement.
6. Aggregate base placement.
7. Dust alleviation and control.
8. Erosion control measures to prevent run-off of sediment and other unsuitable materials.
9. Location of Work: All areas within limits of grading and all areas outside limits of grading which are disturbed in the course of the Work.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Section 31 1000 – Site Clearing.
3. Section 31 2133 – Trenching, Backfilling, and Compacting for Utilities.
4. Section 31 2500 – Erosion Control and Sedimentation Controls.
5. Section 32 1123 – Aggregate Base Course.

C. Related Available Information:

1. On Call Site Improvements

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Association of State Highway and Transportation Officials (AASHTO):
    a. AASHTO T90 – Determining the Plastic Limit and Plasticity of Index Soils.
    b. AASHTO T180 – Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop.
2. American Society for Testing and Materials (ASTM):
    a. ASTM C33/C33M – Standard Specification for Concrete Aggregates.
    b. ASTM D75/D75M – Standard Practice for Sampling Aggregates.
    c. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).
    d. ASTM D1556/D1556M – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
    e. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).
    f. ASTM D2167 – Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
    g. ASTM D2216 – Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
    h. ASTM D2419 – Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregates
    i. ASTM D2487 – Classification of Soils for Engineering Purposes (Unified Soil Classification System).
    j. ASTM D2488 – Standard Practice for Description and Identification of Soils
    k. ASTM D3786/D3786M – Standard Test Method for Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method.
    l. ASTM D4253 – Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
    m. ASTM D4254 – Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
    n. ASTM D4632/D4632M – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
    o. ASTM D4643 – Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating
    p. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
3. California Code of Regulations (CCR): Title 8 – Construction Safety Orders.

4. California Department of Industrial Relations – Division of Occupational Safety and Health (Cal-OSHA).
5. State of California; Business, Transportation and Housing Agency; Department of Transportation (Caltrans):
    a. Caltrans Standard Specifications – Division III: Earthwork and Landscape

B. Testing and Inspection Service:
1. County will procure Testing/Inspection Provider services, for quality assurance testing during earthwork operations.

1.03 DEFINITIONS

A. Backfill: Refill of an excavation, previously removed.

B. Earth Excavation: Earth excavation includes excavation of pavement and other obstructions visible on the ground surface, underground structures, utilities and other items to be demolished and removed; together with earth and other materials encountered that are not classified as rock or unauthorized excavation.

C. Fill: Placement of material in an excavation or on prepared subgrade to final grade.

D. Finish Grade: The establishment of grades to a plus or minus 0.05’ of final grades as indicated on Project Drawings.

E. Finished Grade Elevations: Indicated on Project Drawings.

F. Grading Intent: Spot elevations (grades) and contours are indicated based on the best available data. Drawings are referenced to provide additional site grading data. The intent is to maintain constant slopes between spot elevations. If a spot elevation is determined to be in error, or the difference in elevation between points change, contact the County immediately for field adjustments of spot elevations.

G. Relative Compaction: Ratio, expressed as a percentage of the in-place dry-density as compacted to a laboratory maximum dry-density of representative sample of the same material determined by ASTM D1557.

H. Rough Grade: The establishment of grades to one-tenth ($^1/_{10}$) of a foot plus or minus tolerance of grades required to accomplish the Work described on Project Drawings or applicable Detailed Provisions Sections.

I. Standard Specifications: Refers to the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation (Caltrans), latest edition. In case of conflict between the Standard Specifications and these Specifications, the strictest specifications shall govern. Provisions for measurement and payment specified within the Standard Specifications shall be disregarded and the provisions of these Contract Documents shall govern.

J. Structural Fill: Any fill placed under structures, and any backfill placed adjacent to buried walls.

K. Sub-base: Compacted layer of approved material used between the subgrade and the pavement.

L. Subgrade: Previously undisturbed material prepared and compacted to required density and elevation to support a structure, pavement system, or to receive additional specified materials.

M. Subgrade Elevations: 4-inches below finish grade elevations indicated on Project Drawings, unless otherwise indicated.

N. Unauthorized Excavation: Includes removal and disposal of material beyond subgrade elevations, and dimensions indicated without prior approval of the County.

O. Unsuitable Material: Shall consist of materials determined by the County and/or Testing/Inspection Provider to be:

1. Soft, loose, unstable or yielding, or
2. Previously placed uncontrolled fill, or
3. Designated material to be over excavated, or
4. Unable to be compacted to specified density using ordinary methods at optimum moisture content, or
5. Contains visible or excessive deleterious material as determined by the County or Testing/Inspection Provider, or
6. Too wet to be properly compacted and circumstances prevent processing suitable in-place drying prior to being used as backfill, or
7. Otherwise unsuitable for planned use.

Such material shall be removed to the limits directed by the County and the resulting excavation backfilled with engineered fill material.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data including:
   a. Acknowledgement that products submitted meet requirements of standards referenced.
   b. Manufacturer's installation instructions.
2. Certified supplier gradation results for import materials such as aggregate base, rock, and rip-rap.
3. Deliver bulk samples of import fill materials to County in quantities sufficient for testing. Deliver at least fifteen (15) Days prior to use.
4. Trench shoring or shield (trench box) certification if employed:
   a. Specific to Project Conditions.
   b. Certified by Professional Structural Engineer, registered in California.

c. County is not responsible to, and will not, review and approve.

d. Cal-OSHA Contractor compliance information for trench safety: Submit an exemption letter or trenching permit from Cal OSHA and comply with Labor Code Section 6705, Excavation Plans for Worker Protection.

e. Submit a Confined Space Emergency Plan prior to any personnel entering trenches or excavations greater than four (4') feet in depth.

5. Excavation Plan:

a. In accordance with Section 5.1.5 – Accident Prevention of the General Provisions, Contractor shall submit to the County a detailed plan showing the design of shoring, bracing, sloping of the sides of trenches, or other provisions to be made for the protection of personnel during earthwork operations.

b. County acceptance of the Excavation Plan does not release the Contractor of liability in the event of an accident or injury, nor does it place any liability on the County or any County employees.

6. Testing laboratory reports verifying that imported material conforms to the specified gradations or characteristics.

C. Quality Assurance Submittals:

1. Submit sieve analysis reports on all imported granular materials.

2. Submit field quality control test results.

1.05 SAFETY PRECAUTIONS

A. Observe safety precautions in all phases of the Work. Included shall be trench shoring, bracing, lighting, and barricades as dictated by reason and by Safety Orders of the Division of Industrial Safety, State of California (Cal-OSHA).

B. Acquire an exemption letter or trenching permit from Cal-OSHA and comply with Labor Code Section 6705, Excavation Plans for Worker Protection. Submit a copy of the exemption letter or trenching permit with excavation drawings to the County prior to excavation work.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Stockpile satisfactory excavated materials in a location approved by the County, until required for backfill or fill. Place, grade, shape, and stabilize stockpiles for proper drainage and erosion control.

1. Separate differing materials with dividers or stockpile separately to prevent intermixing. Segregate stockpiles for asphalt, concrete, rock and soil generated during construction. To the extent possible, separate saturated soil from unsaturated soil.

2. Each stockpile will be placed on, at minimum, 6-mil plastic sheeting and, at a minimum, the sides and top will be covered by one layer of 6-mil plastic sheeting at all times except when the material is being handled. Contractor will cover each

stockpile segment at the end of the workday.

3. Provide berms around the stockpile area to contain precipitation runoff and to prevent run-on.

1.07 PROJECT CONDITIONS

A. Avoid overloading or surcharge a sufficient distance back from edge of excavation to prevent slides or caving.

1. Maintain and trim excavated materials in such manner to be as little inconvenience as possible to public and adjoining property owners.

B. Protect and maintain benchmarks, monuments or other established points and reference points and if disturbed or destroyed, replace items to full satisfaction of the County and no additional cost to the County.

C. Verify location of existing underground utilities.

D. When performing underground work, the Contractor shall call Underground Service Alert of Southern California (USA/SC) at 811, the one-call underground facility locating service two (2) Working Days prior to making an excavation. Contractor shall be responsible for such notification of Subcontractor's Work, or shall require Subcontractor to assume this responsibility.

E. The Contractor's attention is directed to the possible existence of pipe, conduit and other underground improvements which may or may not be shown on the Project Drawings. Preserve and protect any such improvements whether shown on the Project Drawings or not. Expose such improvements in advance of the underground construction to allow for changes in alignment as necessary. Where it is necessary to remove and replace or to relocate such improvements in order to prosecute Work, they shall be removed, maintained, and permanently replaced by the Contractor at their expense. Relocation of said improvements shall not be performed without written permission of the County or the owner of the utility. Unless otherwise noted, existing underground utilities shall be protected in place.

F. Excavation made with power driven equipment is not permitted within five (5) feet of any known utility or subsurface construction. For Work immediately adjacent to or for excavation exposing a utility or other buried obstruction, use hand or light equipment excavation. Start excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing Work as affected by the contract excavation until approval for backfill is granted by the County. The Contractor shall report damage of utility lines or subsurface construction immediately to the County and make repairs at no additional cost to the County.

G. Protect excavations by shoring, bracing, sheeting, underpinning, or other methods as required, to prevent cave-ins or loose dirt from entering excavations. Barricade open excavations and post warning lights at Work adjacent to public streets and walks.

H. Protect existing streams, ditches and storm drain inlets using proper erosion control methodology.

I. Do not use explosives unless approved otherwise in writing by the County.

J. Provide dust alleviation and control measures continuously during the course of the Work to the satisfaction of the County.

1.08 EXISTING CONDITIONS

A. A topographic survey of the property has been included in the Project Drawings, it is for reference only. Upon beginning the earthwork, the Contractor represents that they have inspected the project areas and are satisfied as to actual grades and levels and the true conditions under which the Work is to be performed.

1.09 SOILS TESTING

A. A Testing/Inspection Provider will be procured by the County for testing and inspection as required by the Contract Documents.

B. All materials, work, methods and equipment shall be subject to inspection at the Project Location and import sources. Material or workmanship not complying with the Contract Documents will not be accepted. The Contractor shall give the Testing/Inspection Provider reasonable notice when ready for inspection and shall supply samples for inspection without extra charge.

C. Cost of Testing:

1. With the exceptions of retest due to material or Contractor workmanship, the County will assume the cost for all tests and inspections specified to be performed by the Testing/Inspection Provider. Additional costs of retesting incurred by the County shall be deducted from the Contract Final Payment.

D. Tests performed by the Testing/Inspection Provider may include, but are not limited to:

1. Determine the density of soil in place by the sand cone method, ASTM D1556 or by nuclear methods, ASTM D6938.

2. Determine laboratory moisture-density relations of soils by ASTM D1557.

3. Determine the relative density of cohesion-less soils by ASTM D4253 and D4254.

4. Sample backfill materials in accordance with ASTM D75.

5. Conduct in-place moisture-density tests for backfilling to assure that all work complies with this Detailed Provisions Section.

E. Make excavation for compaction tests at the locations and to the depths designated by the Testing/Inspection Provider. Backfill and re-compact the excavation at completion of testing. When test indicate that the compaction is less than the specified relative compaction, rework and retest those areas until the specified relative compaction has been obtained.

1.10 MAINTENANCE

A. Protect newly graded areas from traffic, erosion, and settlement. Repair and reestablish damaged or eroded slopes, elevations, or grades and restore surface construction prior to acceptance.

B. Repair settlement at excavated areas for a period of one (1) year following Final Acceptance at no additional cost to the County. Remove surface (pavement, or other finish), add backfill material, compact, and replace surface treatment; restore appearance, quality, and conditions of surface and finish to match adjacent work, and eliminate evidence of restoration.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General:

1. Source material for engineered fill shall come from suitable soil excavated by the Contractor from other project bid items, or from designated borrow areas at each site. The Sub-Canyon Stockpile is the designated areas for the Badlands Landfill and the South Soil Stockpile is the designated area for the Lamb Canyon Landfill, as shown in the Project Drawings. Not until source material from excavation operations on this project is exhausted shall the Contractor utilize source material from the designated borrow area for the placement of engineered fill. The suitability of all earthen materials shall be subject to the acceptance of the County. Fill materials shall not contain brush, roots, sod, or other deleterious or unsuitable materials; and particle size shall not exceed three (3") inches. Organic material and earthen material particles greater than the specified size shall be deposited in a separate stockpile, as directed by the County. Particles greater than the specified size shall be deposited in the designated borrow area, used as source material for uncontrolled fill, hauled as Daily Cover or as otherwise directed by the County. Organic material shall be deposited at the landfill working face as directed by the County

2. All fill material shall be approved by the County and conform to requirements of the Caltrans Standard Specifications Section 19 – "Earthwork".

3. All earthwork is subject to inspection and verification by the County and Testing/Inspection Provider.

4. Representative samples of materials to be used for engineered fill shall be tested by the County's Testing/Inspection Provider to determine soil classification, potential contaminants (for imported soil materials), maximum dry density, optimum moisture content and particle size.

5. Materials shall be free of trash, lumber, debris, leaves, grass, roots, stumps, and other vegetable matter. Materials shall not be contaminated with hydrocarbons or other chemical contaminants.

6. Unless noted otherwise, materials derived from processing demolished or removed asphalt are not acceptable.

7. Fill required shall consist of suitable excavated material if available, and/or such approved imported borrow material as may be required for the Work to conform to the requirements of this Detailed Provisions Section. In either case, fill material shall be provided at the Contractor's expense, and shall be included in the Contractor's proposed costs. Excavated material may need to be processed to meet specification requirements and shall be provided at the Contractor's expense.

B. General Site Engineered Fill:

1. Sand and silty-sand soils derived from the jobsite are generally suitable for use in general engineered fill material under the following requirements:

   a. Soil materials are at workable moisture content and free of organic materials, rubble or debris.

   b. Maximum particle size as follows:

      1) Fill Placed within Upper two (2') feet of Finished Grade – material shall be free of lumps and/or cobbles larger than 3-inches in any dimension.

      2) Fill Placed below Upper two (2') feet of Finished Grade – material shall be free of rock larger than 6-inches in any dimension.

   c. On-site excavated clay and fine-grained soils are not considered suitable for use in engineered fill. Soil materials with an expansion index (EI) of less than 30 shall be used.

   d. Moisture content at time of placement: between the optimum moisture content and three percent (3%) above optimum moisture content as specified in accordance with ASTM D1557.

C. Structural Fill:

1. Sand and silty-sand soils derived from the jobsite are generally suitable for use in structural fill material under the following requirements:

   a. Soil materials are at workable moisture content and free of organic materials, rubble or debris.

   b. Soil materials are well-graded and free of lumps and/or cobbles larger than 3-inches in any dimension, with no more than twenty-five percent (25%) of the materials being larger than 2-inches in any dimension and no more than forty percent (40%) passing #200 sieve.

   c. On-site clay soils are not considered suitable for use in engineered fill. Soil materials with an expansion index (EI) of less than 30 shall be used.

   d. Moisture content at time of placement: between the optimum moisture content and three percent (3%) above optimum moisture content as specified in accordance with ASTM D1557.

D. Daily Cover:

1. Source material to be utilized as daily cover shall be excavated and hauled from the South Soil Stockpile at Lamb Canyon landfill, as shown in the project drawings. Excavated material deemed unsuitable for use as engineered fill may be used for

daily cover, if approved by the County, and can be hauled directly to the area designated for stockpiling of daily cover.

E. Earthen Diversion Berm:

1. Source material to be utilized for the construction of earthen diversion berms shall be excavated and hauled from South Soil Stockpile at Lamb Canyon landfill, from the Northwest Berm Cut Area at the Badlands Landfill, and the Badlands Landfill's Sub-Canyon Stockpile. Excavated material deemed unsuitable for use for earthen diversion berms may be used for daily cover, if approved by the County, and can be hauled directly to the area designated for stockpiling of daily cover. See Detailed Provisions Section 31 2500 -Erosion and Sediment Control.

2.02 EXCAVATION MATERIALS

A. Excavated materials shall consist of all excavation, including but not limited to, earth, rocks, roadway material, construction demolition, and solid waste.

2.03 WATER

A. Water used in compaction shall have a maximum chloride concentration of 500 mg/l, a maximum sulfate concentration of 500 mg/l, and shall have a pH of 7.0 to 9.0. Water shall be free of acid, alkali, or organic materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing grades and conditions are as indicated on the Project Drawings. Designate and identify datum elevation and project engineering reference points. Set required lines, levels, and elevations.

B. Verify earthwork volume of soil to be filled.

C. Notify County if indicated conditions on Project Drawings conflict with actual conditions. Non-notification of discrepancies between actual field conditions and the conditions shown on the Project Drawings, in writing, shall indicate Contractor's acceptance of such field conditions. Adjustments/modifications to the construction to accommodate the inconsistencies (without notification) shall be at no additional cost to the County.

3.02 PROTECTION

A. Protection of the jobsite during the performance of earthwork shall be the responsibility of the Contractor.

B. Protect the jobsite from flooding, ponding, or inundation during site clearing, excavation, placement of fill and grading. Make temporary provisions during the rainy season to adequately direct surface drainage away from and off the jobsite. Dispose of water in a manner to prevent damage to adjacent property and in accordance with

regulatory agency requirements.

C. Use plastic sheeting to prevent unprotected slopes from becoming saturated. Install checkdams, desilting basins, riprap, sand bags, or other devices or methods necessary to control erosion.

D. Following periods of rainfall, the County will visually assess rain related damage. At the request of the County, the Contractor shall make excavations in order to evaluate the extent of rain related damage.

E. Rain related damage will be considered to include, but may not be limited to, erosion, silting, saturation, swelling, structural distress and other adverse conditions identified by the County.

F. Where soil has been adversely affected by rain-related damage, it shall be overexcavated and replaced with compacted fill or other remedial grading as directed by the County. Repairs shall be performed at Contractor's expense.

G. Call Underground Service Alert of Southern California (USA/SC) at 811, the one-call underground facility locating service two (2) Working Days prior to making an excavation. Contractor shall be responsible for such notification of Subcontractor's Work, or shall require Subcontractor to assume this responsibility.

H. Protect existing surface and subsurface features on-site and adjacent to jobsite as follows:

1. Provide barricades, coverings, or other type of protection necessary to prevent damage to existing items indicated to remain in place.

2. Protect and maintain benchmarks, monuments or other established reference points and property corners.

    a. If disturbed or destroyed, Contractor shall replace at their own expense to full satisfaction of the County and controlling agency.

3. Verify location of utilities:

    a. Omissions or inclusion of utility items does not constitute nonexistence of definite location.

    b. Secure and examine local utility records.

    c. Take necessary precautions to protect existing utilities from damage due to any construction activity.

    d. Remove abandoned utility service lines from areas of excavation. Cap, plug, or seal abandoned lines and identify termination points at grade level with markers.

    e. Perform excavation work near utilities by hand and provide necessary shoring, sheeting, and supports as the Work progresses.

    f. Repair damages to utility items at Contractor's expense.

    g. In case of damage, notify County at once so required protective measures may be taken.

4. Maintain free of damage, existing concrete, structures, and pavement to the greatest extent possible.
    a. Any item known or unknown or not properly located that is damaged shall be repaired to original condition.
    b. All repairs to be made at Contractor's expense.
5. Provide full access to areas required for landfill operations and other points as designated by the County to prevent serious interruption of travel.
6. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site.
7. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.

3.03 PREPARATION

A. The Contractor shall provide all construction staking and layout of all Work to be performed under the direction of a Professional Land Surveyor registered in the State of California.
    1. Stake all units, structures, piping, roads, parking areas and walks and establish their elevations.
    2. Perform other layout work required.
    3. Replace benchmarks, monuments, and/or property corner markers to original location if disturbed or destroyed.
    4. See Detailed Provisions Section 01 4320 – Surveying.

B. Unless otherwise stated, equipment used in the excavation, transport, processing, installation and compaction of all materials used in construction of the earthwork shall be standards of practice grading machinery of known specifications suitable for performing Work in a timely, proper, and efficient manner.

C. Site clearing, grubbing, and stripping shall be performed in accordance with Detailed Provisions Section 31 1000 – Site Clearing.

3.04 EXCAVATION

A. Earth excavation shall include the satisfactory removal and disposal of all materials encountered, regardless of the nature of the materials, the condition of the materials at the time they are excavated, or the manner in which they were excavated.

B. This Work may include ripping, breaking, and dozing of materials using standard earthmoving equipment up to and including CAT D-9 with single ripper type equipment. Based on a previous subsurface soil investigation, the material within limits of excavation has been determined to be rippable. In the event non-rippable material is encountered, the Contractor shall immediately notify the County. Prior to the removal of non-rippable material, Contractor and the County shall mutually decide upon the most acceptable method of removal for this material. This Work shall be considered as

Extra Work and therefore will be paid for in accordance with Section 7-4 of the General Provisions entitled "Payment for Extra Work." This item shall also include keeping excavation areas neat and orderly and completing the excavation to the satisfaction of the County.

C. All excavated materials incorporated as part of compacted engineered fill must be inspected and approved to be suitable by the County and/or Testing/Inspection Provider.

D. Excavation shall be performed to the lines and grades indicated. During excavation, material suitable for fill materials shall be stockpiled in an orderly manner within the designated project limits at a minimum distance from the banks of excavation area equal to one-half the depth of the excavation, but in no instance closer than five (5') feet. At Contractor's expense, excavated material not required or not suitable for fill materials shall be disposed of in a lawful manner. If excess material contains no contaminants, material may be stockpiled at a location as approved and directed by the County for beneficial reuse as landfill daily cover material. If approved, material will be accepted for no-charge, but Contractor shall be responsible for hauling and stockpiling material within the landfill disposal area.

E. Do not operate excavation equipment within five (5') feet of structures or utilities. Excavate with hand tools in these areas or light equipment as approved by the County.

F. Excavate unsuitable materials extending below required elevations to depth as directed by the County and/or Testing/Inspection Provider. Over-excavation shall include the removal of all unsuitable materials that exists directly beneath a structure or within a zone outside and below the structure defined by a line sloping at one horizontal to one vertical (1H:1V) from the outside edge of the footing. Refill the over-excavated areas with compacted engineered fill material.

    1. Prior to placement of any Structural Backfill, the bottom of removal shall be observed and confirmed to be competent by the Testing/Inspection Provider.

G. Excavate to the depths and widths needed to accomplish the construction. Allow for forms, working space, structural backfill and grading. Unless unsuitable materials are encountered, do not carry excavation deeper than the elevations shown.

H. Take every precaution to prevent water from entering, softening, and undercutting excavated areas, including but not limited to: pits, footings, and trenches.

I. All excavations shall be barricaded in conformance with Cal-OSHA standards.

J. Sheeting and shoring for the Work and for the safety of personnel shall be in compliance with Cal-OSHA regulations. Shoring is required for all trench portions greater than 4-feet in depth. Trenches greater than 20-feet in depth require protection systems designed by Professional Structural Engineer licensed in California.

K. Notify the County immediately upon discovery of unsuitable materials or unforeseen site conditions. Excavation shall include the complete removal of the unsuitable materials and its legal disposal thereof.

L. Areas of excavation shall be graded to drain at all times and necessary precautions shall be taken to control dust and erosion. The Contractor's access roads shall be maintained

as necessary for the Contractor and the County, including landfill operation access. Excavations and Stockpiles shall not be constructed beyond the limits and design parameters stated in these Special Provisions and Project Drawings, unless otherwise authorized by the County in writing. Unauthorized excavation outside the specified excavation limits shall be immediately corrected by backfilling to grade with engineered fill (as directed by the County) at the Contractor's expense.

M. Prior to each daily cover excavation/hauling event, the County will provide specific details to the Contractor regarding the quantity of material to be excavated, location and limits of the excavation area, location of stockpile areas, haul routes, and current site conditions that may impact the Contractor's operation.

N. Excavated material requested to be transported and placed by the Contractor in the designated Daily Cover Stockpile locations shall be as shown on the Project Drawings or Work Order and as directed by the County. Surface drainage shall be maintained at all times in the excavation and stockpile areas. Surfaces of flat areas shall be graded to ensure positive drainage with a minimum grade of three (3) percent and shall be finish-graded. Final surface within each and all work areas shall be smooth graded and left in a uniformly graded condition to prevent or minimize erosion.

O. Finished side slopes shall be constructed to an inclination not steeper than 1.5:1 (H:V) or as directed otherwise by the County. Slope height within excavation areas must not exceed fifty (50) vertical feet between intermediate benches (or access roads). Maximum slope height for stockpiles must not exceed twenty-five (25) vertical feet unless otherwise authorized in writing by the County. Access roads or benches shall have a minimum width of fifteen (15') feet and shall provide access to the top deck. The Contractor shall observe excavations and stockpiles on a regular basis for signs of instability. Should signs of instability be noted, the Contractor shall notify the County immediately, and shall undertake remedial measures as soon as practicable, subject to the direction and approval of the County. It shall be the Contractor's responsibility to remove all loose materials from the excavated slopes and to maintain the slopes in a safe and stable condition at all times during progress of the work and during any temporary suspension of the work. Cut slopes shall be left in a clean, safe, and stable condition upon completion of the work.

P. Where necessary, trenches, pits, and other excavations shall be properly sheathed and braced to furnish safe and acceptable working conditions. Any damage occurring from excessive earth pressures, slides, cave-ins, or other causes due to failure to provide proper sheathing or bracing, or through other negligence or fault of the Contractor, shall be repaired by the Contractor at its expense. The manner of bracing for excavations shall be as set forth in the rules, orders, and regulations of the Division of Industrial Safety of the State of California or OSHA California Code of Regulations Subchapter 4, Article 6, Section 1540 "Excavations"; whichever is more restrictive.

Q. Contractor shall protect in place any biologically sensitive vegetation as directed by the County and existing gas collection pipes. Contractor shall immediately notify the County if a gas collection pipe is damaged before attempting any repairs. Upon authorization from the County, a gas collection pipe damaged by the Contractor shall be immediately repaired by the Contractor and the cost associated with the repair shall

be borne to the Contractor. Any ramps installed over gas collection lines shall first be proposed to and accepted by the County in writing.

3.05 PLACING AND COMPACTING FILL MATERIAL

A. Subgrade Preparation:

1. Excavate and shape subgrade to line, grade, and cross-section. Fill holes, open joints, rock fractures, and depressions created by the excavation to the required line, grade, and cross-sections with compacted engineered fill material.

2. The Contractor shall at all times maintain the subgrade surface in such condition as to readily drain effectively. Storage or stockpiling of heavy loads on the prepared subgrade will not be permitted. Contractor shall be responsible to repair any damage to the prepared subgrade.

3. Prior to placement of fill material, the Contractor shall:

   a. Remove and replace unsuitable material to the satisfaction of the County and/or Testing/Inspection Provider.

   b. Remove form materials and trash from the subgrade area.

   c. Obtain approval of the subgrade surface from the County and/or Testing/Inspection Provider.

   d. Scarify to a minimum depth of 8-inches, moisture condition to a moisture content between the optimum moisture content and three percent (3%) above the optimum moisture content, and compact to at least ninety-five percent (95%) of the maximum dry density per ASTM D1557, unless otherwise stated on the Project Drawings.

B. Placement of Fill Material:

1. Any fill where site preparation, type of material, or compaction is not approved or observed by the County and/or the Testing/Inspection Provider shall be removed and/or recompacted until the requirements are satisfied.

2. Suitable and sufficient hauling, processing, grading and compaction equipment shall be continuously utilized to handle the amount of fill material being generated and placed. Excavation or hauling equipment shall be shut down temporarily in order to allow time for proper preparation, placement, and/or compaction of fill material. Sufficient moisture conditioning equipment shall be provided by the Contractor with consideration to the type of fill material, rate of placement, and weather conditions.

3. Fill materials shall be placed in uniform layers which, when loose, shall not exceed 6-inches for hand operated mechanical compactors and not to exceed 8-inches per layer for heavy equipment compactors. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to insure uniformity of material and moisture.

4. Each layer shall be moisture conditioned to a moisture content between the optimum moisture content and three percent (3%) above the optimum moisture

content. If any material is placed that does not have correct moisture content, it shall be aerated if too wet or wetted if too dry. Fill materials shall be aerated by plowing, discing, blading, or other satisfactory methods until moisture content is acceptable. Aerating of material is considered incidental to the Work and no additional compensation will be allowed. "Puddling" or "soaking" is not permitted. Soft, spongy or springy material causing areas that "pump" when heavy loads pass over them shall be removed and replaced with suitable material. This condition shall be considered as sufficient evidence without further testing that the moisture content is not correct and the material shall be removed and no additional compensation will be allowed.

5. In areas of excess lift thickness, re-grading and compacting of the surface to the maximum lift thickness must be completed by the Contractor prior to construction of additional lifts.

6. Backfilling against concrete will not be permitted until the concrete has reached the specified strength as verified via the compressive strength testing or as approved by the County.

7. Existing sloped surfaces to receive fill material shall be keyed and benched. Excavate horizontal keys and vertical benches into the slope area to receive the fill material. Keying and benching shall provide at least 15-foot wide benches and a minimum of four (4') feet of vertical bench height within the firm subgrade. Fill material shall be keyed into the subgrade a minimum of five (5') feet deep at the toe of all fill slopes.

8. Where Work is interrupted by rain, fill operations shall not be resumed until observations and field tests by the County and/or Testing/Inspection Provider indicate in-place fills and/or materials intended for placement are within specification requirements.

C. Compaction:

1. Compaction testing shall be performed by a Testing/Inspection Provider procured by the County and shall be performed simultaneously with placement of fill materials.

2. Unless otherwise specified or indicated on the Project Drawings,Structural Fill and backfill material for trenched areas shall be compacted to at least ninety-five (95%) of the maximum dry density obtained per ASTM D1557. Unless otherwise specified or indicated on the Project Drawings, all other fill shall be compacted to at least ninety percent (90%) of the maximum dry density obtained per ASTM D1557, unless otherwise stated on the Project Drawings.

3. Do not operate earthmoving equipment within 5-feet of concrete structures. Place and compact backfill adjacent to concrete walls with hand-operated tampers or other equipment that will not damage the structure.

4. The top of each previously compacted layer shall be scarified to provide a good bond between lift layers and minimize separation between lift layers.

3.06 GRADING

A. All work areas within the permitted landfill disturbance limits shown on the Project Drawings or Contract Work Orders shall be evaluated and accepted by the County to verify satisfactory completion of subgrade preparation including clear and grub work, penetration of the excavation into firm natural soils, and removal of all unsuitable materials.

   Unless otherwise noted or required, areas where engineered fill is to be placed, or in other areas where unsuitable materials have been removed and where the surface is judged to be loose or otherwise unsuitable, the subgrade or finished grade shall be prepared as follows:

   1. The upper six (6) inches of in-situ material shall be ripped, moisture-conditioned, and re-compacted to a minimum of ninety (90 %) percent relative compaction, at a moisture content range between 2% below optimum moisture content (OMC) and 2% above OMC in accordance with ASTM D1557 or as determined by the County.
   2. The compacted surface shall be scarified to provide a good bond between the foundation material and the subsequent fill material, as appropriate.
   3. Areas of hard or dense, natural soil identified by the County shall be left undisturbed.

B. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes and as follows:

   1. Rough Grading – Plus or minus one tenth of a foot (0.10') subgrade tolerance. Finish required will be that ordinarily obtained from either blade-grader or scraper operations.
   2. Subgrade – Provide subgrade free of exposed boulders or stones exceeding 4-inches in greatest dimension.
   3. Paved Areas – Shape surface of subgrade areas to line, grade, and cross-section indicated. Provide compacted subgrade suitable to receive paving base materials. Subgrade tolerance plus zero inches (+0"), minus one-half inch (-1/2").
   4. Aggregate Base – Grade subgrade surface smooth and even, free of voids to the required subgrade elevation. Provide compacted subgrade suitable to receive base materials. Tolerance one-half inch (1/2") in ten feet (10').
   5. Drainage Swales: Grade to profiles and cross-sections indicated.

C. Finish Grade:

   1. Remove exposed roots and rocks exceeding 3-inches in greatest dimension. Round tops of banks to circular curves to not less than a 6-foot radius. Neatly and smoothly trim rounded surfaces.
   2. Finish grade tolerance plus or minus 0.05 feet to finished grades shown on the Project Drawings.
   3. Existing grades which are to remain but are disturbed by the Contractor's

operations shall be restored. Any disturbed slopes shall be track-walked and flatter grounds shall be finish graded with a blade-grader or approved equal, and graded to drain by the Contractor as directed by the County.

3.07 EARTHEN BERMS

A. The subgrade for Earthen Berm shall be firm, stable, and unyielding, and contain no loose material as determined by the County. The subgrade shall adhere to the elevations and cross sections shown on the Project Drawings and as directed by the County.

B. The Earthen Berm shall be constructed with engineered fill material in accordance with Section 2.01D. Material shall be compacted to a minimum of 90% relative compaction, based on the laboratory maximum dry density, determined by ASTM D1557, unless otherwise stated on the Project Drawings.

C. All general on-site soil material used for earthen diversion berm fill shall have a moisture content between 2% below and 2% above OMC in accordance with ASTM D1557 or as determined by the County. Additional water may need to be added at any time during construction. The moisture content of the engineered fill materials for earthen diversion berms prior to and during compaction shall be uniform throughout each layer of the material.

D. Surfaces of all slopes faces of earthen diversion berms shall be finished by track walking with Dozer-type equipment or approved equal by the County Representative in the field and left in a uniformly graded condition.

3.08 DAILY COVER

A. The County may request the Contractor, via a Work Order, to excavate earthen material from the stockpiles or borrow areas and haul to the active disposal pad to be utilized by County staff for daily cover material. Each Work Order shall provide the Contractor with specific details regarding the quantity of material to be excavated and hauled, location and limits of the stockpile or borrow areas, haul routes, and current site conditions that may impact the Contractor's operation. Contractor shall expect to haul a minimum of 1,000 cy/day for daily cover.

3.09 REFUSE REMOVAL, DISPOSAL AND INTERIM COVER

A. Refuse or soil co-mingled with refuse may be encountered during excavation within the limits of the landfill footprint; however, it is possible that refuse may also be encountered in any excavation area within the Project Limits shown on the Project Drawings.

B. The Contractor shall remove interim cover soil, refuse, or soil co-mingled with refuse encountered during excavation from within the Project Limits shown on the Project Drawings.

C. Excavated interim cover soil that does not contain co-mingled refuse and has been deemed suitable by the County may be used as source material for engineered fill and other miscellaneous sources as listed in Section 3.04.

D. Contractor shall haul excavated refuse and soil co-mingled with refuse to the landfill working face and cover exposed refuse with one foot (1') of clean earthen cover material as directed by the County.

E. If the cover material placed over refuse is to act as subgrade for engineered fill, a drainage structure, etc. Contractor shall prepare the cover soil as described in Section 3.05.

F. At the end of the workday, Contractor shall cover all refuse surfaces and may not allow refuse surfaces to be exposed overnight. If refuse excavation to design grade has not been completed by the end of the workday, Contractor may cover the refuse surface with six-inches (6") of cover soil or alternate daily cover including but not limited to: six-inches (6") of processed Greenwaste material, tarps or approved equal.

G. Recognizing the primary importance of public and landfill worker safety in and adjacent to this area, Contractor shall coordinate proposed haul routes, timing, duration, and other related factors with the County prior to each planned haul sequence to the landfill working face.

H. In the event the County or Contractor suspects any excavation material from the landfill is hazardous (as defined by CalRecycle or the Local Enforcement Agency), the Contractor shall stockpile the suspect material in a location separate from the rest of the excavated material. The Contractor shall immediately notify the County if excavation material is suspected to be hazardous. The County will make the appropriate analyses to determine if the suspected hazardous material is hazardous by CalRecycle or LEA definition. The Contractor shall dispose of determined hazardous material in the hazardous waste disposal site designated by the County. The Contractor shall be compensated for disposal of such hazardous waste. This work shall be considered as extra work and therefore; will be paid for in accordance with Section 7-4 of the General Provisions entitled "Payment for Extra Work". (Any hazardous material generated by the Contractor, including but not limited to spills or leaks during routine equipment maintenance or any spills caused by any of the Contractor's subcontractors or suppliers, shall be properly disposed of at the Contractor's expense as stated in the Contract Documents.)

3.10 EXCAVATE LOOSE SOIL FROM SEDIMENTATION BASIN

A. This work shall include the excavation of soil and Greenwaste to the design elevations, lines and grades of the existing Sedimentation Basins as provided in the Project Drawings and as directed by the onsite County representative.

B. Soil excavated from the sedimentation basins shall be hauled:

   a. to a stockpile area adjacent to the active pad for County's use as daily cover or

   b. to borrow areas to be stockpiled for future use or

   c. as directed by the County.

C. Final grade shall be finished as specified in Section 3.06.

D. Contractor shall protect in place the features labeled "Protect in Place" within the

Project Drawings in Appendix D. This includes but is not limited to all concrete structures and the skimmer system. The Contractor may remove and then replace the rock berms in order to more readily access the features' surrounding areas.

E. Contractor shall protect in place the sugar bushes and irrigation system located along the sideslopes of the Southwest Sedimentation Basin at the Badlands Landfill. Damage to the sugar bushes and irrigation system by the Contractor shall be replaced or repaired by and at the cost of the Contractor.

3.11 DUST ALLEVIATION AND CONTROL

A. The Contractor shall be responsible for and shall provide pollution and dust abatement and control measures continuously during the course of the Work.

3.12 FIELD QUALITY CONTROL

A. The County shall procure the services of a Testing/Inspection Provider to conduct in-place moisture-density tests for fill materials to assure that all Work complies with this Detailed Provisions Section.

B. Moisture density relations, to be established by the soils testing agency and is required for all materials to receive compaction. This test shall be conducted when the material changes, based on visual observation of the soils, and/or based on in-place density test results of the compacted fill.

C. Extent of compaction testing will be as necessary to assure compliance with Specifications.

D. Contractor shall provide a minimum forty-eight (48) hour advance notice to County when ready for compaction or subgrade testing and inspection.

E. Should any compaction density test or subgrade inspection fail to meet specification requirements, perform corrective work as necessary at no additional cost to the County.

F. Contractor shall be responsible for all costs associated with corrective work and retesting resulting from failing compaction density tests.

G. Testing:

1. Testing/Inspection Provider shall perform the following minimum laboratory testing and field testing of fill materials at the frequency specified in the following table:

TEST	TEST DESIGNATION	TEST FREQUENCY	Project Minimum Value
Field Testing			
In-place moisture/	ASTM D6938	Every 100 CY of soil subgrade	90% or 95% per project requirement of Maximum

density (nuclear)		material (engineered fill and/or existing in-place soil)	Dry Density and from 0% to 3% above OMC
In-place moisture/ density (nuclear)	ASTM D6938	Every 100 CY of base material	90% or 95% per project requirement of Maximum Dry Density and from 0% to 3% above OMC
In-place moisture/ density (sand cone)	ASTM D1556 and ASTM D4643	Every 500 CY; a minimum of one per day	90% or 95% per project requirement of Maximum Dry Density and from 0% to 3% above OMC
Visual Soil Classification	ASTM D2488	Continuous	
Laboratory Testing			
Moisture Density Relationship	ASTM D1557	One per material type	

2. If compaction fails to meet the requirements of this Specification, the Contractor shall remove and replace fill material at proper density or shall bring the density up to specified level by other means acceptable to the County. Subsequent testing required to confirm that the reconstructed material has been brought up to specified density shall be paid for by the Contractor.
3. Contractor shall assure County and Testing/Inspection Provider staff have immediate access for testing of all soils related work.
4. Ensure excavations are safe for testing personnel.

END OF SECTION 31 2300

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 31 2500: EROSION AND SEDIMENTATION CONTROLS

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SECTION 31 2500
EROSION AND SEDIMENTATION CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes requirements for erosion and sediment controls including but not limited to:

1. Fiber Rolls & Silt Fences.
2. Earthen Berms and Reinforced Concrete Lined Earthen Berms.
3. Metal Flume Downdrain & Inlets
4. Cleanup and removal of silt from roadways on-site and off-site.

B. Dust alleviation and control by watering, matting, planting, etc.

C. Provision of all materials, equipment and apparatus not specifically mentioned herein or noted on the plans, but which are obviously necessary to complete the erosion and sediment control.

D. Not all items referenced in this section are applicable to this Project. Refer to the Project Drawings for the specific erosion and sediment controls items to be utilized in this Project.

E. Related Contract Document Sections include, but are not limited to:

1. General Provisions.
2. Detailed Provision Section 01 1100 – Summary of Work.
3. Detailed Provision Section 31 2300 – Earthwork.

1.02 REFERENCES

A. California Stormwater Quality Association.

1. Stormwater Best Management Practice Handbook.

B. State of California Department of Transportation Standard Specifications (SS).

1. Section 21 Erosion Control.

1.03 QUALITY ASSURANCE

A. All work shall be done to the satisfaction of the designated onsite inspector and shall meet the approval of the Resident Engineer.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. BMPs:

1. Submit for County approval product details of BMPs to be used for the Project.

PART 2 PRODUCTS

2.01 GENERAL

A. All materials shall conform to the applicable requirements of SS Section 21, "Erosion Control".

2.02 FIBER ROLLS

A. Fiber roll shall be a manufactured roll of rice or wheat straw, wood excelsior, or coconut fiber encapsulated within a photodegradable plastic or biodegradable jute, sisal, or coir fiber netting. The netting shall have a minimum durability of one (1) year after installation. The netting shall be secured tightly at each end of the roll. Rolls shall be between 0.6 feet and 1 foot in diameter. Rolls between 0.6 feet and 0.8 feet in diameter shall have a minimum weight of 1.17lb/ft and a minimum length of 18 feet. Rolls between 0.8 feet and 1 foot in diameter shall have a minimum weight of 3.3lb/ft and a minimum length of 9 feet.

B. Wood stakes shall be a minimum of ¾" x ¾" x 24" in size and shall be untreated fir, redwood, cedar, or pine and cut from sound timber. They shall be straight and free of loose or unsound knots and other defects which would render them unfit for the purpose intended.

2.03 SILT FENCE

A. The HDPE silt fence shall consist of an HDPE outer jacket with an integrated particle filter. HDPE silt fence shall be a minimum of 20-inches in height and come in sections of 7-feet in length. The HDPE silt fence shall be S-Fence, SF20, as manufactured by ERTEC Environmental Systems or approved equal.

B. Steel stakes shall be a minimum of 1.5" (width) x 24" (height) x 3/8" (thick) in size or approved equal.

C. Sandbags shall be Duraskrim 8BBR ultra violet resistance or approved equal. Sandbags shall be filled with clean soil and shall not contain brush, roots, sod, or other deleterious or unsuitable materials.

2.04 EARTHEN BERMS

A. The Earthen Berms shall be built with Engineered Fill, compacted to a minimum of ninety percent (90%) relative compaction and in accordance with the Project Drawings.

2.05 REINFORCED CONCRETE LINED EARTHEN BERMS

A. Reinforced Concrete Lined Earthen Berms shall be in accordance with Section 2.04 Earthen Berms of this Detailed Provision.

B. The concrete for the concrete lined area of the earthen berm shall be in accordance with Detailed Provisions Division 03 – Concrete.

2.06 LITTLE MAC INLET, STARTER AND FLUME SECTIONS

A. Metal flume shall be Little Mac McCarthy Flume by Lane Enterprises, LLC or approved equal. The overside drain adapter shall be for a 12-inch-wide flume. Material shall be 16-gage (.064 inch thick) galvanized steel as shown on Project Drawings

PART 3 EXECUTION

3.01 JOB CONDITIONS

A. Equipment and materials shall be stored as to ensure the preservation of its quality and fitness for the Work. Equipment and materials shall be located on the construction site so it can be used on short notice.

B. Dust control measures shall be implemented at all times during the construction period until no longer required. Contractor shall pay for the removal of all silt from the storm drain system, roadways on-site and off-site and the inspection thereof.

3.02 FIBER ROLLS

A. Furrows shall be constructed to a depth between 2-inches and 4-inches, and to a sufficient width to hold the fiber roll. Adjoining fiber rolls shall be overlapped between 6-inches to 12-inches. Stakes shall be installed 2 feet apart along the length of the fiber rolls and stopped at 1 foot from each end of the rolls. Stakes shall be driven to a maximum of 2-inches above, or flush with the top of the rolls.

B. The bedding area for the fiber rolls shall be cleared of obstructions including rocks, clods and debris greater than 1-inch in diameter before installation.

C. Fiber rolls shall be placed along the edges of drainage structures, parallel to contours along decks and along the toe of slopes as shown on the Project Drawings.

D. Fiber rolls shall be installed before application of other erosion control or soil stabilization materials in the same area.

3.03 SILT FENCE

A. Contractor shall furnish and install the HDPE Silt fence in strict conformance with the manufacturer's instructions, Contract Documents, or as directed by the County.

B. Contractor shall excavate anchor trenches in accordance with the Project Drawings and as specified in the manufacturer's instructions.

C. Contractor shall install the HDPE silt fence in slot against the downstream side of the trench wall and backfilled to grade level.

D. Contractor shall provide a minimum of 4-inch overlap between adjacent HDPE silt fence sections. Steel stakes shall be installed on the downstream side of each overlap.

Additional stakes shall be installed at the middle of each section. Contractor shall use zip-ties, bailing wires or approved equal to attach the silt fence to the steel stakes.

E. HDPE silt fence shall be placed along the edges of drainage structures as shown on the Project Drawings.

F. Sandbag checkdams shall consist of a total of four (4) sandbags stacked two (2) high as shown in the Project Drawings or as directed by the County. Sandbag checkdams shall be placed behind all installed S-fences and spaced every twenty-five (25) feet or as directed by the County.

3.04 EARTHEN BERMS

A. The Earthen Berms shall be built with Engineered Fill and compacted to a minimum of ninety percent (90%) relative compaction.

B. The subgrade for Earthen Berms shall be firm, stable and unyielding and contain no loose material as determined by the County. The subgrade shall adhere to the elevations and cross sections shown on the Project Drawings or as directed by the County.

C. The Contractor shall provide moisture conditioning to earthen materials used for berm construction and shall maintain adequate moisture throughout berm construction as deemed acceptable to the County.

3.05 REINFORCED CONCRETE LINED EARTHEN BERMS

A. The Earthen portion of the Reinforced Concrete Lined Earthen Berms shall be constructed in accordance with Section 3.04 Earthen Berms of these Detailed Provisions.

B. The concrete lined area of the earthen berm shall be constructed in accordance with Detailed Provisions Division 03 – Concrete.

3.06 LITTLE MAC INLET, STARTER AND FLUME SECTIONS

A. Contractor shall furnish and install Little Mac McCarthy Flume by Lane Enterprises, LLC or approved equal as shown on Project Drawings.

3.07 FINISHED GRADES

A. Surface of all slopes shall be finished by track walking with Dozer-type equipment or approved equal by the County and QA/QC Consultant in the field and left in a uniformly graded condition.

1. Operate tracked machinery up and down the slope to leave horizontal depressions in the soil. Do not back-blade during the final grading operation.

B. Surface of flat areas shall be finished graded with a motor grader or approved equal by the County and QA/QC Consultant in the field and left in a uniformly graded condition.

3.08 SPECIAL REQUIREMENTS

A. Changes to the erosion and sediment control plans to meet field conditions will be made only with the approval of the County.

B. During the rainy season, all paved areas will be kept clear of earth material and debris. The site will be maintained so that a minimum of sediment-laden runoff enters the storm drainage system.

3.09 CONTROL OF GROUND WATER

A. The Contractor shall be solely responsible for dewatering excavations and subsequent control of ground water. The Contractor shall provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage, to the satisfaction of the County, until backfilling is completed.

END OF SECTION 31 2500

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 31 2501: GREENWASTE APPLICATION

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SECTION 31 2501
GREENWASTE APPLICATION

PART 1 GENERAL

1.01 SUMMARY

A. The Work covered in this section shall consist of furnishing all necessary labor, materials, equipment, tools and supervision for the placement, spreading, and compacting of Processed Greenwaste material within the designated areas at the Badlands or Lamb Canyon landfills as shown on the Project Drawings and as directed by the County.

B. Related Contract Document Sections include, but are not limited to:

1. General Provisions.

1.02 QUALITY ASSURANCE

A. All Work shall be done to the satisfaction and approval of the County.

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. The Contractor shall provide a plan prior to placing, spreading, and compacting processed greenwaste material. The plan shall include a list of equipment to be used, methods to load, haul, place, spread, and compact material; and schedule for placement of material on completed in areas.

PART 2 PRODUCTS

2.01 PROCESSED GREENWASTE

A. Processed Greenwaste is defined as Greenwaste material which has been ground so that the maximum dimension in any direction is six (6”) inches or less. Processed Greenwaste shall be composed of Greenwaste material only, free of refuse and contaminants as solely determined by the County.

B. Processed Greenwaste shall be supplied by the County.

PART 3 EXECUTION

3.01 PLACEMENT AND SPREADING OF PROCESSING GREENWASTE

A. The County shall have clean Processed Greenwaste materials delivered to the sites and stockpiled up to five hundred feet (500’) from the designated Greenwaste work areas (slopes, access benches, and decks). Contractor may be required to place Processed Greenwaste at any location within the landfill footprint. Contractor shall be responsible

for pushing or transporting Processed Greenwaste from the delivered stockpile location to the designated Greenwaste work areas. The Contractor shall provide the equipment and manpower to evenly spread Processed Greenwaste materials in a safe and efficient manner as determined by the County.

B. The Greenwaste quantity, stockpile location, and delivery frequency shall be agreed upon by the County and Contractor prior to the start of this work.

C. Processed Greenwaste material shall not be placed or spread over gravel roads or benches, or on hardscape (concrete or asphalt) structures. Any material placed within these areas shall be removed by the Contractor.

D. Contractor shall ensure that three (3") to six (6") inches of Greenwaste material covers designated areas shown on the Project Drawings for each landfill.

E. Greenwaste material shall be spread by use of a manure spreader, small size dozer (D6 or smaller), or similar type of equipment as approved in advance by the County. In no case shall the depth of spread Greenwaste material be less than three (3") inches or greater than six (6") inches in final placed form.

F. Contractor shall apply adequate compaction to the spread Greenwaste product as determined by the County and shall apply adequate water for dust control purposes.

G. Contractor heavy equipment and vehicles shall travel no closer than ten (10') feet to any environmental structure. Greenwaste material shall be hand-placed within ten (10') feet of environmental structures including but not limited to above-ground pipe system, wells, bollards, etc. Any material placed on these structures shall be removed by the Contractor. Greenwaste material shall be placed no closer than five (5') feet from vault boxes.

H. The County may halt and suspend the work of the Greenwaste provider at any time without notice to complete County business, such as performing landfill operations, site maintenance, or groundwater/gas monitoring work.

I. Greenwaste provider may stockpile a combined maximum of one hundred (100) tons of Greenwaste material at any time during Greenwaste spreading operations.

J.

END OF SECTION 31 2501

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 31 3700: RIPRAP

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SECTION 31 3700
RIPRAP

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Excavation, grading, and installation of riprap and grouted riprap.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Section 03 3131 – Concrete Mixing, Placing, Jointing, and Curing
2. Section 03 3132 – Concrete Finishing
3. Section 03 3713 - Shotcrete
4. Section 31 2300 – Earthwork.

1.02 QUALITY ASSURANCE

A. Referenced Standards:

1. American Association of State Highway and Transportation Officials (AASHTO):
   a. AASHTO T85 – Standard Method of Testing for Specific Gravity and Absorption of Coarse Aggregate.
   b. AASHTO T103 – Standard Method of Test for Soundness of Aggregates by Freezing and Thawing.
   c. AASHTO T104 – Standard Method of Test for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.
   d. AASHTO T248 – Reducing Field Samples of Aggregate Test Size.
2. American Society for Testing and Materials (ASTM):
   a. ASTM C33/C33M – Standard Specification for Concrete Aggregates.
   b. ASTM C131/C131M – Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
   c. ASTM D75/D75M – Standard Practice for Sampling Aggregates.
3. California Code of Regulations (CCR): Title 8 – Construction Safety Orders.
4. California Department of Industrial Relations – Division of Occupational Safety and Health (Cal-OSHA.)
5. State of California; Business, Transportation and Housing Agency; Department of Transportation (Caltrans.)
   a. Cal Trans Standard Specifications – Division III: Earthwork and Landscape.

1.03 DEFINITIONS

A. Backfill: Refill of an excavation, previously removed.

B. Fill: Placement of material in an excavation or on prepared subgrade to final grade.

C. Finish Grade: The establishment of grades to a plus or minus 0.05' of final grades as indicated on Project Drawings.

D. Finished Grade Elevations: Indicated on Project Drawings.

E. Standard Specifications: Refers to the publication "Standard Specifications for Public Works Construction", latest edition, written and promulgated by the Joint Cooperative Committee of the Southern California Chapter American Public Works Association and Southern California Departments Associated General Contractors of California. This publication is also known as the "Green Book".

F. State Standard Specifications: Refer to the Standard Specifications of the State of California, Department of Transportation, latest edition.

G. Sub-base: Compacted layer of approved material used between the subgrade and the pavement.

H. Subgrade: Previously undisturbed material prepared, and compacted to required density and elevation to support a structure, pavement system, or to receive additional specified materials.

I. Subgrade Elevations: 4-inches below finish grade elevations indicated on Project Drawings, unless otherwise indicated.

J. Unsuitable Material: Shall consist of materials determined by the County and/or soils testing agency to be:

1. Soft, loose, unstable or yielding, or
2. Previously placed uncontrolled fill, or
3. Designated material to be overexcavated per geotechnical report requirements, or
4. Unable to be compacted to specified density using ordinary methods at optimum moisture content, or
5. Contains visible or excessive deleterious material as determined by the County or soils testing agency, or
6. Too wet to be properly compacted and circumstances prevent processing suitable in-place drying prior to being used as backfill, or
7. Otherwise unsuitable for planned use.

Such material shall be removed to the limits directed by the County and the resulting excavation backfilled with engineered fill material.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 – Submittal Procedures for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Acknowledgement that products submitted meet requirements of standards referenced.

C. Quality Assurance Submittals:

1. Prior to deliver of material, the Contractor shall submit rock supplier gradation results and ready-mix grout supplier mix design to the County for approval.
2. Submit field quality control test results.

PART 2 PRODUCTS

2.01 MATERIALS

A. Grout:

1. Portland Cement, Aggregate, and Water shall per Detailed Provisions 03 3713 – Shotcrete.
    a. Shotcrete specification's slump shall be adjusted to provide the penetration of ten inches (10") as shown in Table 300-11.3.1(A) and shall be air-placed in conformance with sub-section 303-2.1.3, Method B (Shotcrete), of the Standard Specifications.
2. Curing Compound shall be per Detailed Provisions 03 3713 – Shotcrete.
3. Fiber Reinforcement for concrete rip-rap shall conform to sub-section 201-2.3 Type III of the Standard Specifications.

B. Riprap:

1. Stone shall be approved durable broken stone quarry run, and of such quality that it will not disintegrate on exposure to water or weathering and free from structural fractures and defects, and shall not contain shale, unsound sandstone, or other material which will readily disintegrate
2. The riprap used shall be composed of a well-graded mixture of rocks. The gradation of rocks shall conform to Class I, Class III, and Class V of 72-3.02C of the State Specifications.

3. Unless otherwise indicated, the minimum thickness of the rip rap stones shall be eighteen (18) inches.

4. The maximum stone size shall not be larger than the thickness of the riprap.
5. Neither width nor thickness of a single stone of riprap shall be less than one-third (1/3) of its length.
6. Riprap specific gravity shall be according to the bulk-saturated, surface-dry basis, in accordance with AASHTO T85.
7. The riprap shall have a percentage loss of not more than forty percent (40%) after five hundred (500) revolutions when tested in accordance with ASTM C131.
8. The riprap shall have a percentage loss of not more than ten percent (10%) after twelve (12) cycles of freezing and thawing when tested in accordance with AASHTO T103 for ledge rock, procedure A.
9. The Riprap shall have a percentage loss of not more than ten percent (10%) after five (5) cycles when tested in accordance with AASHTO T104 for ledge rock using sodium sulfate.
10. Rock shall be free of calcite intrusions.
11. Gradation:
    a. Each load of riprap shall be reasonably well graded from the smallest to the largest size specified.
    b. Stones smaller than two to ten percent (2 to 10%) size will not be permitted in an amount exceeding ten percent (10%) by weight of each load.
    c. Control of gradation shall be by visual inspection. However in the event engineer determines the riprap to be unacceptable engineer shall pick two (2) random truckloads to be dumped and checked for gradation.
        1) Mechanical equipment and labor needed to assist in checking gradation shall be provided by contractor at no additional cost.
12. Color:
    a. The color of the riprap shall be gray with gray/blue hues or other acceptable colors approved by engineer prior to delivery to the project site.
    b. Color shall be consistent on the entire project and shall match the color of rock to be used for all other portions of the Work.
13. Broken concrete or asphalt shall not be acceptable for use in the Work. Rounded river rock is not acceptable unless specifically designated on the drawings.

PART 3 EXECUTION

3.01 PREPARATION

A. Channel slope, bottom, or other areas that are to be protected with riprap, shall be free of brush, trees, stumps, and other objectionable material and be graded to a smooth compacted surface as shown on the drawings.

B. Contractor shall excavate areas to receive riprap to the subgrade as shown on the drawings accounting for granular beddings.

C. Contractor shall excavate areas to receive riprap to the specified depth.

D. Subgrade Materials:

1. The subgrade materials shall be stable.
2. If unsuitable materials are encountered, they shall be removed and replaced with stable subgrade materials.

E. Additional Compaction:

1. Additional compaction shall not be required unless specified by engineer.
2. When subgrade is built up with embankment material it shall be compacted to ninety five percent (95%) maximum density (ASTM D698).

3.02 RIPRAP PLACEMENT

A. Machine Placed Riprap

1. Riprap shall be placed on the prepared slope or channel bottom area in a manner which will produce a reasonably well graded mass of stone with the minimum practicable percentage of voids.
2. Riprap shall be machine placed, unless otherwise stipulated in the drawings or specifications
3. It is the intent of these specifications to produce a fairly compact riprap protection in which all sizes of material are placed in their proper proportions. Unless otherwise authorized by engineer, the riprap protection shall be placed in conjunction with the construction of embankment or channel bottom with only sufficient delay in construction of the riprap protection, as may be necessary, to allow for proper construction of the portion of the embankment and channel bottom which is to be protected.
4. Slope placement:
    a. When riprap is placed on slope, placement shall commence at the bottom of the slope working up the slope.
5. The entire mass of the riprap shall be placed on either channel slope or bottom so as to be in conformance with the required gradation mixture and to line, grade, and thickness shown on the drawings.
6. Riprap shall be placed to full course thickness at one (1) operation and in such a manner as to avoid displacing the underlying bedding material. Placing of riprap in layers, or by dumping into chutes, or by similar methods shall not be permitted.
7. All material used for riprap protection for channel slope or bottom shall be placed and distributed such that there shall be no large accumulations of either the larger or smaller sizes of stone. Some hand placement may be required to achieve this distribution.

8. The basic procedure shall result in larger materials flush to the top surface with faces and shapes arranged to minimize voids, and smaller material below and between larger materials.
9. Surface grade shall be plane or as indicated, but projections above or depressions under the finished design grade by more than ten percent (10%) of the rock layer thickness shall not be allowed.
10. Smaller rock shall be securely locked between the larger stone. It is essential that the material between the larger stones not be loose or easily displaced by flow or by vandalism,
11. The stone shall be consolidated by the bucket of the backhoe or other means that will cause interlocking of the material.
12. All rock is to be placed in a dewatered condition beginning at the toe of the slope or other lowest point.
13. Contractor shall maintain the riprap protection until accepted. Any material displaced for any reason shall be replaced to the lines and grades shown on the drawings at no additional cost to owner. If the bedding materials are removed or disturbed, such material shall be replaced prior to replacing the displaced riprap.

B. Hand Placed Riprap:
1. Hand placed riprap shall be performed during machine placement of riprap and shall conform to all the requirements of Part 2, above.
2. Hand placed riprap shall also be required when the depth of riprap is less than two (2) times the nominal stone size of when required by the drawings or specifications.
3. After the riprap has been placed, hand placing or rearranging of individual stones by mechanical equipment shall be required to the extent necessary to secure a flat uniform surface and the specified depth of riprap, to the lines and grades as shown on the drawings.

C. Rock Drains:
1. Rock drains may be placed either with equipment or hand placement
2. Class I rock per 72-3.02C of the State Specifications shall be used for the rock drains.
3. Rock drains shall be six inches thick.

D. Soil Replacement over Riprap:
1. Where riprap is designated to be buried, place onsite excavated material that is free from trash and organic matter in riprap voids by washing and rodding.
2. Prevent excessive washing of material into stream
3. When voids are filled and the surface accepted by engineer place a nominal six (6) inches of topsoil over the area, or as designated on the drawings.

E. Grouted Riprap

1. The construction method of the grouted rip rap structures shall be performed in accordance with Section 3.02.A of this Detailed Provision and Section 72-3 Concreted-Rock Slope Protection, method B of the State Standard Specifications
2. Contractor shall provide written documentation certified by the rock material supplier and acceptable to the County that the Rock conforms to the grading of concreted-rock slope protection, as well as apparent specific gravity, absorption, durability index and percentage wear requirements described in herein these detailed provisions.
3. Contractor shall notify County site personnel at least one (1) day prior to delivery of grouted rip-rap materials to the Badlands Landfill for each day of delivery. Delivery trucks shall access work area by use of the designated access route shown on the Project Drawings unless otherwise directed in writing by the County. Contractor shall deliver each and every material load ticket to the County.
4. Subgrade shall be constructed according to Detailed Provision 31 2300 Earthwork. The subgrade for the grouted rip-rap shall be prepared by either cutting or filling to the lines, grades and cross sections shown on the Project Drawings or as directed by the County. The subgrade shall be prepared to the specified grades, compacted to 90% relative compaction, contain no loose material, and be subject to the acceptance of the County and QA/QC Consultant.
5. In placing the rip-rap stones, the Contractor shall take adequate precautions to avoid displacement of underlying bedding material. Stones may be placed by dumping and may be spread in layers by dozers or other suitable equipment. The Contractor may move and place individual stones as necessary to obtain a reasonably well-graded distribution with a minimum of voids. The surface of the stones to be concreted must be cleaned of adhering soil and then moistened. The finish rip-rap lining shall be free of pockets of small stones or clusters of larger rocks and shall be accepted by the County.
6. Concrete mixing shall comply with Detailed Provisions 03 3131 – Concrete Mixing, Placing, Jointing, Curing and Detailed Provisions 03 3713 – Shotcrete.
7. The grouted rip-rap shall be placed to the minimum penetration listed in the table below:

Class of Rip-Rap	Class V / 500 lb	375 lb	Class III / Light	Class II / Facing
Minimum Penetration in Inches	14	12	10	8

8. Concrete for grouted rip-rap shall be air-placed concrete in accordance with sub-sections 303-2.1.3 Method B ("Shotcrete"), part 2 of 303-2.2, 303-2.4, 303-2.6, 303-2.7, 303-2.8, 303-2.9, 303-1.10 and 300-11.3.2 of the Standard Specifications.
9. Type 2 – white-pigmented curing compound shall be applied to the shotcrete grout in accordance with the requirements of Detailed Provisions 03 3713 – Shotcrete.

3.03 REJECTION OF WORK AND MATERIALS

A. Engineer will reject placed riprap and bedding that do not conform to this section. Contractor shall immediately remove and re-lay the riprap and bedding to conform to specifications.

B. Riprap and bedding that does not conform to this section shall be rejected, whether delivered to the job site or placed.

C. Rejected riprap and bedding shall be removed from the project site by Contractor at Contractor's expense.

END OF SECTION 31 3700

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 32 0116: ASPHALT PAVING REHABILITATION

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SECTION 32 0116
ASPHALT PAVING REHABILITATION

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Furnish all necessary labor, materials, tools, equipment, transportation, services, coordination, supervision, and all other items necessary to complete all operations associated with rehabilitating the existing asphalt concrete (A.C.) roadway at the specific location shown on the Project Drawings and in accordance with these specifications

2. Asphalt Paving Rehabilitation shall include but not limited to:

   a. Cold plane the top 2-inch thick A.C. section from existing roadway and replacing with new AC material at locations shown on Project Drawings.

   b. Saw-cut and remove entire 6-inch thick A.C. section and 12-inch-thick Class II Base section from existing roadway and replacing with new AC and Class II Base material at locations shown on Project Drawings.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Section 31 2133 – Trenching, Backfilling, and Compacting for Utilities.
3. Section 32 1123 – Aggregate Base Course.
4. Section 32 1723 – Pavement Markings.
5. Section 32 1216 – Asphalt Paving.

1.02 QUALITY ASSURANCE

A. Reference Standards:

1. American Association of State Highway and Transportation Officials (AASHTO)
2. Asphalt Institute (AI:
3. National Asphalt Pavement Association (NAPA)
4. California State Transportation Agency, Department of Transportation (Caltrans):

   a. Caltrans Standard Specifications – Division V: Surfacings and Pavements, Section 39 Asphalt Concrete.

   b. Caltrans Standard Specifications – Division XI: Materials.

5. U.S. Department of Transportation (USDOT), Federal Highway Administration: Manual of Uniform Traffic Control Devices (MUTCD), Work Zone Safety and Mobility, and Temporary Traffic Control Devices

6. California Manual on Uniform Traffic Control Devices (CA MUTCD)
7. Work Area Traffic Control Handbook (WATCH)

1.03 DEFINITIONS

A. Refer to ASTM D8 for definitions of terms related to hot-mix asphalt paving.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Traffic Control Plan as outlined in Section 01 5526 -Traffic Control.

C. Asphalt Concrete submittals as outlined in Section 32 1216 – Asphalt Paving

D. Class II Base submittals as outlined in Section 32 1123 – Aggregate Base Course.

1.05 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with asphalt paving rehabilitation operation when asphalt is wet, contains excess moisture, during rain, or when frozen or if the following conditions are not met:

1. Prime and tack coats:
    a. Minimum surface temperature of 60 degrees F.
2. Slurry coat:
    a. Comply with weather limitations of ASTM D3910.
3. Asphalt base course:
    a. Minimum surface temperature of 40 degrees F and rising at time of placement.
4. Asphalt surface course:
    a. Minimum surface temperature of 50 degrees F and rising at time of placement.

B. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize temporary striping. Flagmen, barricade, warning signs, and warning lights in accordance with California Manual on Uniform Traffic Control Devices (MUTCD) and approved traffic control plan as required.

PART 2 PRODUCTS

2.01 MATERIALS

A. Asphalt concrete, tack coat, and seal coat materials for paving rehabilitation shall be in accordance with Section 32 1216 – Asphalt Paving

B. Class II base material for paving rehabilitation shall be in accordance with Section 32 1123 – Aggregate Base Course.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

A. Prior to commencing asphalt paving rehabilitation, County field staff and Contractor shall identify and mark the sections of asphalt roadway that will need to be completely removed and replaced. Asphalt removal limits shown on the Project Drawing are approximate and shall be verified in the field.

B. Contractor shall remove all pavement markers, traffic stripes, and pavement marking within the asphalt paving rehabilitation areas.

3.02 REMOVAL OF ASPHALT CONCRETE

A. The Contractor shall evenly saw cut or grind the full depth of existing asphalt concrete section (approximately 6-inches thick) at the specific locations marked by the County and Contractor. The Contractor shall also remove the underlying class II base section, (approximately 12-inches thick).

B. The Contractor shall transport all generated asphalt concrete material to the designated salvage material stockpile located within the site as directed by the County.

C. The Contractor shall not damage the adjacent asphalt areas to remain in place and shall be neat and uniform.

3.03 COLD PLAN ASPHALT CONCRETE

A. Schedule cold planning activities such that the pavement is cold planed and the asphalt concrete is placed during the same work shift.

B. Contractor shall not use a heating device to soften the pavement during or prior to the cold planing operation.

C. Asphalt concrete planing shall consist of cold planing a continuous width of asphalt concrete pavement to the limits shown in the Project Drawings.

D. The cold planing machine must be:

   a. Self-propelled, capable of milling the pavement to the specified depth and smoothness.

   b. Equipped with a cutter head width that matches the planing width unless a wider cutter head is authorized.

   c. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:

      i. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.

      ii. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.

   d. Equipped to effectively control dust generated by the planing operation

e. Operated such that no fumes or smoke is produced.

f. Replace broken, missing, or worn machine teeth.

g. Equipped to windrow the millings or cuttings or remove the millings or cuttings from the pavement and load them into a truck.

h. Machine will not damage any part of the pavement structure that is not to be removed.

E. Grade Control and Surface Smoothness

a. Install and maintain grade and transverse slope references. You may adjust the planed depth up to ± 0.03 foot from the depth shown to achieve uniform pavement profile, cross slope, and surface smoothness. The average cold planed depth must be equal to or greater than the depth shown.

b. The final cut must result in a neat and uniform surface.

c. The completed surface of the planed pavement must not vary more than 0.02 foot when measured with a 12-foot straightedge parallel with the centerline. With the straightedge at right angles to the centerline, the transverse slope of the planed surface must not vary more than 0.03 foot.

d. If you encounter delaminations during planning operations notify the County immediately. If authorized, adjust the planed depth up to ±0.05 foot to eliminate delaminations. Authorized work beyond the ± 0.05 foot range or other authorized mitigation work is change order work.

e. Where lanes are open to traffic, the drop-off of between adjacent lanes must not be more than 0.15 foot.

F. Remove cold planed material concurrently with planing activities such that the removal does not lag more than 50 feet behind the planer.

G. If a drop-off between the existing pavement and the planed area at transverse joints cannot be avoided before opening to traffic, construct a temporary asphalt concrete taper. Completely remove temporary tapers before placing permanent surfacing.

H. Planed widths of pavements shall be continuous except for special treatment at traffic signal detector loops and at manholes rims or as directed by the County. In areas where full width planing is not possible because of traffic detector loops, separation shall be maintained from traffic signal detector saw cuts and loops. Pavement planing shall be to within one foot (1') horizontally of manhole rim on all sides.

I. The Contractor shall not damage adjacent asphalt areas to remain in place and shall be left neat and uniform after cold planning operations.

3.04 ASPHALT AND AGGREGATE BASE PLACEMENT

A. Asphalt concrete and class II base placement shall be in accordance with Detailed Provisions Section 32 1216 – Asphalt Paving and Section 32 1123 – Aggregate Base Course.

B. Prior to asphalt concrete placement apply a tack coat as specified in Detailed Provisions Section 32 1216 – Asphalt Paving.

3.05 FIELD QUALITY CONTROL

A. The Contractor shall be solely responsible for protection of completed areas against detrimental effects. Recondition, reshape, and re-compact areas damaged by rainfall or other weather conditions.

B. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Any masked or marred finish surfaces shall be repaired or smoothed.

C. The County shall procure the services of a Testing/Inspection Provider and laboratory to conduct test on asphalt concrete pavement and to assure that all Work complies with this Detailed Provisions Section.

END OF SECTION 32 0116

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 32 1123: AGGREGATE BASE COURSE

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SECTION 32 1123
AGGREGATE BASE COURSE

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Furnish all necessary labor, materials, equipment, tools, and supervision for construction and installation of aggregate base features including, but not limited to: asphalt pavement subgrade.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Section 31 2133 – Trenching, Backfilling, and Compacting for Utilities
3. Section 31 2300 – Earthwork.
4. Section 32 1216 – Asphalt Paving.

1.02 QUALITY ASSURANCE

A. Reference Standards:

1. American Association of State Highway and Transportation Officials (AASHTO):
   a. AASHTO M147 – Standard Specification for Materials for Aggregate and Soil-Aggregate Subbase, Base, and Surface Courses.
   b. AASHTO T11 – Standard Method of Test for Materials Finer Than 75μm (No. 200) Sieve in Mineral Aggregates by Washing.
   c. AASHTO T27 – Standard Method of Test for Sieve Analysis of Fine and Course Aggregates.
   d. AASHTO T89 – Standard Specification for Determining the Liquid Limit of Soils.
   e. AASHTO T90 – Standard Specification for Determining the Plastic Limit and Plasticity Index of Soils.
   f. AASHTO T99 – Standard Specification for the Moisture-Density Relations of Soils Using a 2.5 kg (5.5 pounds) Rammer and a 305 mm (12 in) Drop.
   g. AASHTO T180 – Standard Specification for Moisture-Density Relations of soils using a 4.54 kg (10 pound) Rammer and a 457 mm (18 in) Drop.
   h. AASHTO T190 – Standard Specification for Resistance R-Value and Expansion Pressure of Compacted Soils.
   i. AASHTO T265 – Standard Method of Test for Laboratory Determination of Moisture Content of Soils.

j. AASHTO T310 – Standard Specification for In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

2. American Society for Testing and Materials (ASTM):

a. ASTM C88/C88M – Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.

b. ASTM C131/C131M – Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

c. ASTM C136/C136M – Standard Test Method for Sieve Analysis of Fine and coarse Aggregates.

d. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).

e. ASTM D1556/D1556M – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.

f. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).

g. ASTM D1883 – Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.

h. ASTM D2167 – Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

i. ASTM D2419 – Test Method for Sand equivalent Value of Soils and Fine Aggregate.

j. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

k. ASTM D4318 – Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

l. ASTM D4791 – Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate.

m. ASTM D6938 – Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

3. State of California; Business, Transportation and Housing Agency, Department of Transportation (Caltrans):

a. Caltrans Standard Specifications – Division IV: Subbases and Bases

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data including:

a. Acknowledgement that products submitted meet requirements of standards referenced.

b. Material source

2. Certified supplier gradation results for imported aggregate base materials.

3. Deliver bulk samples of import aggregate base material to County in quantities sufficient for testing. Deliver at least fifteen (15) Days prior to use.

4. Testing laboratory reports verifying that imported aggregate base material conforms to the specified gradations or characteristics.

C. Quality Assurance Submittals:

1. Sieve analysis reports on all imported aggregate base material.

2. Field quality control test results.

3. Delivery Tickets: Furnish a delivery ticket for imported aggregate base to the County as each truck arrives. Provide a printed record of the weight of the aggregate base material on each ticket.

1.04 STOCKPILE MATERIALS

A. Stockpile aggregate materials in a location approved by the County, until required for placement. Place, grade, shape, and stabilize stockpiles for proper drainage and erosion control.

1. Separate differing aggregate materials with dividers or stockpile separately to prevent intermixing. Segregate stockpiles for asphalt, concrete, rock, and soil generated during construction.

2. Each stockpile will be placed on, at a minimum, 6-mil plastic sheeting and, at a minimum, the sides and top will be covered by one layer of 6-mil plastic sheeting at all times except when the material is being handled. Contractor will cover each stockpile segment at the end of the workday.

3. Provide berms around the stockpile area to contain precipitation runoff and to prevent run-on.

1.05 SOURCE QUALITY CONTROL

A. To assure stockpiles are not contaminated or materials are segregated, perform any test for determining conformance to requirements for cleanness and grading on samples secured from aggregates at point of batching.

PART 2 PRODUCTS

2.01 MATERIALS

A. Class II Aggregate Base and Crushed Miscellaneous Base (CMB) shall conform to the following gradation per Section 26-1.02B of the State Standard Specifications for ¾" maximum particle size:

Sieve Size	Percent Passing Sieve
1-inch	100%
No. 4	35-60%
No. 30	10-30%
No. 200	2-9%

B. Material for CMB shall consist of any combination of the following: broken stone, crushed gravel, natural rough surfaced gravel, sand, and processed reclaimed asphalt concrete of Portland Cement concrete.

C. Material for 2-inch to 4-inch Aggregate Rock shall consist entirely of crushed rock greater than 2-inches in diameter but smaller than 4-inches.

D. Class II Aggregate Base, CMB, and 2-inch to 4-inch Aggregate Rock shall be collectively referred to as aggregate base.

E. All aggregate base must be clean and consist of materials as described in the State Standard Specifications Section 26-1.02A.

F. Aggregate base shall be mixed in a stationary or traveling plant. Proportion aggregates by weight or volume in quantities to meet the project-specified requirements for the aggregate base material. Incorporate, during the mixing operation, water in quantities sufficient to provide the necessary moisture content for the specified compaction. Mixing operations shall produce satisfactory uniform blending and the method of discharging into trucks shall not produce segregation. Placing aggregate base shall be in accordance with Section 301-2.2 – "Spreading" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey benchmarks and intended elevations for the Work are as indicated.

B. Verify aggregate base subgrade has been inspected and approved, gradients and elevations are correct, and material is dry.

C. Verify aggregate base material to be placed is free from clay or other objectionable matter.

3.02 PREPARATION

A. Subgrade preparation for aggregate base shall be performed in accordance with Section 26 of the State Standard Specifications.

B. Subgrade for aggregate base shall be compacted to a minimum of ninety-five percent (95%) relative compaction (or as otherwise noted on the Project Drawings) as determined by ASTM D1557.

C. Correct irregularities in aggregate base subgrade gradient and elevation by scarifying, reshaping, and re-compacting. Aggregate base may be used to fill areas of the subgrade that are lower than the grade established by the Project Drawings with approval from the County.

D. Do not place aggregate base on soft, muddy, or frozen surfaces.

3.03 INSTALLATION

A. Aggregate base placement operations (adding water, spreading, and compacting) shall be performed in accordance with Section 26 of the State Standard Specifications and Section 301-2.2 – "Spreading" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook"). The Contractor shall not process or drag base material to which may cause the segregation or loss of gradation of the base material.

B. Subgrade and finished aggregate base surfaces shall be graded to ensure positive drainage towards drainage structures as shown on the Project Drawings.

C. Place earth or other accepted materials along the edge of the aggregate base material in such a quantity that it will compact to the thickness of the course being constructed. When the aggregate base is being constructed in two or more layers, place material to the width of the shoulder to be rolled and compacted simultaneously with the rolling and compacting of each base layer.

D. Aggregate base material shall be compacted to a minimum of ninety-five percent (95%) relative compaction (or as otherwise noted on the Project Drawings) as determined by AASHTO T180. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.

E. Use mechanical temping equipment in areas inaccessible to compaction equipment.

3.04 FIELD QUALITY CONTROL

A. The County shall procure the services of a Testing/Inspection Provider and laboratory to conduct in-place moisture-density tests to assure that all Work complies with this Detailed Provisions Section.

B. Testing:

1. Perform in-place moisture-density tests as directed by the County.

2. Perform tests through recognized testing laboratory approved by the County.

3. Perform additional tests as directed until compaction meets or exceeds requirements.
4. Assure County and Testing/Inspection Provider staff has immediate access for testing of all soils related work.
5. Ensure excavations are safe for testing personnel.

END OF SECTION 32 1123

SPECIFICATIONS – DETAILED PROVISIONS

SECTION 32 1216: ASPHALT PAVING

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SECTION 32 1216
ASPHALT PAVING

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. Furnish all necessary labor, materials, tools, equipment, transportation, services, coordination, supervision, and all other items necessary for the installation of Asphalt Concrete (A.C.) Pavement, Drainage Structures at Badlands, and speed hump.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Section 31 2133 – Trenching, Backfilling, and Compacting for Utilities.
3. Section 31 2300 – Earthwork.
4. Section 32 1123 – Aggregate Base Course.
5. Section 32 1723 – Pavement Markings.

1.02 QUALITY ASSURANCE

A. Reference Standards:

1. American Association of State Highway and Transportation Officials (AASHTO):
   a. AASHTO M17 – Standard Specification for Mineral Filler for Bituminous Paving Mixtures.
   b. AASHTO M140 – Standard Specification for Emulsified Asphalt.
   c. AASHTO M208 – Standard Specification for Cationic Emulsified Asphalt.
   d. AASHTO M320 – Standard Specification for Performance-Graded Asphalt Binder.
   e. AASHTO M323 – Standard Specification for Superpave Volumetric Mix Design.
   f. AASHTO T164 – Standard Method of Test for Quantitative Extraction of Asphalt Binder from Hot Mix Asphalt (HMA).
   g. AASHTO T166 – Standard Method of Test for Bulk Specific Gravity (Gmb) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens.
   h. AASHTO T209 – Standard Method of Test for Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA).
   i. AASHTO T245 – Standard Method of Test for Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus.

j. AASHTO T275 – Standard Method of test for Bulk Specific Gravity (Gmb) of Compacted Asphalt Mixtures Using Paraffin-Coated Specimens.

k. AASHTO T308 – Standard Method of Test for Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method.

l. AASHTO T312 – Standard Method of Test for Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor.

m. AASHTO T331 – Standard Method of Test for bulk Specific Gravity (Gmb) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method.

2. American Society for Testing and Materials (ASTM):

a. ASTM D8 – Standard Terminology Relating to Materials for Roads and Pavements.

b. ASTM D946/D946M – Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction.

c. ASTM D1188 – Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples.

d. ASTM D2041/D2041M – Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.

e. ASTM D2950/D2950M – Density of Bituminous Concrete in Place by the Nuclear Methods.

f. ASTM D3910 – Standard Practices for Design, Testing, and Construction of Slurry Seal.

g. ASTM D2726/D2726M – Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixture.

h. ASTM D5444 – Mechanical Size Analysis of Extracted Aggregate.

3. Asphalt Institute (AI):

a. AI MS-2 – Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types.

4. National Asphalt Pavement Association (NAPA):

a. NAPA IS123 – Recycling Hot-Mix Asphalt Pavements.

b. NAPA IS128 – HMA Pavement Mix Type Selection Guide.

5. State of California; Business, Transportation and Housing Agency, Department of Transportation (Caltrans):

a. Caltrans Standard Specifications – Division V: Surfacings and Pavements.

b. Caltrans Standard Specifications – Division XI: Materials.

1.03 DEFINITIONS

A. Refer to ASTM D8 for definitions of terms related to hot-mix asphalt paving.

1.04 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data including:

a. Acknowledgement that products submitted meet requirements of standards referenced.

b. Manufacturer's instructions.

c. Asphalt mix design in format recommended by Asphalt Institute's Manual MS-2 and include the following:

1) Type and name of mix.

2) Gradation analysis.

3) Optimum asphalt content.

4) Grade of asphalt binder.

5) Volumetric properties.

C. Quality Assurance Submittals:

1. Certifications:

a. Manufacturer's Certificate of Compliance for bituminous materials used in asphalt concrete pavement and asphaltic emulsion mixes.

2. Delivery Tickets: Furnish a delivery ticket for asphalt concrete to the County as each truck arrives. Delivery ticket shall include, but is not limited to, the following:

a. Name of plant.

b. Serial number.

c. Date and truck number.

d. Name of Contractor.

e. Name and location of job.

f. Specific designation of asphalt in conformance with that required in job specification.

g. Amount of asphalt (in Tons).

h. Time loaded.

3. Field quality control test results.

1.05 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply when base is wet, contains excess moisture, during rain, or when frozen or if the following conditions are not met:

1. Prime and tack coats:

a. Minimum surface temperature of 60 degrees F.

2. Slurry coat:

a. Comply with weather limitations of ASTM D3910.

3. Asphalt base course:

a. Minimum surface temperature of 40 degrees F and rising at time of placement.

4. Asphalt surface course:

a. Minimum surface temperature of 50 degrees F and rising at time of placement.

B. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize temporary striping. Flagmen, barricade, warning signs, and warning lights in accordance with California Manual on Uniform Traffic Control Devices (MUTCD) as required.

PART 2 PRODUCTS

2.01 MATERIALS

A. Asphalt concrete pavement shall consist of hot mineral aggregate uniformly mixed with hot bituminous material.

B. Asphalt paving material for asphalt drainage structures shall be D1-PG 70-10, and shall conform to Part 2, Section 203-6 of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

C. Asphalt pavement materials for pavement at Badlands shall be C1 PG70-10 and shall conform to Part 2, Section 203-6 of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

D. Tack Coat:

1. Tack coat shall conform to Section 302-5.4 – "Tack Coat" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

E. Seal Coat:

1. Seal coat shall conform to Section 203-9 – "Sealcoat – Asphalt Based" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

F. Material for Class II Aggregate Base shall conform to the following gradation:

Sieve Size	Percentage Passing Sieve
1 inch	100

No. 4	35-60
No. 30	10-30
No. 200	2-9

G. Soil Stabilizer/Herbicide:

1. Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.

2.02 MIXES

A. Submit proposed mix design of each class of mix for review prior to beginning of Work.

2.03 SOURCE QUALITY CONTROL

A. Test mix design and samples in accordance with Asphalt Institute's Manual MS-2.

PART 3 EXECUTION

3.01 SUBGRADE PREPARATION

A. Contractor shall prepare subgrade for drainage structures and pavement per details shown on Project Drawings, Contract Work Order and in accordance with the requirements of Detailed Provisions Section 31 2300 – Earthwork.

B. Subgrade preparation shall include, but is not limited to: clearing and grubbing, over-excavation, scarification, re-compaction, placement of engineered fill, shaping subgrade for drainage and roadway structures, and transporting and stockpiling any excess material. No additional compensation will be provided for subgrade preparation for any asphalt structures.

C.

D. Contractor shall stockpile satisfactory excavated materials in a location approved by the County, until required for backfill or fill. Place, grade, shape, and stabilize stockpiles for proper drainage and erosion control.

E. Over-excavation, where needed, shall be to an elevation below the aggregate base as shown on the Project Drawings, Work Order, or as directed by the County. No additional compensation will be provided for over-excavation in preparation for asphalt structures (including drainage and roadway structures). Where the structures are in native cut, the upper six (6") inches of subgrade shall be compacted to a minimum of 90 percent (or as otherwise noted on the Project Drawings) of the maximum density as determined per ASTM D1557. This shall be achieved by scarifying the exposed surface to a depth of six (6) inches and re-compacting. For areas requiring engineered fill, the finished subgrade shall be firm and suitable for placement of asphalt pavement and shall be compacted to a minimum of ninety (90 %) percent (or as otherwise noted on the Project Drawings) of the maximum density within the upper one foot, as determined by ASTM D1557.

F. Contractor shall transport and stockpile excess excavated material within the site to a designated location shown in the Project Drawings, Contract Work Order, or as directed by the County. Place, grade, shape, and stabilize stockpiles for proper drainage and erosion control. No additional compensation will be provided for over-excavation or hauling of excess excavated material for subgrade preparation.

G. At Contractor's expense, excavated material not required or not suitable for fill materials shall be disposed of in a lawful manner. If excess material contains no contaminants, material may be stockpiled at a location as approved and directed by the County for beneficial reuse as landfill daily cover material. If approved, material will be accepted for no-charge, but Contractor shall be responsible for hauling and stockpiling material within the landfill disposal area.

3.02 EXAMINATION

A. Verify that compacted subgrade has been inspected, tested, and approved. Subgrade shall be dry and ready to support paving and imposed loads.

B. Verify gradients and elevations of base are correct.

C. Verify finish grade for manholes and other items within the pavement area.

D. Sequencing and Scheduling:

1. Conduct a pre-job paving meeting no later than 24 hours prior to the scheduled paving date to discuss paving equipment, methodology for paving pass sequence, paving pass widths, longitudinal joint locations, traffic control plan implementation, and maintenance specific to each paving operation.

3.03 BASE COURSE

A. Refer to Detailed Provisions Section 32 1123 – Aggregate Base Course.

B. Ensure that aggregate base and other surfaces on which asphaltic concrete pavement is to be placed are sound and compacted.

C. Subgrade for the aggregate base section shall be compacted to a minimum of ninety (90 %) percent relative compaction (or as otherwise noted on the Project Drawings) as determined by ASTM D1557.

D. Placing aggregate base shall be in accordance with Section 301-2.2, "Spreading" of the Standard Specifications. The Contractor shall not process or drag base material to which may cause the segregation or loss of gradation of the base material. The Contractor shall compact aggregate base in accordance with Section 301 of the Standard Specifications. Aggregate base shall be compacted to a minimum of 90 percent relative compaction (or as otherwise noted on the Project Drawings) as determined by ASTM D1557.

E. Place earth or other accepted materials along the edges of the aggregate base material in such a quantity that it will compact to the thickness of the course being constructed. When the aggregate base is being constructed in two or more layers, place material to

the width of the shoulder to be rolled and compacted simultaneously with the rolling and compacting of each base layer.

F. All aggregates must be clean and consist of materials as described in the State Standard Specifications Section 26-1.02A.

3.04 SURFACE PREPARATION

A. Remove and salvage existing hardscape sections (asphalt pavement, concrete, base sections, or existing earthen material) where applicable as shown in the Project Drawings, Work Orders, as directed by the County.

B. Clean the underlying course of foreign or objectionable matter with power blowers or brooms where necessary. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

C. Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

3.05 TACK COAT

A. Apply tack coat in conformance with the requirements of Section 302-5.4 – "Tack Coat" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

B. Apply tack coat at temperature recommended by its manufacturer.

C. Do not place hot-mix asphalt concrete on the tack coat until the asphalt separates from the water, but before it loses its tackiness.

3.06 ASPHALT CONCRETE PLACEMENT

A. Place to 2-inch compacted thickness minimum. Asphalt concrete pavement in excess of 2-inches thick shall be constructed in multiple lifts of approximately equal thickness. The maximum compacted thickness of any individual lift shall not exceed 3-inches.

B. Distribution and spreading of asphalt concrete shall conform to the requirements of Section 302-5.5 – "Distribution and Spreading" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

C. Feather all transitions and edges to conform to the existing surface and provide a smooth transition.

D. Install 2"x4" redwood headers using 12"-2"x4" stakes set a maximum of 6-foot on center at all locations where vertical edges of new asphalt pavement are not in contact with an existing pavement or permanent structure. Redwood headers shall remain in place upon completion of Work.

E. Place asphaltic emulsion (fog seal) on all finished asphalt concrete surfaces. Asphaltic emulsion for the required fog seal shall conform to the requirements of Section 203-9 – "Seal Coat – Asphalt Based" of the current edition of the Standard Specifications for

Public Works Construction (the "Greenbook").

1. Clean all dirt or other asphalt concrete loose material from the area to be covered.
2. Apply a slow-setting asphaltic emulsion to the finished surface of asphalt concrete pavement **fourteen (14) Days** after its placement at a rate of 0.05 gallons per square yard.

3.07 ROLLING AND COMPACTION

A. Rolling shall conform to the requirement s of Section 302-5.6 – "Rolling" of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").

B. Hand and mechanical tampers will not be permitted for compaction of roadway sections.

3.08 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.
2. Construct joints in accordance with Section 302-5.7 of the current edition of the Standard Specifications for Public Works Construction (the "Greenbook").
3. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.

3.09 FIELD QUALITY CONTROL

A. The Contractor shall be solely responsible for protection of completed areas against detrimental effects. Recondition, reshape, and re-compact areas damaged by rainfall or other weather conditions.

B. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Any masked or marred finish surfaces shall be repaired or smoothed.

C. The County shall procure the services of a Testing/Inspection Provider and laboratory to conduct test on asphalt concrete pavement and to assure that all Work complies with this Detailed Provisions Section.

END OF SECTION 32 1216

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 32 1723: PAVEMENT MARKINGS

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SECTION 32 1723
PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes:

1. The Work covered by this section shall consist of furnishing all necessary labor, materials, tools, equipment, coordination, supervision, and all other items necessary for the application of thermoplastic asphalt pavement markings.

B. Related Detailed Provisions Sections include, but are not limited to:

1. Division 01 – General Requirements.
2. Section 32 1216 – Asphalt Paving.

1.02 QUALITY ASSURANCE

A. Reference Standards:

1. American Association of State Highway and Transportation Officials (AASHTO):
   a. AASHTO M247 – Standard Specification for Glass Beads Used in Pavement Markings.
   b. AASHTO T250 – Standard Method of Test for Thermoplastic Traffic Line Material.
2. American Society for Testing and Materials (ASTM):
   a. ASTM D476 – Standard Classification for Dry Pigmentary Titanium Dioxide Products.
   b. ASTM D2794 – Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
   c. ASTM D3335 – Standard Test Method for Low Concentrations of Lead, Cadmium, and Cobalt in Paint by Atomic Absorption Spectroscopy.
   d. ASTM D3718 – Standard Test Method for Low Concentrations of Chromium in Paint by Atomic Absorption Spectroscopy.
   e. ASTM D4563 – Standard Test Method for Determination by Atomic Absorption Spectroscopy of Titanium Dioxide Content of Pigments Recovered From Whole Paint.
   f. ASTM D4764 – Standard Test Method for Determination by X-Ray Fluorescence Spectroscopy of Titanium Dioxide Content in Paint.
   g. ASTM D5380 – Standard Test Method for Identification of Crystalline Pigments and Extenders in Paint by X-Ray Diffraction Analysis.

h. ASTM D5381 – Standard Guide for X-Ray Fluorescence (XRF) Spectroscopy of Pigments and Extenders.

i. ASTM D6628 – Standard Specification for Color of Pavement Marking Materials.

j. ASTM D7585 – Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments.

k. ASTM E11 – Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves.

l. ASTM E28 – Standard Test Methods for Softening Point of Resin Derived from Pine Chemicals and Hydrocarbons, by Ring-and-Ball Apparatus.

m. ASTM E313 – Standard Practice for Calculating Yellowness and Whiteness Indices from Instrumentally Measured Color Coordinates.

n. ASTM E1621 – Standard Guide for Elemental Analysis by Wavelength Dispersive X-Ray Fluorescence Spectrometry.

o. ASTM E1710 – Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroflectometer.

p. ASTM G155 – Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.

3. Environmental Protection Agency (EPA):

   a. EPA Method 3052 – Microwave Assisted Acid Digestion of Siliceous and Organically Based Matrices.

   b. EPA Method 6010B – Inductively Coupled Plasma-Atomic Emissions Spectrometry.

4. State of California; Business, Transportation and Housing Agency, Department of Transportation (Caltrans):

   a. Caltrans Standard Specifications – Division IX: Traffic Control Devices.

   b. Caltrans Standard Specifications - Division XI: Materials.

   c. Caltrans CA MUTCD - California Manual on Uniform Traffic Control Devices.

   d. Caltrans PTH-02ALKYD – Specification for Thermoplastic Traffic Striping Material, Alkyd Resin Binder, White and Lead-free Yellow.

   e. Caltrans PTH-02HYDRO – Specification for Thermoplastic Traffic Striping Material, Hydrocarbon Resin Binder, White and Lead-Free Yellow.

   f. Caltrans PTH-02SPRAY – Specification for Sprayable Thermoplastic Traffic Striping Material, White and Lead-Free Yellow.

   g. Caltrans 8010-004 – Specification for Glass Spheres.

1.03 SUBMITTALS

A. Submittal Procedures: See Detailed Provisions Section 01 3300 for requirements for the mechanics and administration of the submittal process.

B. Approval Submittals:

1. Product technical data including:

a. Acknowledgement that products submitted meet requirements of standards referenced.

b. Manufacturer's instructions.

c. Product data sheets.

2. Work Phasing Plan

3. Traffic Control Plan

C. Quality Assurance Submittals:

1. Certifications:

a. Manufacturer's Certificate of Compliance for thermoplastic materials.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver paint in containers of at least five (5) gallons accompanied by batch certificate.

B. Store products in manufacturer's unopened packaging until ready for installation.

C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with County requirements.

1.05 PROJECT CONDITIONS

A. Environmental Limitations:

1. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 MATERIALS

A. Thermoplastic Traffic Stripes & Pavement Markings:

1. Thermoplastic traffic stripes and pavement marking materials shall conform to the State of California Department of Transportation Specification for Thermoplastic Traffic Striping Material, Alkyd Resin Binder (PTH-02ALKYD), Hydrocarbon Resin Binder (PTH-02HYDRO), or Sprayable Thermoplastic Traffic Striping Material (PTH-02SPRAY).

2. Thermoplastic traffic stripes and pavement markings shall conform to Section 84 - "Markings "of the latest edition of the State of California Department of Transportation Standard Specifications, Part 3 – "Markings" of the CA MUTCD, and this Detailed Provisions Section.

3. Thermoplastic traffic stripes and pavement markings shall conform to the most current approved, pre-qualified, and tested signing and delineation materials and products list maintained by the State of California Department of Transportation.

B. Glass Beads:

1. Glass bead material shall conform to the State of California Department of Transportation Specification for Glass Spheres (8010-004, Type II).

2. Glass bead material shall be applied in accordance to Section 84 - "Markings" of the latest edition of the State of California Department of Transportation Standard Specifications.

C. Adhesive:

1. Standard Set Epoxy Adhesive:

a. Shall conform to the provisions in Section 95-1.02F – "Standard Set Epoxy Adhesive for Pavement Markers" of the latest edition of the State of California Department of Transportation Standard Specifications.

2. Rapid Set Epoxy Adhesive:

a. Shall conform to the provisions in Section 95-1.02E – "Rapid Set Epoxy Adhesive for Pavement Markers" of the latest edition of the State of California Department of Transportation Standard Specifications.

3. Hot Melt Bituminous Adhesive:

a. Shall conform to the provisions in Section 81-3 – "Pavement Markers" of the latest edition of the State of California Department of Transportation Standard Specifications.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until pavement has been properly prepared and approved by the County and/or the Testing/Inspection Provider.

3.02 PREPARATION

A. All phases of Work for striping shall only take place when the landfill site is closed after 4:40 PM and before the site opens the next day at 6:00 AM.

B. Existing Traffic Stripes and Pavement Markings (if applicable):

1. Shall be removed by grinding, sand-blasting, or other alternative methods approved by the County in writing and shall result in the least possible damage to the pavement.

a. Pavement markings shall be removed in a rectangular area in such a manner that the old marking cannot be seen or identified. The minimum dimensions of the rectangular area shall be the height and width of the pavement marking.

b. Depressions shall not exceed $^1/_8$–inch or greater in the pavement surface. The Contractor shall fill and seal coat depressions $^1/_8$-inch or greater per Section 37 – "Bituminous Seals" and Section 39 – "Asphalt Concrete" of the latest edition of the State of California Department of Transportation Standard Specifications.

c. Residue resulting from removal operations shall be removed immediately from pavement surfaces by sweeping or vacuuming before the residue is blown by the action of traffic or wind, migrates across lanes or shoulders, or enters into drainage facilities. A vacuum attachment shall be used concurrently with grinding or sand-blasting operations. Any alternative residue removal method proposed by the Contractor shall be approved by the County in writing before proceeding with the Work.

C. New striping and pavement markers shall be applied to a clean surface and prior to opening the roadway totraffic. Any areas exposed to traffic after surface preparation shall be subject to inspection by the County and may require additional cleaning prior to application of striping and/or pavement markers.

D. Contractor is advised that the public access road for the landfill receives substantial dirt tracking over all entrance and exit lanes. Cleaning methods such as sweeping, blowing with compressed air, and rinsing with water have proven in the past to be insufficient and therefore will not be allowed as the only means of surface preparation in this project. The pavement shall be cleaned by grinding, scarifying, sand-blasting, or a combination of these or other methods as deemed necessary to obtain an acceptably clean surface by County staff. Thoroughly cleaned surfaces to be marked, must be approved by the County in writing before application of the new thermoplastic striping.

E. In areas, where the new striping will NOT be installed at the same locations and alignments of the existing striping, the existing surface which is to receive the new thermoplastic material shall be thoroughly cleaned to remove, dust, dirt, and other granular surface deposits.

F.

3.03 INSTALLATION

A. All Work necessary to establish alignment and layout for stripes and pavement markers shall be performed by the Contractor with any device or method that will not damage the pavement or conflict with other control devices.

B. The Contractor shall not apply coatings during rain, when humidity is above fifty percent (50%), or when the temperature is less than 50 deg. Fahrenheit, unless otherwise allowed by the manufacturer's instructions and approved by the County.

C. The Contractor shall take precautionary measures to prevent spills or fire hazards. Drips, overspray, improper markings, and paint/thermoplastic material tracked in by traffic shall be immediately removed from the pavement surface by methods approved by the County at the Contractor's expense.

D. Primer/Sealer:

1. Shall be applied to all asphaltic surfaces. The primer/sealer shall be applied immediately in advance of, and concurrent with, the application of the thermoplastic material or in accordance with the manufacturer's recommendations. The primer/sealer shall be applied at the application rate recommended by the manufacturer and shall not be thinned.

E. Thermoplastic Markings:

1. Shall be pre-heated using pre-heaters with mixers having 360 degree rotation.
2. Shall be applied to pavement at a temperature between 400 deg. Fahrenheit and 425 deg. Fahrenheit, unless otherwise recommended by the manufacturer's instructions and approved by the County.
3. Shall be applied by either spray or extrusion methods in a single uniform layer that completely coats pavement and all voids.
4. Stencils shall be used where applicable. Traffic stripes, raised pavement markers, and pavement markings shall conform to the dimensions and details shown on the corresponding CA MUTCD Detail.
5. Traffic stripes shall be applied with a minimum thickness of 0.060-inch. Pavement legends and markings shall be applied with a minimum thickness of 0.100-inch to 0.150-inch.
6. Completed Stripes shall have clean and well defined edges without running or deformation, shall be uniform, shall be straight on tangent alignment, and shall be on a true arc on curved alignments. The widths of the completed stripes shall not deviate more than ¼-inch on tangent or more than ½-inch on curves as determined by the County representative in the field. Broken stripes shall also conform to the following requirements:
    a. The lengths of the gaps and individual stripes that form broken traffic stripes shall not deviate more than 1-inch from their standard lengths.
    b. The lengths of the gaps and individual stripes shall be of such uniformity throughout the entire length of each broken traffic stripe that a normal striping machine will be able to repeat the pattern and superimpose additional stripes upon the traffic stripe being applied.

F. Glass Beads:

1. Shall be immediately applied to surface of molten thermoplastic material at a rate of not less than eight (8) pounds per one hundred (100) square feet.
2. Application amount shall be measured by stabbing the glass bead tank with a calibrated rod.

3.04 DRYING, PROTECTION, AND REPLACEMENT

A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.

B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing

newly painted markings.

C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer's instructions.

D. Remove and replace markings that are applied at less than minimum material rates, deviate from true alignment, exceed length and/or width tolerances, or show light spots, smears, or other deficiencies or irregularities at the Contractor's expense.

END OF SECTION 32 1723

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SPECIFICATIONS – DETAILED PROVISIONS

SECTION 33 0533: CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) DRAINAGE PIPES AND APPURTENANCES

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SECTION 33 0533

CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) DRAINAGE PIPES AND APPURTENANCES

PART 1 GENERAL

1.01 SUMMARY

A. The work covered by this section shall consist of furnishing all necessary labor, materials, equipment, tools, and supervision for the installation of HDPE corrugated and smooth-lined stormwater drainage pipes and their appurtenances, sized 24-inches to 36-inches in diameter, at locations indicated on the Project Drawings and as directed by the County. The HDPE pipes and their appurtenances shall be of the sizes, types, and dimensions shown on the Project Drawings, and contained in this specification. The HDPE drainage pipes shall include, but not limited to: subgrade preparation, fittings, couplings, adapters, pipe anchors, HDPE inlets/outlet, HDPE flared sections, testing and all other appurtenances as may be required to complete an operable drainage system.

1.02 RELATED SECTIONS

A. Related Detail Provisions Sections include, but are not limited to:
   a. Division 01 – General Requirements
   b. Division 31 – Earthwork
   c. Section 32 1216 – Asphalt Paving

1.03 REFERENCES

Reference shall be made to the latest edition of said standards unless otherwise called for.

A. American Association of State Highway and Transportation Officials (AASHTO):

   a. M294 – Standard Specification for Corrugated Polyethylene Pipe (12 to 60-inch diameter)

B. American Society for Testing and Materials (ASTM):

   a. D638 – Standard Test Method for Tensile Properties of Plastic

   b. D2412 – Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading

c. D3212 – Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

d. D3350 – Standard Specification for Polyethylene Plastic Pipe and Fitting Materials

e. F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe

f. F667 – Standard Specification for Large Diameter Corrugated Polyethylene Tubing and Fittings

g. F714 – Standard Specification for Polyethylene Plastic Pipe (DR-PR) Based on Outside Diameter

h. F894 – Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe

i. F1417 – Standard Practice for Installation Acceptance of Plastic Non-Pressure Sewer Lines using Low-Pressure Air

j. F2306 – Standard Specification for 12 to 60-inch Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications

k. F2487 Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Corrugated High Density Polyethylene Pipelines

l. F2648 – Standard Specification for 2 to 60-inch Annular Corrugated Porifle Wall Polyethylene (PE) and Fittings for Land Drainage Applications

1.04 SUBMITTALS

A. The Contractor shall submit the manufacturer's product details, material specifications and descriptive literature for approval by the County in accordance with Detailed Provisions Section 01 3300 – Submittal Procedures.

B. Unless otherwise specified, the Contractor shall submit to the Engineer for approval Shop Drawings showing the exact dimension of the joints including the permissible tolerances for each size of pipe being furnished and the size, type and locations of gasket materials. Approval of the joint detail Drawings shall not relieve the Contractor of any responsibility to meet all requirements of these Contact Documents, or of responsibility for correctness of Contractor's details.

C. The Contractor shall cooperate with the Engineer in obtaining and providing samples of all specified materials, if requested by the Engineer.

1.05 QUALITY ASSURANCE

A. The Contractor shall submit written certification by the pipe manufacturer that the pipe materials conform to the requirements of the Contract Documents; are similar and of same formulation as that for which certification is submitted; and have been demonstrated by actual usage to be satisfactory for the intended application.

B. The Contractor shall submit for approval by the County a method of handling and storing pipe material(s) prior to installation in accordance with the manufacture's recommendations.

C. The Contractor shall furnish a written warranty that the pipe system constructed is free of defects in material and workmanship. The guarantee for the pipe system installed pursuant to these Contract Documents shall extend for a period of one (1) year following the recording of the Notice of Completion for the entire project.

D. The Contractor shall agree to make any repairs or replacements found to be necessary by defects in material or workmanship, which become evident within this guarantee period. The Contractor shall make repairs and/or replacements promptly upon receipt of written order from the County. If the Contractor fails to make repairs and/or replacements promptly, the County may do so, and the Contractor shall be liable to the County for the cost of such repairs and/or replacements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Responsibility for Materials:

   a. Shipping: Material shall be shipped so to not cut, kink, or otherwise damage pipe and appurtenances during transport.

   b. The Contractor shall be responsible for all materials intended for the Work that are delivered to the construction site and accepted by the Contractor. Payment shall not be made for materials found to be defective or damaged in handling after delivery and acceptance. Defective or damaged materials shall be removed and replaced with acceptable materials at Contractor's expense.

   c. The Contractor shall be responsible for the safe and proper storage of such materials in accordance with the manufacture's recommendations. Limit stacking of pipe to a height that will not cause excessive deformation of bottom layers of pipes under anticipated temperature conditions.

B. Pipe Acceptance:

a. In addition to any deficiencies not covered by the applicable ASTM specifications, pipes and appurtenances with any of the following visual effects will not be accepted: cracks, bubbles, pinholes or occlusions, which because of their nature, degree, or extent, detrimentally affect the strength and serviceability of the pipe and appurtenances.

C. Pipe Handling:

a. Pipe and accessories furnished by the Contractor shall be delivered to, unloaded, and distributed at the site by the Contractor. Each pipe shall be unloaded adjacent to or near the intended laying location.

b. Pipe fittings and appurtenances shall be unloaded and stored in a manner that precludes shock or damage. Such materials shall not be dropped.

c. Pipe shall be handled to prevent damage to the pipe ends or to any coating or lining. Pipe shall not be skidded or rolled against adjacent pipe. Damaged coatings or lining shall be repaired or replaced by Contractor, at Contractor's expense in accordance with the recommendations of the manufacturer and in a manner satisfactory to the Engineer. Physical damage to the pipe or appurtenances shall be repaired or replaced by Contractor at Contractor's expense, and in a manner satisfactory to the Engineer.

PART 2 PRODUCTS

2.01 HIGH DENSITY POLYETHYLENE PIPE

A. HDPE pipe and inlet/outlet flared sections shall be smooth interior wall with annular exterior corrugations that meet or exceed ASTM F2648 (virgin and recycled compounds) or ASTM F2306 and AASHTO M294 Type S (virgin compound), or the latest version thereof.

B. Material for pipe production shall be either an engineered compound of virgin and recycled HDPE or 100% virgin HDPE conforming to the minimum requirements of cell classification 435400C, as defined in the latest version of ASTM D3350, except that carbon black content shall not exceed 4%. If 100% virgin pipe material is used, the material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively.

C. Minimum pipe stiffness at five (5) percent deflection shall be as described in ASTM F2306 when tested in accordance with ASTM D2412.

2.02 PIPE JOINTS

A. Pipe joints shall consist of integral bell and spigot with watertight gaskets according to the requirements of ASTM D3212 and ASTM F477.

B. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant from the manufacturer shall be used on the gasket and bell during assembly.

C. Pipes shall have a reinforced bell with a polymer composite band and tolerance device installed by manufacturer. Bell shall span over a minimum of three (3) spigot corrugations.

2.03 FITTINGS

A. Fittings shall conform to AASHTO M294 or ASTM F2306. All fitting joints shall consist of integral bell and spigot with watertight rubber gaskets.

B. Bell and spigot connections shall utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance requirements of AASHTO M294, ASTM F2306, and ASTM D3212. Gaskets shall meet requirements of ASTM F477.

2.04 PIPE ANCHORS

A. Pipe anchors and bracket hardware to restrain pipe in-place shall be hot-dip galvanized, after fabrication.

PART 3 EXECUTION

3.01 INSTALLATION

A. During storage and installation caution shall be exercised to avoid compression, damage, or deformation to the pipe.

B. The interior, as well as all seating surfaces of pipe, fittings, and other accessories shall be kept free from dirt and foreign matter. Gaskets shall be protected from excessive exposure to heat, oil, and grease. Contractor shall not drag or strike pipe while transporting.

C. Pipe, fittings, and accessories shall be carefully inspected before and after installation and those determined to be defective shall be rejected. Pipe and fittings shall be free from fins and burrs. Before being placed in position, pipe, fittings, and accessories shall be cleaned and shall be maintained in a clean condition.

D. Installation of pipe shall start at the downstream end of each section and proceed upgrade. Bell end of pipe shall be laid upgrade.

E. Pipe shall be laid to alignment and grade shown on the Project Drawings or as directed by County personnel. Pipe shall be laid and assembled in strict conformance with the manufacturer's requirements. Slope pipe anchors and bracket hardware, and inlet/outlet flared sections shall be installed in accordance with manufacturer's recommendations or as shown on the Project Drawings.

F. Joints shall be installed such that the connection of pipe sections will form a continuous line free from irregularities in the flow line. All joints shall be watertight (10.8 psi) per laboratory test ASTM D3212 and utilize bell and spigot design with a gasket meeting ASTM F477. Pipe connections to concrete or asphalt structures shall include a combination of smooth exterior wall cylinder adapter and installation of water-stop at mid-wall of structure, and opening shall be filled with Type IIA cement mortar. Water-stop shall be installed per pipe Manufacturer's recommendations to ensure watertight connection to concrete structures.

G. Before each section of pipe is placed, the interior of the preceding pipe shall be carefully cleaned of all dirt and debris. At all times when the work of installing pipe is not in progress, all openings into the pipe shall be tightly closed to prevent entrance of animals and foreign materials.

3.02 FIELD TESTING

A. Contractor shall clean pipes of joint sealant, dirt, and debris prior to inspection.

B. Pipes shall be inspected by flashing a light inside the pipe, at locations where installed pipes have open ends.

C. Determine from illumination inside pipes and from physical inspection:

   a. Presence of any misaligned, displaced, or broken pipe.
   b. Presence of visible infiltration or other defects.

3.03 CLEAN UP

A. All rubbish, unused materials, and other non-native materials shall be removed from the job site.

END OF SECTION

APPENDIX A: LANDFILL SITE RULES

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BADLANDS AND LAMB CANYON LANDFILL FACILITIES

OPEN: 6:00 am to 4:30 pm Monday through Saturday

NEXT HOLIDAY CLOSURE: _____

For services/complaints contact the Riverside County Waste Management Department at (951) 486-3200 or via website *www.rivcowm.org*

LANDFILL RULES

- **Obey County personnel and signs. It is for your safety.**
- **Anyone under 16 years of age and pets must remain in vehicle.**
- **High visibility safety vest must be worn at all times.**
- **Stay within 5 feet of your vehicle while unloading and 15 feet away from heavy equipment.**
- **No alcohol, drugs, weapons, smoking, salvaging, or loitering.**
- **Commercial refuse vehicles must have an operational back-up alarm.**

STAY ALERT – STAY ALIVE

County is not responsible for damage to customer's vehicle and/or equipment due to customer's negligence or failure to follow site rules and reserves the right to deny access to anyone violating said rules or creating a safety hazard. Landfills are dangerous construction zones. Disposal is at customer's own risk.

ALL LOADS SUBJECT TO INSPECTION

Disposal of hazardous, toxic, flammable, corrosive, explosive and radioactive waste/materials may be prosecuted under Health and Safety Code 25189.5 and Penal Code 374.8

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APPENDIX B: SCAQMD FORM 403-N & RULE 403 DUST CONTROL REQUIREMENT TABLES 2 AND 3

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FORM 403N

RULE 403 - LARGE OPERATION NOTIFICATION
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive, Diamond Bar, CA 91765

Is this plan being submitted to comply with the requirements of a Notice to Comply or Notice of Violation? **YES/NO**
Notice Number_____ Please attach copy

Qualifying Criteria:

1. Does this operation contain more than 50 acres of disturbed surface area as of the date of submittal? **YES/NO**
   Please indicate the size of the project _____.
2. Will the earth moving operation exceed a daily earth moving or throughput volume of 5,000 cubic yards three times during the most recent 365-day period from the date grading begins? **YES/NO**

Please Print or Type

Contractor/ Consultant/ Owner: **(Circle one of the above)**		**Phone Number:**	
Address:	**City:**	**State:**	**Zip:**
Project Name:			
Nature of Business: □**Construction/Demolition** □**Sand & Gravel/Mining Operations** □**Cement Manufacturing**			
Name of Responsible Person of Organization: **Title:**		**Phone Number:**	
Environmental Observer: **Date Attended Dust Class:**		**Phone Number:** **ID Number:**	
Project Address: **(Attach location map)**	**City:**	**State:**	**Zip:**
Name of Property Owner: **(If different than above)**			
Anticipated Start Date:		**Anticipated Completion Date:**	
Telephone Number:			
Emergency Phone Number:			

In accordance with paragraph (e)(1) of Rule 403, I will ensure that the actions specified in Tables 2 and 3 will be implemented on-site for each applicable fugitive dust source type within the property lines and that records are maintained in accordance with Rule 403, subparagraph (e)(1)(c) . Further, I hereby certify that all information contained herein is true and correct.

SIGNATURE OF RESPONSIBLE MEMBER OF ORGANIZATION	TITLE	DATE

TABLE 2
DUST CONTROL ACTIONS FOR EXEMPTION FROM PARAGRAPH (d)(3)*

FUGITIVE DUST SOURCE CATEGORY	**CONTROL ACTIONS**	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued) *

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 [70] percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 [70] percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 [30] days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 2 (Continued) *

FUGITIVE DUST SOURCE CATEGORY		**CONTROL ACTIONS**
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 [70] percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

* Measures in [brackets] are reasonably available control measures and only apply to sources not within the South Coast Air Basin.

TABLE 3
TRACK-OUT CONTROL OPTIONS
PARAGRAPH (d)(5)(B)

CONTROL OPTIONS

(1)	Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
(2)	Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
(3)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

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APPENDIX C: BADLANDS SANITARY LANDFILL - RULE 1150 LANDFILL EXCAVATION PERMIT

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FACILITY PERMIT TO OPERATE
RIV CO., WASTE MGMT, BADLANDS LANDFILL

RULE 1150 LANDFILL EXCAVATION MANAGEMENT PLAN

Plan No. 622937
Plan Issuance Date: November 23, 2022

Conditions:

1. This excavation shall be conducted in compliance with all plans and specifications submitted with the applications under which this Rule 1150 Excavation Management Plan is issued unless otherwise noted below.

2. The excavation plan shall expire on September 30, 2027.

3. The South Coast AQMD shall be notified at least two (2) days prior to the excavation commencement and within five (5) days after its completion. The notification shall be made by emailing Rule1150Notifications@aqmd.gov. The subject line of the email shall contain "Rule 1150 Notification". The body of the email shall contain the following information:
   A. Company Name and Company ID
   B. Plan Number
   C. Site Address
   D. Notification Type (2 days prior or 5 days after)
   E. Estimated Excavation Start Date and Completion Date
   F. Caller Name and Contact Information

4. This excavation management plan is valid for the removal and re-disposal of approximately 55,000 cubic yards of refuse and contaminated material.

5. Excavation shall not be conducted between the hours of 6:00 p.m. and 6:00 a.m. or on weekends and legal holidays unless otherwise approved in writing by South Coast AQMD.

6. Excavation shall not be conducted on days when South Coast AQMD forecasts, first, second, or third stage episodes for area number 28 or when South Coast AQMD requires companies in area number 28 to implement their first, second, or third stage episode plans. Episode forecasts for the following day can be obtained by calling (800) 288-7664.

7. During excavation, continuous monitoring and recording of the wind speed and directions shall be conducted at an appropriate site or through the meteorological station if present at the site.

8. Excavation shall not be conducted when the wind speed is greater than 15 mph (averaged over 15 minutes) or wind speed instantaneously exceeds 25 mph.

9. During excavation, all working excavation areas, excavated material and unpaved roadways shall be watered down until the surface is moist and then maintained in a moist condition to minimize dust and emissions without creating a safety hazard condition.

FACILITY PERMIT TO OPERATE
RIV CO., WASTE MGMT, BADLANDS LANDFILL

10. If a distinct odor (level 3 or greater) resulting from the excavation is detected at or beyond the property line, the excavation shall cease and the approved mitigation measures implemented immediately. Excavation shall not resume until the levels return to the background level at the property line.

Odor Scale	Description of Odor Intensity
0	No odor detected
1	Very light odor detected
2	Light odor detected, distinguishable
3	Moderate odor, very distinguishable
4	Strong odor, very distinguishable, irritable
5	Very strong odor, very distinguishable, overpowering and intolerable

Approved mitigation measures:

A. Excavation shall be limited to one location at a time.
B. Limiting excavation workface area.
C. Minimizing soil disturbance/transfer.
D. Limiting working hours.
E. Using long duration foams, plastic sheeting, and 6 inches of clean dirt cover.
F. Water and/or odor neutralizing products containing no VOC.
G. Cleaning and covering of loaded import and export of haul trucks.
H. Good housekeeping.

11. During excavation, if three or more complaints by separate individuals, which have been verified by the South Coast AQMD Inspectors, are received, all work shall cease, and the approved mitigation measure(s) shall be implemented immediately. Alternative mitigation measures which are deemed appropriate by South Coast AQMD personnel to abate a nuisance condition shall be implemented upon request.

12. VOC contaminated soil (as defined by Rule 1166) shall not be spread onsite or offsite if it results in uncontrolled evaporation of VOC to the atmosphere. VOC contaminated soil shall not be used for landfill cover.

13. During excavation, monitoring for Total Organic Compounds as methane using an Organic Vapor Analyzer (OVA) or other monitor approved by South Coast AQMD shall be conducted continuously at the working face of the excavation and at the downwind property line or other approved locations. The maximum sustained readings (greater than 15 seconds) shall be recorded every 15 minutes. The OVA or other approved monitor shall be calibrated each day in accordance with manufacturer specifications.

14. If the OVA or other approved organic monitor shows a sustained reading (greater than 15 seconds) of 2,000 pmmv or greater at the working face, the excavation shall cease and the area generating the emissions shall immediately be completely covered with a minimum of 6 inches of clean dirt, plastic sheeting, foam, or an approved cover. Excavation shall not resume until the readings return to the background level.

FACILITY PERMIT TO OPERATE
RIV CO., WASTE MGMT, BADLANDS LANDFILL

15. If the OVA or other approved organic monitor shows a sustained reading (greater than 15 seconds) or 200 ppmv or greater downwind from the site at the property line (or other approved locations), the excavation shall cease and the area generating the emissions shall immediately be completely covered with a minimum of 6 inches of clean dirt, plastic sheeting, foam, or an approved cover. Excavation shall not resume until the readings return to the background level.

16. The excavation workface, which exposes refuse or other emission generating material to the atmosphere shall not exceed 20,000 square feet, without prior written approval from South Coast AQMD.

17. Excavated landfill material and refuse shall be stockpiled for relocation and burial onsite or hauled offsite for disposal.

18. Stockpiles shall not exceed a height greater than 8 feet and shall be maintained so as to avoid steep sides.

19. Daily inspections shall be conducted of all covered stockpiles to ensure the integrity of the plastic cover. An inspection log shall be maintained.

20. All refuse/emission generating materials that are excavated/exposed to the atmosphere shall either be:

    A. Immediately covered (with either a minimum of 6 inches of clean soil, approved foam, or heavy-duty plastic sheeting, 6 mil or greater) whenever the excavation is not actively in progress, and at the end of each working day. Foam by itself shall not be used as a night cover if it is raining or rain is predicted by the National Weather Service prior to the next scheduled day of excavation.

    B. Immediately deposited into trucks/trailers for off-site transport and completely covered with an impermeable cover, with such covers tied down, except for during active loading/unloading of refuse. All seams shall be sealed to prevent any materials from escaping during transport.

21. When refuse loading is completed and during transport, no material shall extend above the sides or rear of the truck or trailer which will haul the excavated material. Excavated material shall be completely covered with an impermeable cover, with the cover tied down, and all seams shall be sealed to prevent any materials from escaping during transport.

22. The exterior of haul trucks or trailers including the tires shall be cleaned off prior to leaving the site location address listed on this plan.

23. All materials that are listed as hazardous by a federal or state agency shall be considered "hazardous materials" for the purpose of this plan.

24. All excavated hazardous material shall be transported in such a manner as to prevent any emissions of hazardous materials.

25. All hazardous materials transported offsite shall be transported in containers clearly marked as to the type of material contained and what procedures should be followed in case of accidental spills.

26. Excavated liquid hazardous materials with the potential to cause air emissions shall be encapsulated or enclosed in containers with sealed lids before loading into the transport vehicles.

FACILITY PERMIT TO OPERATE
RIV CO., WASTE MGMT, BADLANDS LANDFILL

27. Excavation, handling, and stockpiling activities shall comply with the applicable requirements of Rule 403.

28. All records of excavation working hours monitoring results, daily amounts of materials excavated and relocated or hauled offsite, and other records required by this compliance plan shall be kept on file for at least years and made available to South Coast AQMD upon request.

29. Mitigation measures, other than those listed in these conditions, which are deemed appropriate by South Coast AQMD personnel as necessary to protect the comfort, repose, health, and safety of the public, shall be implemented upon request.

30. This compliance plan or a copy of this compliance plan shall be present at the excavation site.

APPENDIX D: PROJECT DRAWINGS
(REDUCED SIZE – 11 X 17)

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APPENDIX D-1: PROJECT DRAWINGS – LAMB CANYON LANDFILL

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LAMB CANYON SANITARY LANDFILL

CONSTRUCTION PLANS FOR ON-CALL SITE IMPROVEMENTS

APRIL 2026

PREPARED BY

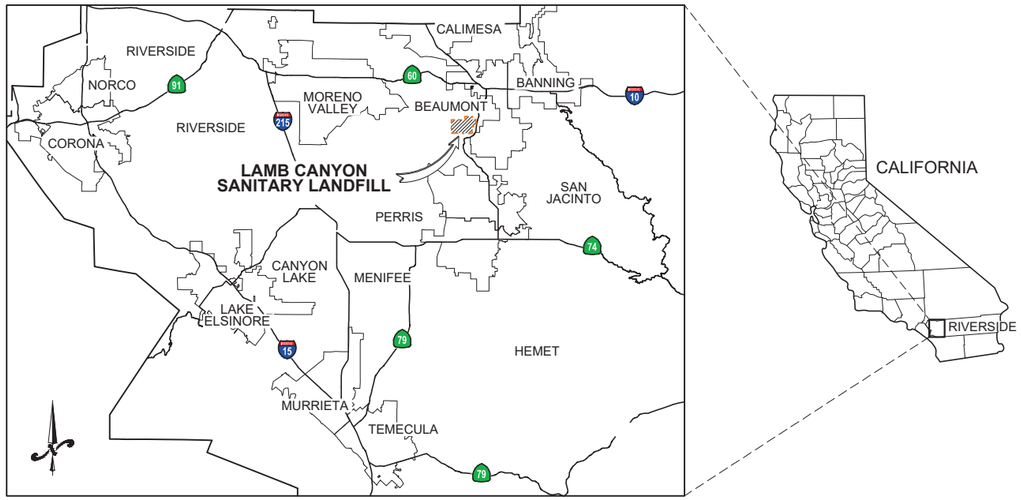
RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

ANDY CORTEZ, GENERAL MANAGER / CHIEF ENGINEER

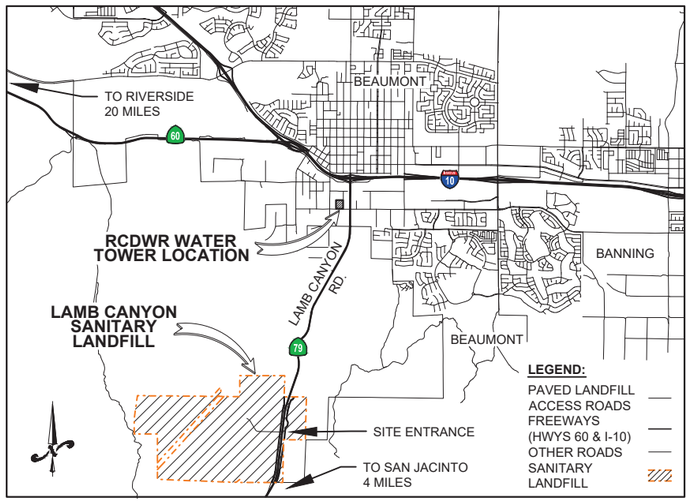
14310 FREDERICK STREET
MORENO VALLEY, CALIFORNIA 92553
TEL. (951) 486-3200 FAX (951) 486-3205

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

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LOCATION MAP
NOT TO SCALE

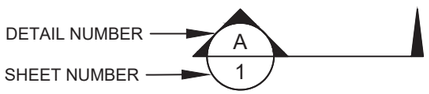


VICINITY MAP
NOT TO SCALE

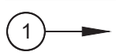
ABBREVIATIONS:

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
APPROX.	APPROXIMATE
BC	BEGIN CURVE
C	CUT
OR CL	CENTER LINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
DIA	DIAMETER
E	EASTING
EC	END CURVE
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EX	EXISTING
F OR FL	FLOW LINE
GB	GRADE BREAK
HOR.	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
INV	INVERT
L	LENGTH
LDPE	LOW DENSITY POLYETHYLENE
LF	LINEAR FEET
N	NORTHING
NAD	NORTH AMERICAN DATUM
NTS	NOT TO SCALE
PI	POINT OF INTERSECTION
PIP	PROTECT IN PLACE
POC	POINT ON CURVE
P OR PL	PROPERTY LINE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RC	REINFORCED CONCRETE
RCDWR	RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
RCE	REGISTERED CIVIL ENGINEER
RCFC	RIVERSIDE COUNTY FLOOD CONTROL
STA	STATION
TOE	TOE OF SLOPE
TS	TOP OF SLOPE
TYP	TYPICAL
VERT.	VERTICAL
WRP	WASTE RECYCLE PARK

CROSS-SECTION DETAIL CALLOUT:



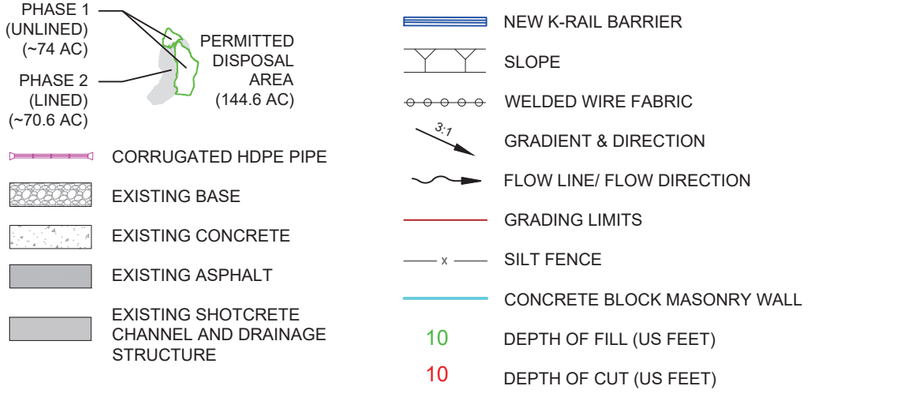
CONSTRUCTION NOTE CALLOUT:



INDEX OF DRAWINGS

SHEET	FILE NAME	TITLE	SCALE
1	LC26_S01_TITLE.DWG	TITLE SHEET	N.T.S.
2	LC26_S2_INDEX, LEGEND, AND VICINITY MAP.DWG	INDEX, LEGEND, AND VICINITY MAP	N.T.S.
3	LC26_S3_SITE_MAP.DWG	SITE MAP	1' = 500'
4	LC26_S4_REMEDIATION DESIGN.DWG	REMEDIATION DESIGN	1' = 70'
5	LC26_S5-7_REMEDIATION DESIGN AND PROFILES.DWG	REMEDIATION DESIGN - ISO	1' = 70'
6	LC26_S5-7_REMEDIATION DESIGN AND PROFILES.DWG	CROSS-SECTIONS: A & B	N.T.S
7	LC26_S5-7_REMEDIATION DESIGN AND PROFILES.DWG	CROSS-SECTIONS: C	N.T.S
8	LC26_S8_SURFACE DRAINAGE AND EROSION CONTROL.DWG	SURFACE DRAINAGE AND EROSION CONTROL	1' = 70'
9	LC26_S9-11_DETAILS.DWG	CONSTRUCTION DETAILS	N.T.S.
10	LC26_S9-11_DETAILS.DWG	CONSTRUCTION DETAILS	N.T.S.
11	LC26_S9-11_DETAILS.DWG	CONSTRUCTION DETAILS	N.T.S.

LEGEND AND FILL PATTERNS:



DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026	
DRAWN BY:	FT	FLIGHT TOPO DATE:	N/A	
CHECKED BY:	EC	FIELD TOPO DATE:	N/A	
NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER
Not To Scale

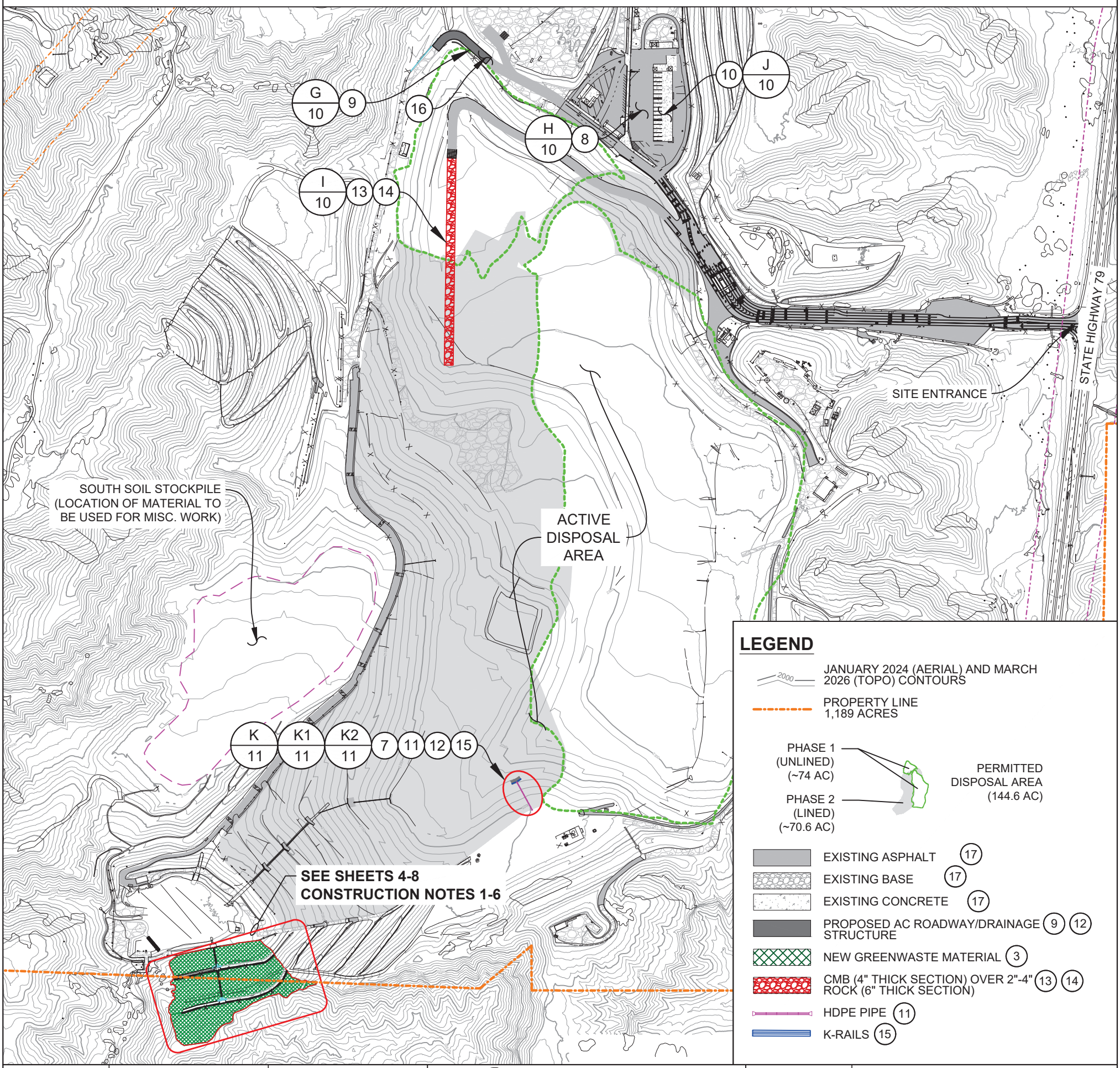
LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT
INDEX, LEGEND, AND VICINITY MAP

SHEET: 2 OF 11

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CONSTRUCTION NOTES:

1. SAWCUT, DEMOLISH, AND REMOVE DAMAGED SECTIONS OF EXISTING SHOTCRETE DRAINAGE STRUCTURES WITHIN GRADING LIMITS AND HAUL EXCESS MATERIAL TO THE ONSITE DEMOLITION STOCKPILE AS DIRECTED BY COUNTY REPRESENTATIVES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS. (BID ITEM LC-1)
2. EXCAVATE TO DESIGN GRADES, HAUL, AND STOCKPILE MATERIAL. ALL EXCAVATED MATERIAL SHALL BE HAULED TO SOUTH SOIL STOCKPILE AS DIRECTED BY COUNTY REPRESENTATIVES. (BID ITEM LC-2)
3. APPLY GREENWASTE MATERIAL ON SIDE SLOPE AREAS AND BENCHES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND AT OTHER LOCATIONS AS DIRECTED BY COUNTY REPRESENTATIVES. PROCESSED GREENWASTE MATERIAL SHALL BE SUPPLIED BY THE COUNTY. (BID ITEM LC-6)
4. CONSTRUCT 4" THICK REINFORCED SHOTCRETE DRAINAGE STRUCTURES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (BID ITEM LC-3)
5. CONSTRUCT CONCRETE BLOCK MASONRY WALLS IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (BID ITEM LC-4)
6. FURNISH AND INSTALL HDPE S-FENCE WITH SANDBAG CHECKDAMS IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (BID ITEM LC-5)
7. CONSTRUCT EARTHEN DIVERSION BERMS IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-14)
8. SAW-CUT, REMOVE, AND REPLACE DAMAGED SECTIONS OF EXISTING ASPHALT CONCRETE ROADWAY, 6" THICK ASPHALT CONCRETE PAVEMENT OVER 12" THICK CLASS II BASE. UPON COMPLETION, ASPHALT ROAD SHALL BE FOG SEALED IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-7)
9. CONSTRUCT ASPHALT CONCRETE ROADWAY, 6" THICK ASPHALT CONCRETE PAVEMENT OVER 12" THICK CLASS II BASE. UPON COMPLETION, ASPHALT ROAD SHALL BE FOG SEALED IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-8)
10. SAW-CUT, REMOVE, AND REPLACE DAMAGED SECTIONS OF EXISTING 6" THICK CONCRETE IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. ALL DEMOLITION MATERIAL SHALL BE HAULED TO THE ONSITE DEMOLITION STOCKPILE AS DIRECTED BY COUNTY REPRESENTATIVES. (OPTIONAL BID LC-9)
11. FURNISH AND INSTALL 24" OR 36" CORRUGATED HDPE PIPE AND APPURTENANCES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-11 OR LC-12)
12. CONSTRUCT ASPHALT CONCRETE DRAINAGE STRUCTURES. UPON COMPLETION, ASPHALT DRAINAGE STRUCTURES SHALL BE FOG SEALED IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-13)
13. FURNISH AND INSTALL CRUSHED MISCELLANEOUS BASE (CMB) IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-15)
14. FURNISH AND INSTALL 2"-4" ROCK IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-16)
15. INSTALL K-RAIL BARRIERS AT SPECIFIC LOCATIONS INDICATED OR AS DIRECTED BY COUNTY REPRESENTATIVES. K-RAIL BARRIER SECTIONS NEEDED FOR THIS WORK WILL BE SUPPLIED, TRANSPORTED, AND STOCKPILED NEAR WORK AREA BY COUNTY. (OPTIONAL BID ITEM LC-17 "TIME AND MATERIALS")
16. RELOCATE AND PLACE EXISTING RUMBLE PLATES AS DIRECTED BY COUNTY REPRESENTATIVES. (OPTIONAL BID ITEM LC-17 "TIME AND MATERIALS")
17. PROTECT IN PLACE VARIOUS EXISTING STRUCTURES.



LEGEND

- JANUARY 2024 (AERIAL) AND MARCH 2026 (TOPO) CONTOURS (2000)
- PROPERTY LINE 1,189 ACRES
- PHASE 1 (UNLINED) (~74 AC)
- PHASE 2 (LINED) (~70.6 AC)
- PERMITTED DISPOSAL AREA (144.6 AC)
- EXISTING ASPHALT (17)
- EXISTING BASE (17)
- EXISTING CONCRETE (17)
- PROPOSED AC ROADWAY/DRAINAGE STRUCTURE (9) (12)
- NEW GREENWASTE MATERIAL (3)
- CMB (4" THICK SECTION) OVER 2"-4" ROCK (6" THICK SECTION) (13) (14)
- HDPE PIPE (11)
- K-RAILS (15)

DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026
DRAWN BY:	FT	FLIGHT TOPO DATE:	JANUARY 2024
CHECKED BY:	EC	FIELD TOPO DATE:	MARCH 2026

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

Scale: 1" = 500' (11" x 17"), 1" = 250' (22" x 34")
0 250 500 750 1000 1250
Datum is mean sea level

LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT

SITE MAP OF IMPROVEMENTS

SHEET: 3 OF 11

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CONSTRUCTION NOTES:

1. SAWCUT, DEMOLISH, AND REMOVE DAMAGED SECTIONS OF EXISTING SHOTCRETE DRAINAGE STRUCTURES WITHIN GRADING LIMITS AND HAUL EXCESS MATERIAL TO THE ONSITE DEMOLITION STOCKPILE AS DIRECTED BY COUNTY REPRESENTATIVES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS. (BID ITEM LC-1)
2. EXCAVATE TO DESIGN GRADES, HAUL, AND STOCKPILE MATERIAL. ALL EXCAVATED MATERIAL SHALL BE HAULED TO SOUTH SOIL STOCKPILE AS DIRECTED BY COUNTY REPRESENTATIVES. (BID ITEM LC-2)
17. PROTECT IN PLACE VARIOUS STRUCTURES.

17 DRAINAGE STRUCTURE (TYP.)

17 SHOTCRETE DRAINAGE STRUCTURE (TYP.)

RETAINING WALL 17

SHOTCRETE DRAINAGE STRUCTURE (TYP.) 17

A 6 — 0+00

B 6 — 0+00

C 7 — 0+00

A' 6 — 5+00

B' 6 — 4+00

C' 7 — 4+50

1+00 2+00 3+00 4+00

3:1 2:1 1.74:1 1.80:1 1.75:1

3% 4% 6% 9% 11% 12%

1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085 2110 2125

LEGEND

- JANUARY 2024 (AERIAL) AND MARCH 2026 (TOPO) CONTOURS
- PROPOSED CONTOURS (GRADING SUBJECT TO CHANGE.)
- PHASE 1 (UNLINED) (~74 AC)
- PHASE 2 (LINED) (~70.6 AC)
- PERMITTED DISPOSAL AREA (144.6 AC)
- PROPERTY LINE 1,189 ACRES
- GRADING LIMITS (2)
- DEMOLISH EXISTING DRAINAGE STRUCTURES (1)

DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026
DRAWN BY:	FT	FLIGHT TOPO DATE:	JANUARY 2024
CHECKED BY:	EC	FIELD TOPO DATE:	MARCH 2026

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

Scale: 1" = 70' (11" x 17"), 1" = 35' (22" x 34")

0 35 70 105 140 175

Datum is mean sea level

LAMB CANYON SANITARY LANDFILL

2026 ON-CALL PROJECT

SLOPE REMEDIATION EXCAVATION PLAN

SHEET: 4 OF 11

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LEGEND

- JANUARY 2024 (AERIAL), MARCH 2026 (TOPO), AND DESIGN CONTOURS (GRADING SUBJECT TO CHANGE.)
- PHASE 1 (UNLINED) (~74 AC)
- PHASE 2 (LINED) (~70.6 AC)
- PERMITTED DISPOSAL AREA (144.6 AC)
- PROPERTY LINE 1,189 ACRES
- GRADING LIMITS
- 10 DEPTH OF FILL (US FEET)
- 10 DEPTH OF CUT (US FEET)

DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026	
DRAWN BY:	EC	FLIGHT TOPO DATE:	JANUARY 2024	
CHECKED BY:	EC	FIELD TOPO DATE:	MARCH 2026	

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

Scale: 1" = 100' (11" x 17"), 1" = 50' (22" x 34")

0 50 100 150 200 250

Datum is mean sea level

LAMB CANYON SANITARY LANDFILL

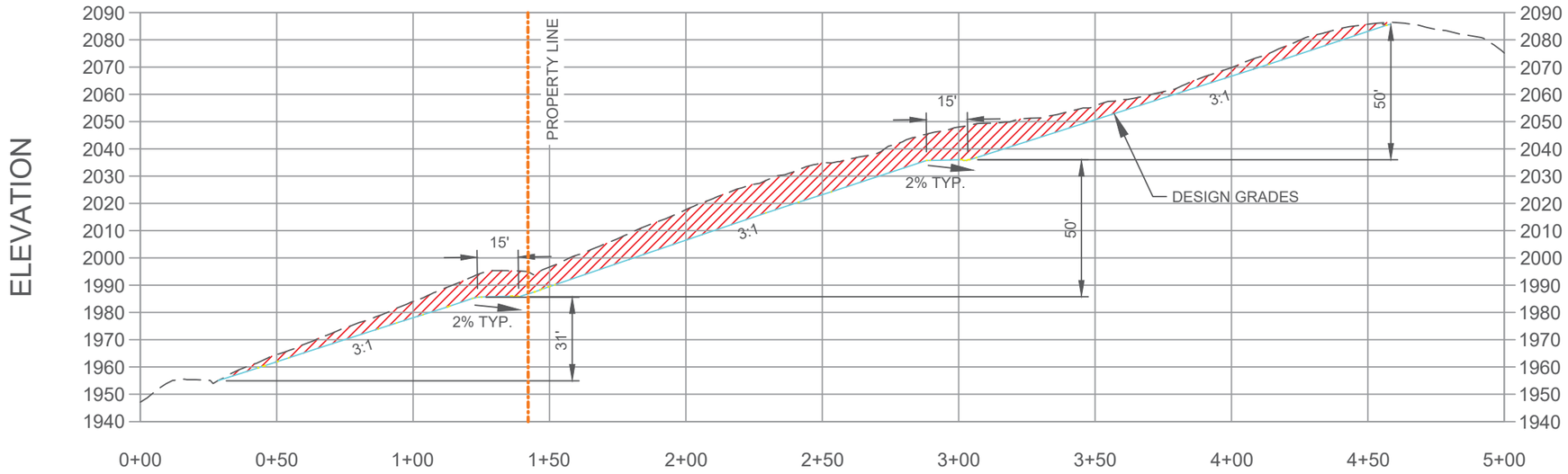
2026 ON-CALL PROJECT

REMEDIATION DESIGN - ISOPACH

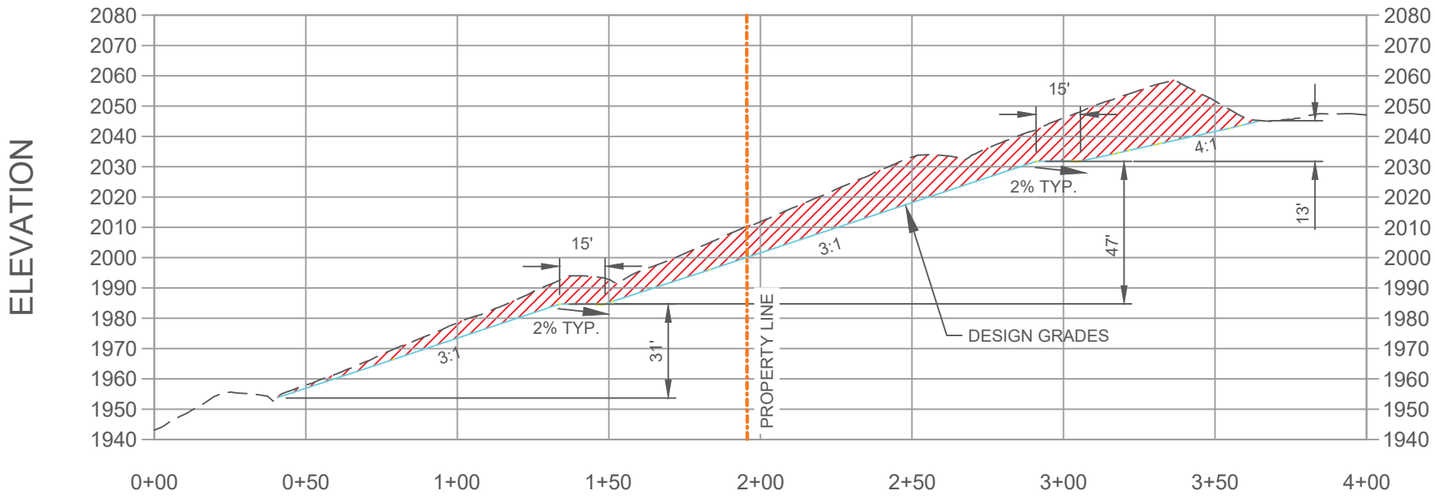
SHEET: 5 OF 11

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A-A'
HORZ. SCALE: 1"=50'
VERT. SCALE: 1"=50'



B-B'
HORZ. SCALE: 1"=50'
VERT. SCALE: 1"=50'



LEGEND

- EXISTING CONDITION - JANUARY 2024 (AERIAL), MARCH 2026 (TOPO)
- PROPOSED EXCAVATION DESIGN (GRADING SUBJECT TO CHANGE)
- CUT MATERIAL
- PROPERTY LINE
  1,189 ARES

DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026
DRAWN BY:	FT	FLIGHT TOPO DATE:	JANUARY 2024
CHECKED BY:	EC	FIELD TOPO DATE:	MARCH 2026

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

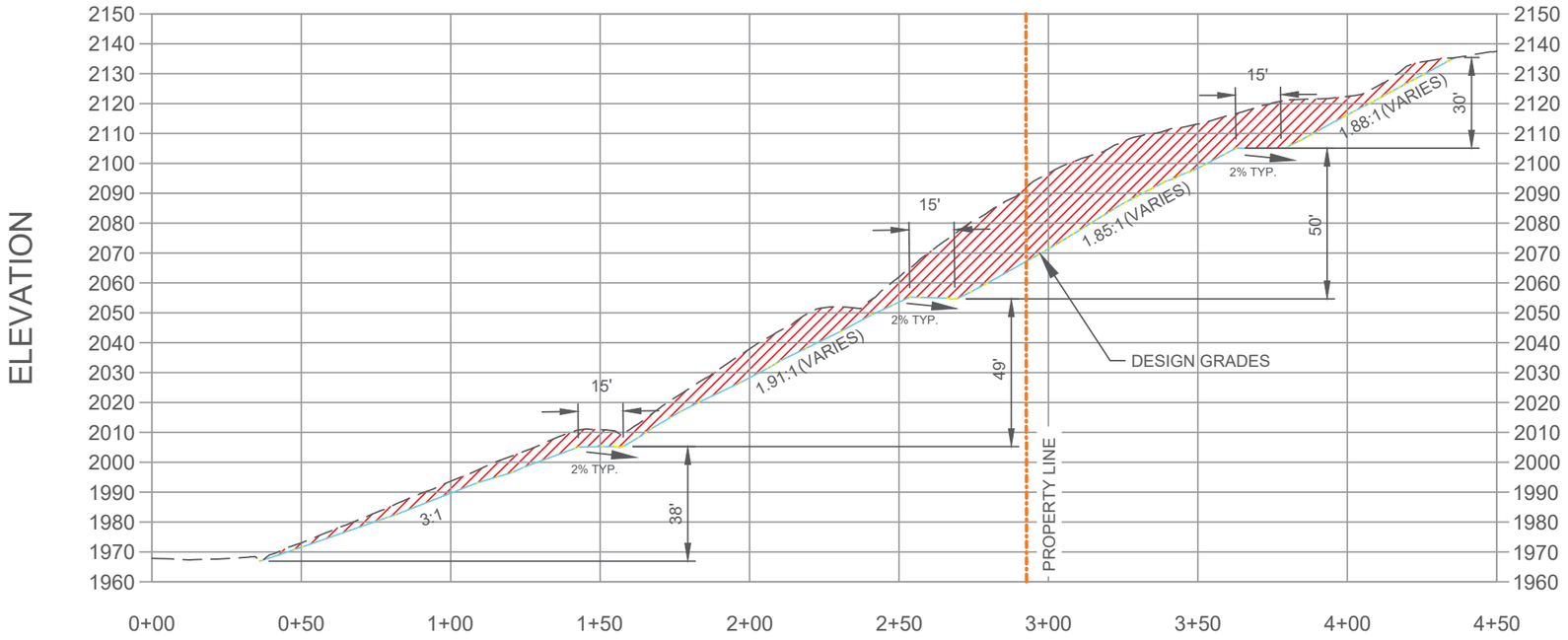
SCALE AS SHOWN

LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT

CROSS-SECTIONS: A & B

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C-C'
HORZ. SCALE: 1"=50'
VERT. SCALE: 1"=50'



LEGEND

- EXISTING CONDITION - JANUARY 2024 (AERIAL), MARCH 2026 (TOPO)
- PROPOSED EXCAVATION DESIGN (GRADING SUBJECT TO CHANGE)
- CUT MATERIAL
- PROPERTY LINE
  1,189 ARES

DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026	
DRAWN BY:	FT	FLIGHT TOPO DATE:	JANUARY 2024	
CHECKED BY:	EC	FIELD TOPO DATE:	MARCH 2026	

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

SCALE AS SHOWN

LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT

CROSS-SECTIONS: C

SHEET: 7 OF 11

N:\ENG\Sites\Lamb Canyon\Eng\Projects\2026 On-Call Project\Project Drawings\CAD\LC26_s5-7_Remediation Design and Profiles.dwg

CONSTRUCTION NOTES:

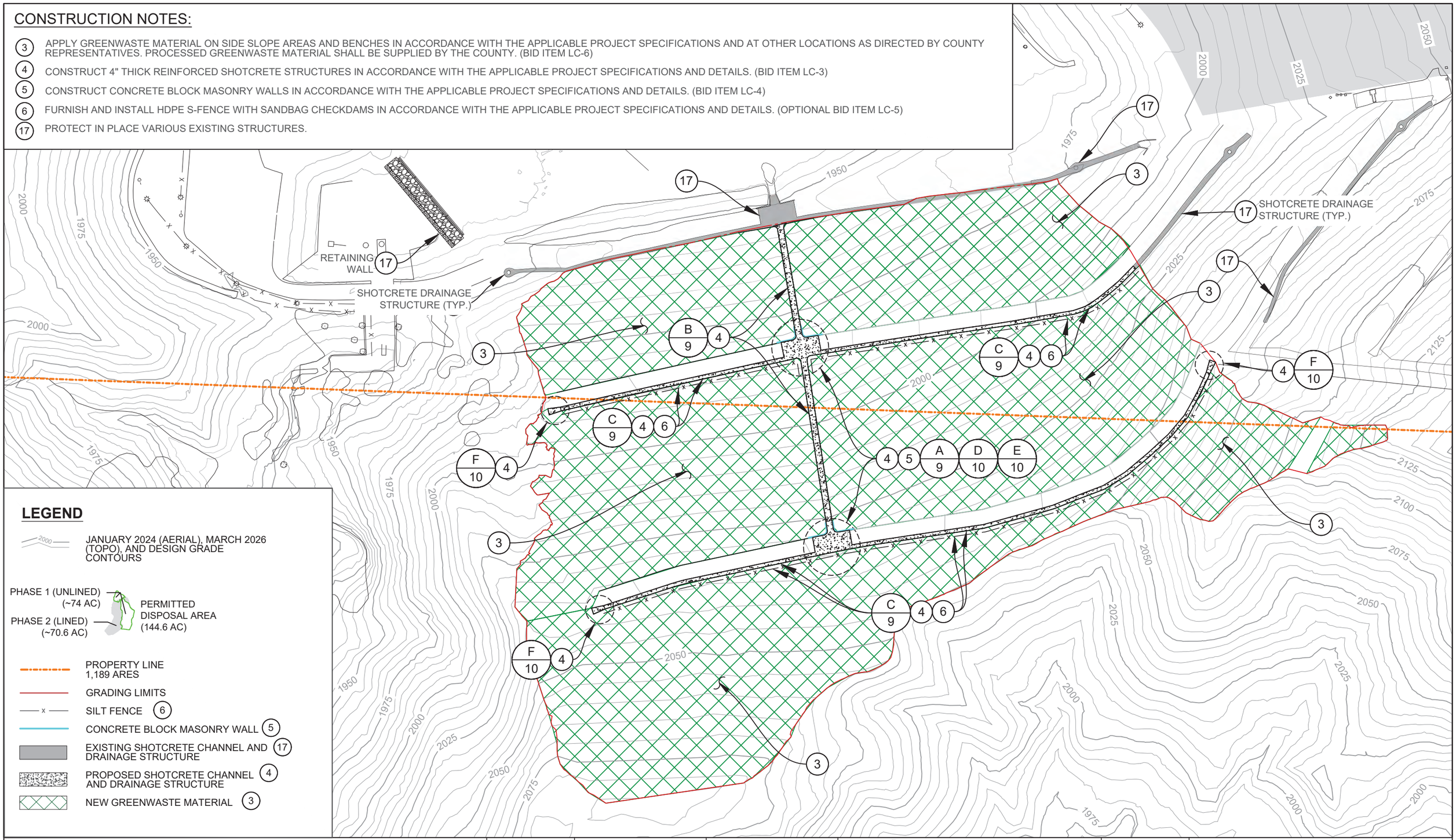
(3) APPLY GREENWASTE MATERIAL ON SIDE SLOPE AREAS AND BENCHES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND AT OTHER LOCATIONS AS DIRECTED BY COUNTY REPRESENTATIVES. PROCESSED GREENWASTE MATERIAL SHALL BE SUPPLIED BY THE COUNTY. (BID ITEM LC-6)

(4) CONSTRUCT 4" THICK REINFORCED SHOTCRETE STRUCTURES IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (BID ITEM LC-3)

(5) CONSTRUCT CONCRETE BLOCK MASONRY WALLS IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (BID ITEM LC-4)

(6) FURNISH AND INSTALL HDPE S-FENCE WITH SANDBAG CHECKDAMS IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS AND DETAILS. (OPTIONAL BID ITEM LC-5)

(17) PROTECT IN PLACE VARIOUS EXISTING STRUCTURES.



LEGEND

- JANUARY 2024 (AERIAL), MARCH 2026 (TOPO), AND DESIGN GRADE CONTOURS
- PHASE 1 (UNLINED) (~74 AC)
- PHASE 2 (LINED) (~70.6 AC)
- PERMITTED DISPOSAL AREA (144.6 AC)
- PROPERTY LINE 1,189 ARES
- GRADING LIMITS
- SILT FENCE (6)
- CONCRETE BLOCK MASONRY WALL (5)
- EXISTING SHOTCRETE CHANNEL AND DRAINAGE STRUCTURE (17)
- PROPOSED SHOTCRETE CHANNEL AND DRAINAGE STRUCTURE (4)
- NEW GREENWASTE MATERIAL (3)

DESIGNED BY:	FT	DRAWING DATE:	APRIL 2026
DRAWN BY:	FT	FLIGHT TOPO DATE:	JANUARY 2025
CHECKED BY:	EC	FIELD TOPO DATE:	MARCH 2025

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

Scale: 1" = 70' (11" x 17"), 1" = 35' (22" x 34")

0 35 70 105 140 175

Datum is mean sea level

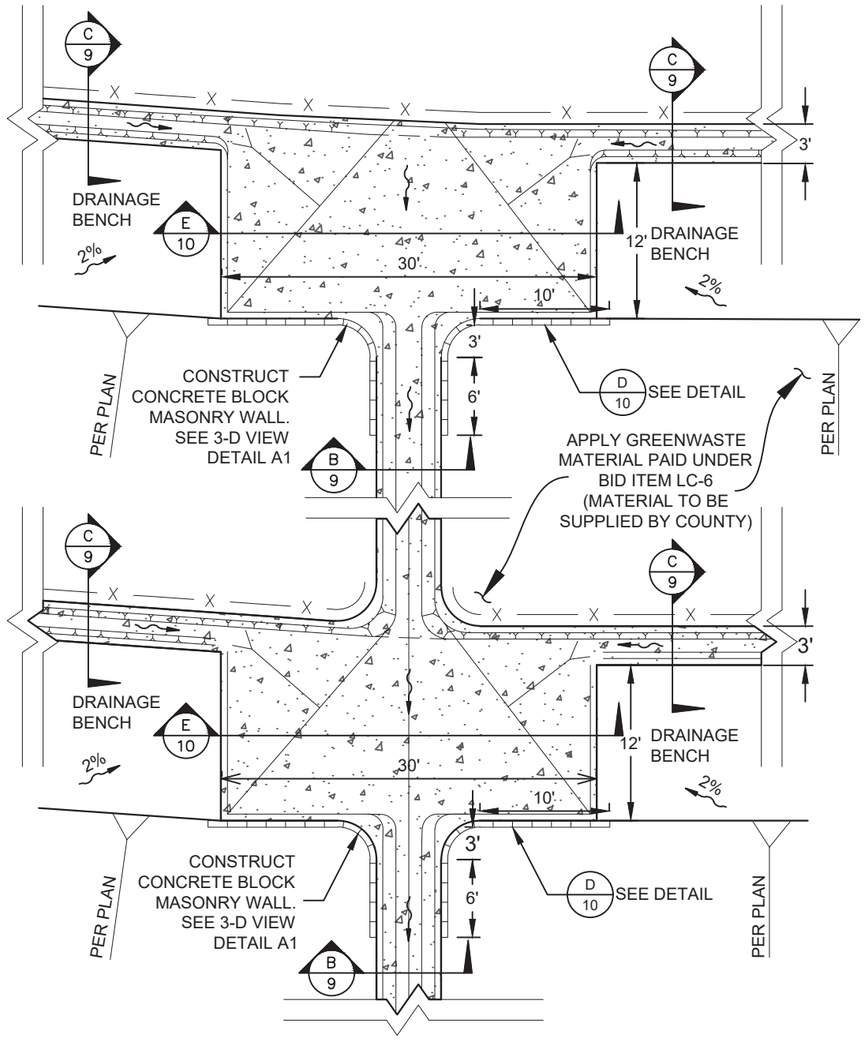
LAMB CANYON SANITARY LANDFILL

2026 ON-CALL PROJECT

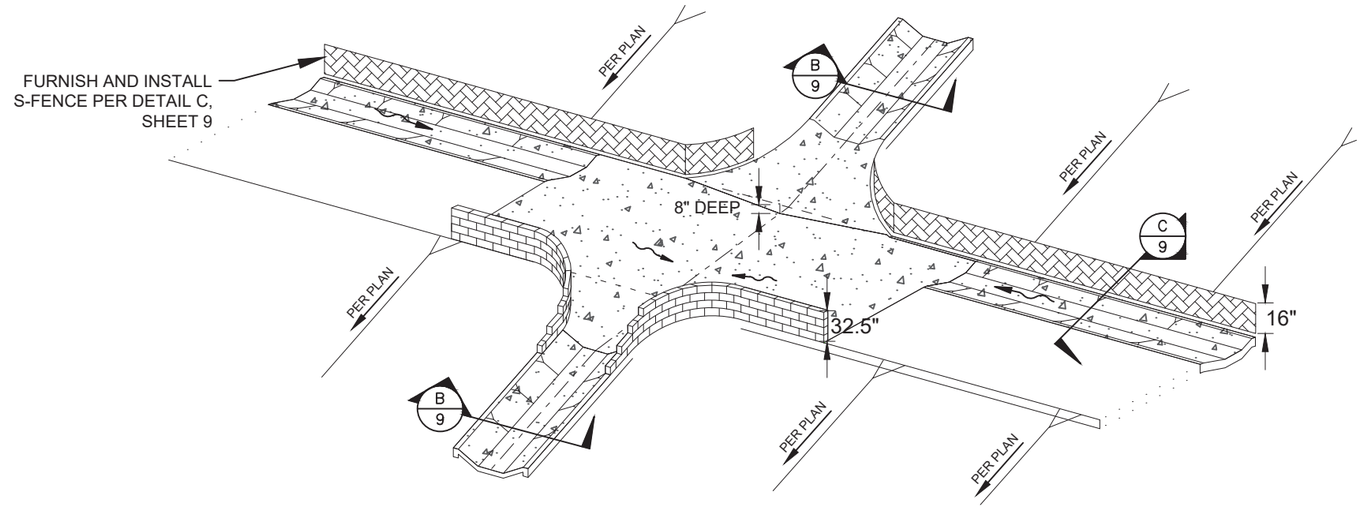
SURFACE DRAINAGE AND EROSION CONTROL

SHEET: 8 OF 11

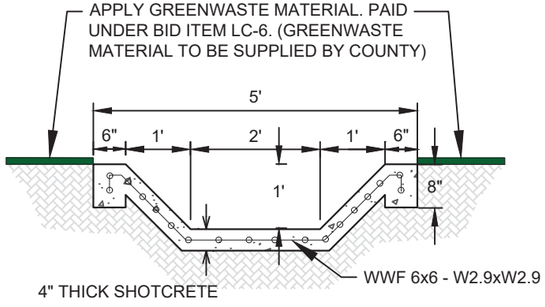
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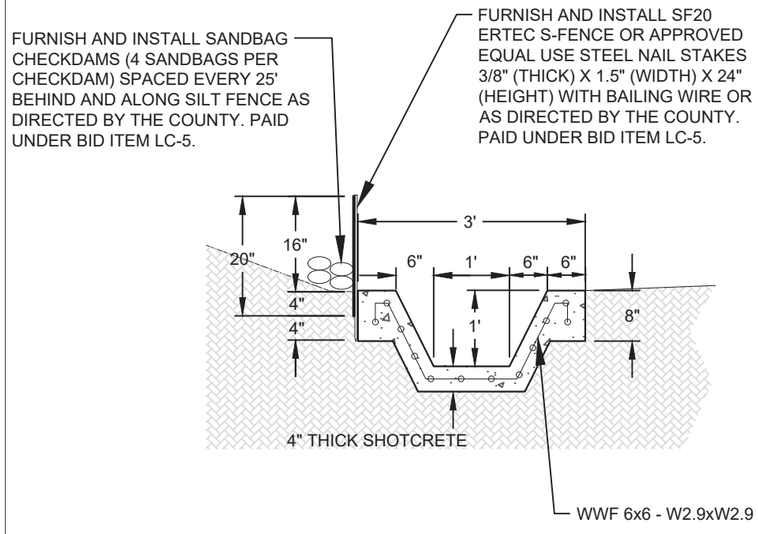
A SHOTCRETE BENCH CROSSING AND DOWN DRAIN DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-3)



A1 SHOTCRETE BENCH CROSSING AND DOWN DRAIN 3D VIEW
NOT TO SCALE (PAID UNDER BID ITEM LC-3)



B SHOTCRETE TRAPEZOIDAL DRAIN DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-3)



C SHOTCRETE TRAPEZODIAL DRAIN DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-3)

DESIGNED BY:	FT	DRAWING DATE:		APRIL 2026
DRAWN BY:	FT	FLIGHT TOPO DATE:		N/A
CHECKED BY:	EC	FIELD TOPO DATE:		N/A
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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

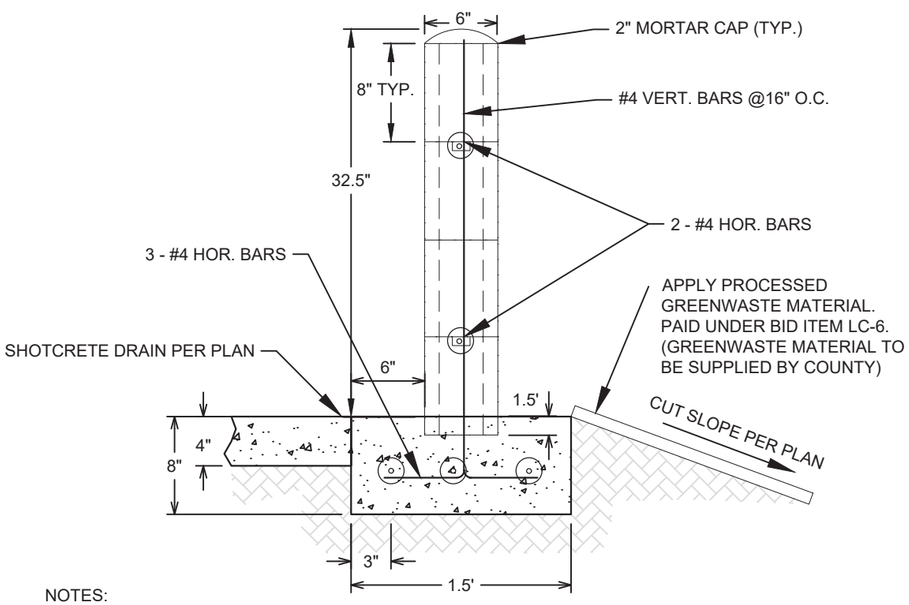
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LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT

CONSTRUCTION DETAILS

SHEET: 9 OF 11

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NOTES:

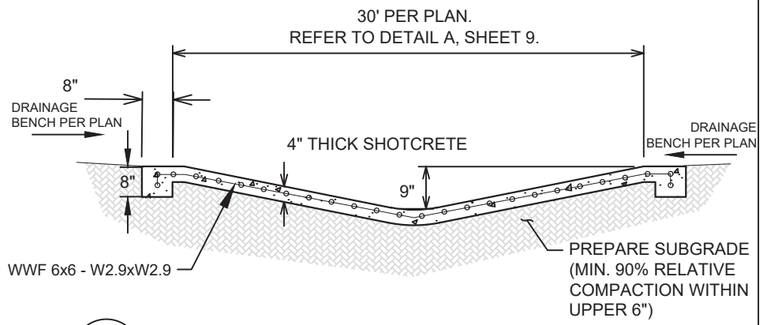
1 MASONRY BLOCK DIMENSIONS: 6"X8"X16"

2 CONCRETE BLOCKS SHALL BE PLACED WHILE THE FOOTING IS STILL FRESH. ALL CELLS TO BE FILLED SOLID WITH GROUT AND RODDED SO GROUT IS MONOLITHIC WITH FRESH FOOTING.

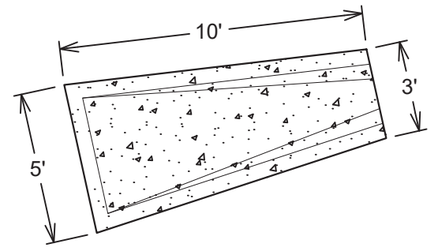
3 LENGTH OF CONCRETE BLOCK WALLS SHALL BE AS SPECIFIED IN THE PROJECT DRAWINGS OR AS DIRECTED BY THE COUNTY REPRESENTATIVE IN THE FIELD

4 IN ACCORDANCE WITH THE PROJECT PLANS, WHERE A MASONRY BLOCK WALL IS TO BE PLACED ADJACENT TO A REINFORCED CONCRETE STRUCTURE, THEN, THE FOOTING OF THE WALL SHALL BE POURED MONOLITHICALLY WITH THAT ADJACENT REINFORCED CONCRETE STRUCTURE.

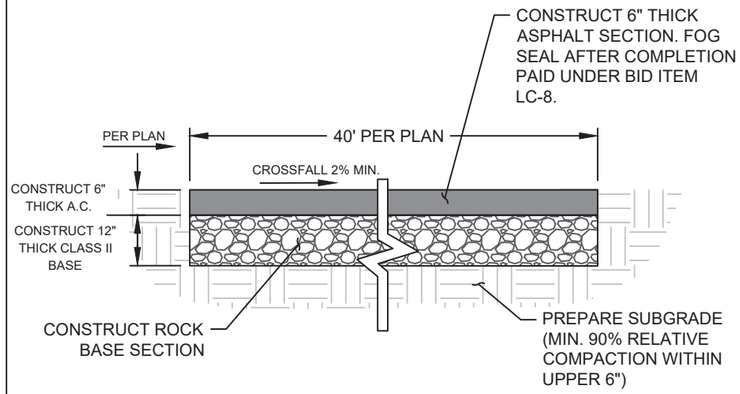
D CONCRETE BLOCK MASONRY WALL DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-4)



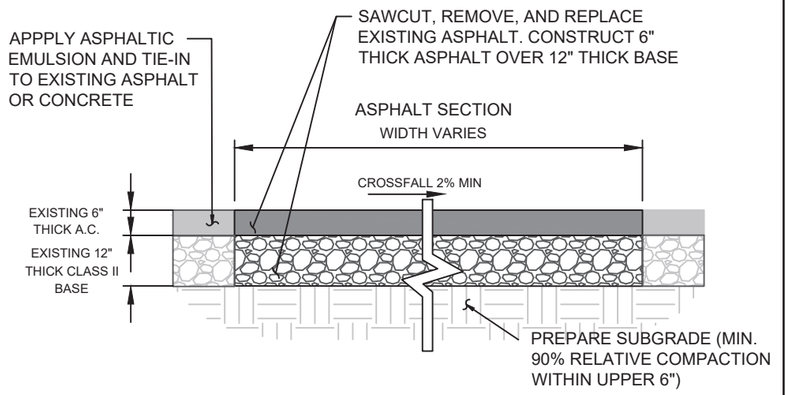
E SHOTCRETE BENCH CROSSING DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-3)



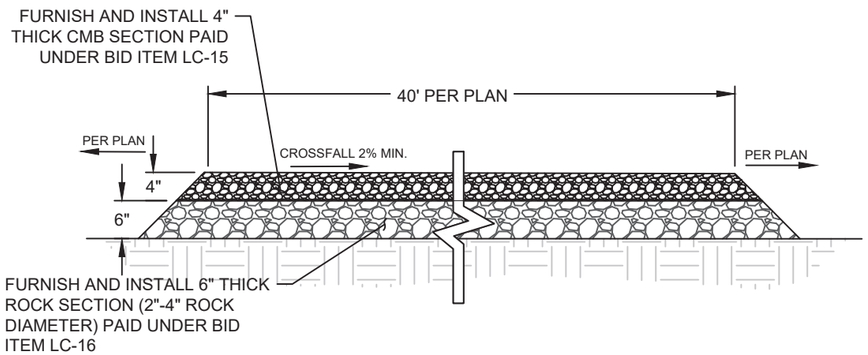
F SHOTCRETE INLET STRUCTURE DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-3)



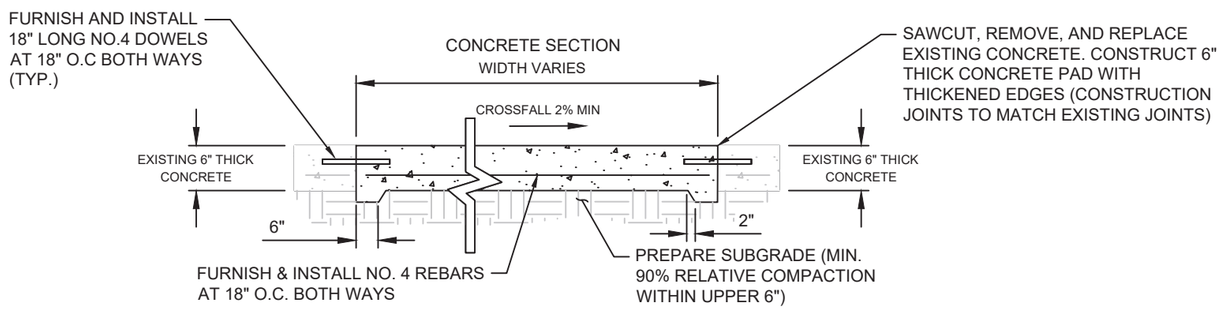
G 6" THICK A.C. ACCESS ROAD SECTION
NOT TO SCALE (PAID UNDER BID ITEM LC-8)



H SAW-CUT, REMOVE, AND REPLACE ASPHALT SECTION
NOT TO SCALE (PAID UNDER BID ITEM LC-7)



I AGGREGATE BASE ROAD (4" THICK CMB OVER 6" THICK ROCK) SECTION
NOT TO SCALE (PAID UNDER BID ITEM LC-15 AND LC-16)



J SAW-CUT, REMOVE, AND REPLACE CONCRETE SECTION
NOT TO SCALE (PAID UNDER BID ITEM LC-9)

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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

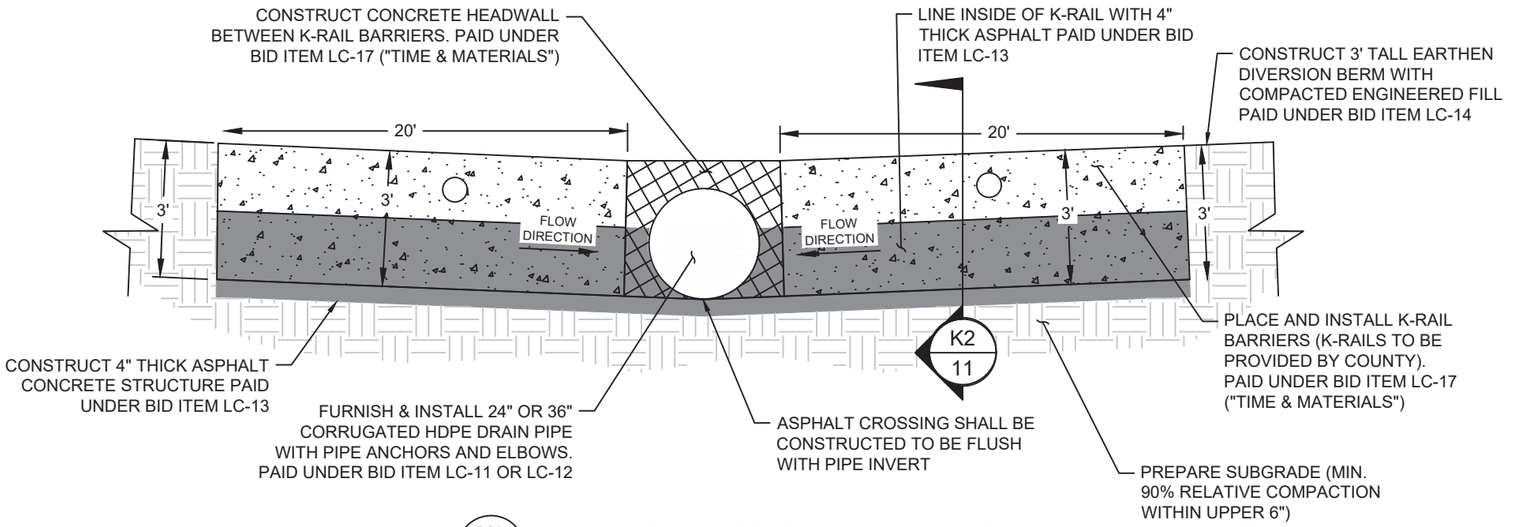
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LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT

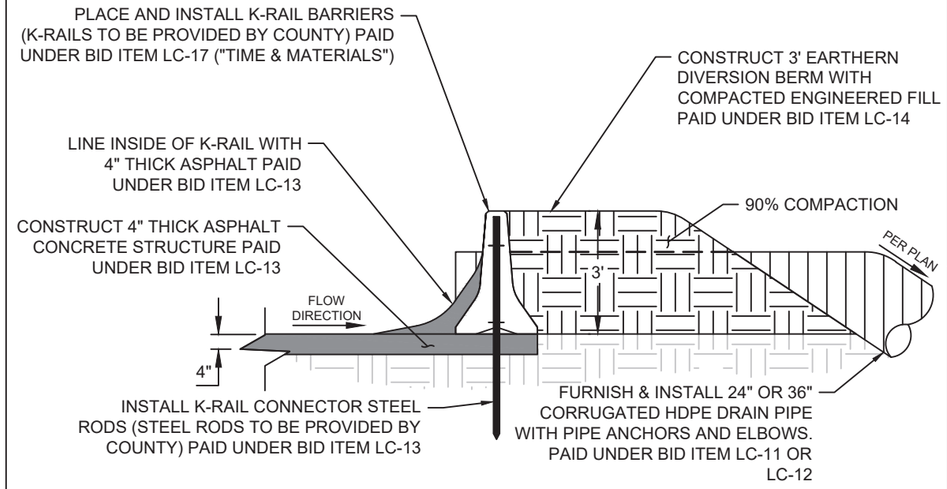
CONSTRUCTION DETAILS

SHEET: 10 OF 11

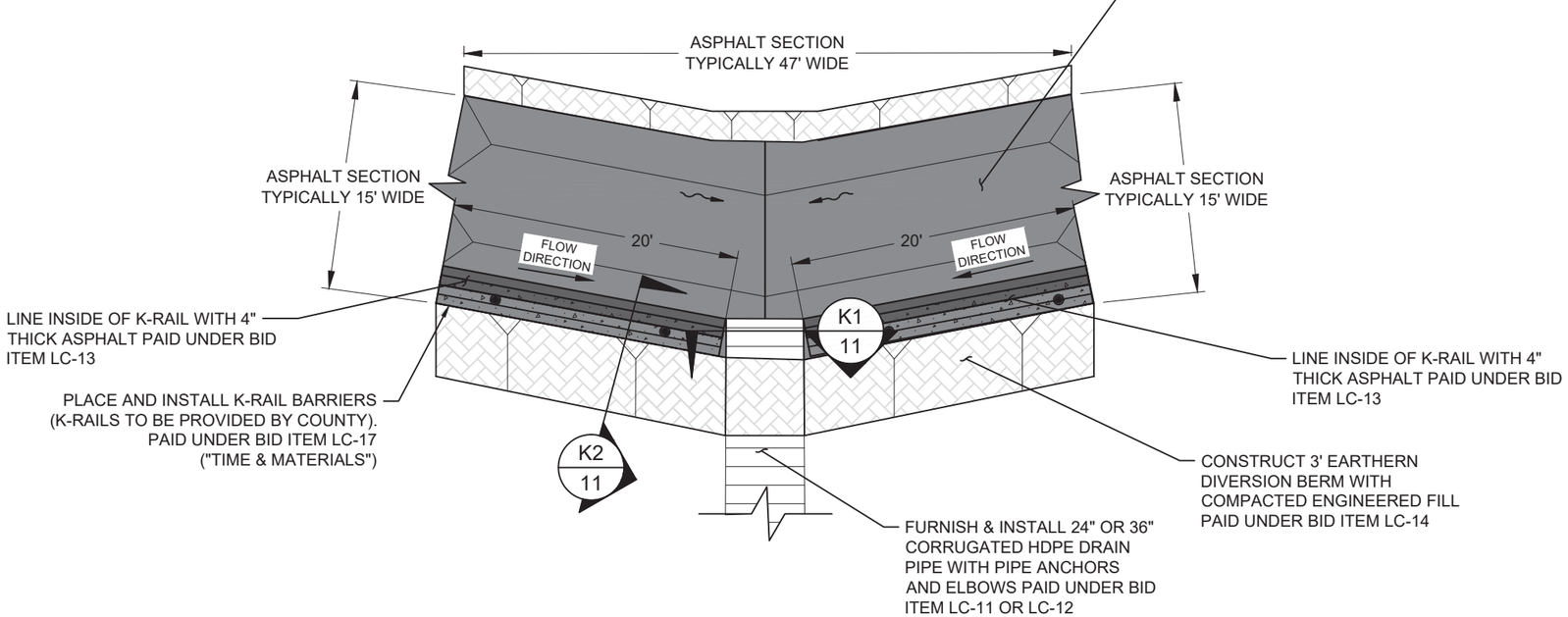
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K1 4" THICK ASPHALT CONCRETE INLET STRUCTURE DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-13)



K2 4" THICK ASPHALT CONCRETE INLET STRUCTURE DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-13)



K 4" THICK ASPHALT CONCRETE INLET STRUCTURE DETAIL
NOT TO SCALE (PAID UNDER BID ITEM LC-13)

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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
ANDY CORTEZ, GENERAL MANAGER-CHIEF ENGINEER

Not to Scale

LAMB CANYON SANITARY LANDFILL
2026 ON-CALL PROJECT

CONSTRUCTION DETAILS

SHEET: 11 OF 11

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APPENDIX D-2: PROJECT DRAWINGS – BADLANDS LANDFILL

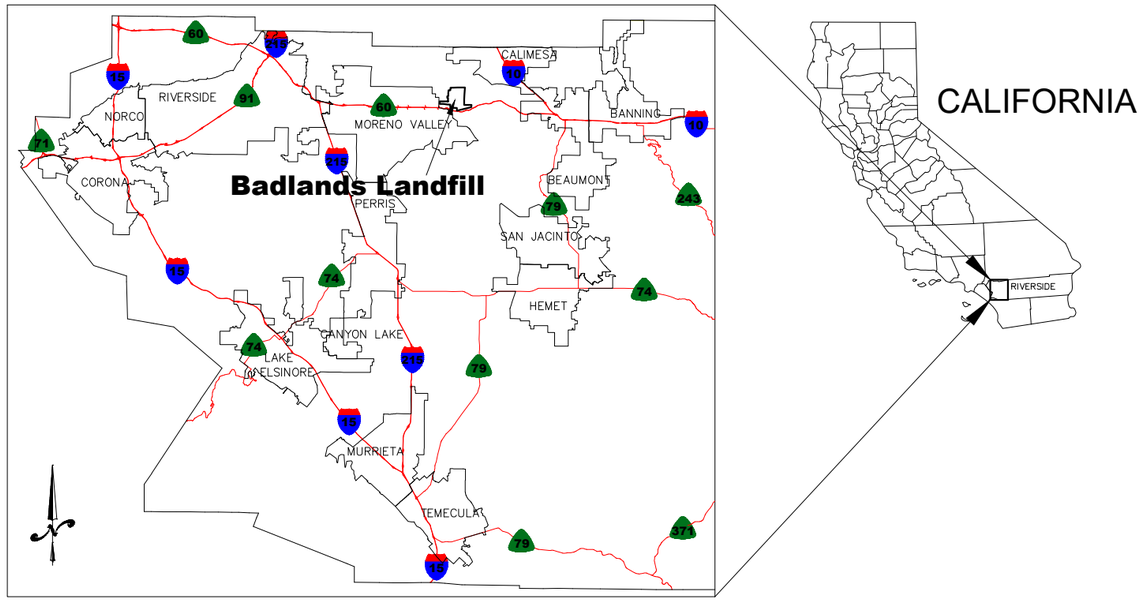
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BADLANDS
SANITARY LANDFILL

PROJECT DRAWINGS
FOR
ON-CALL SITE
IMPROVEMENTS
2026

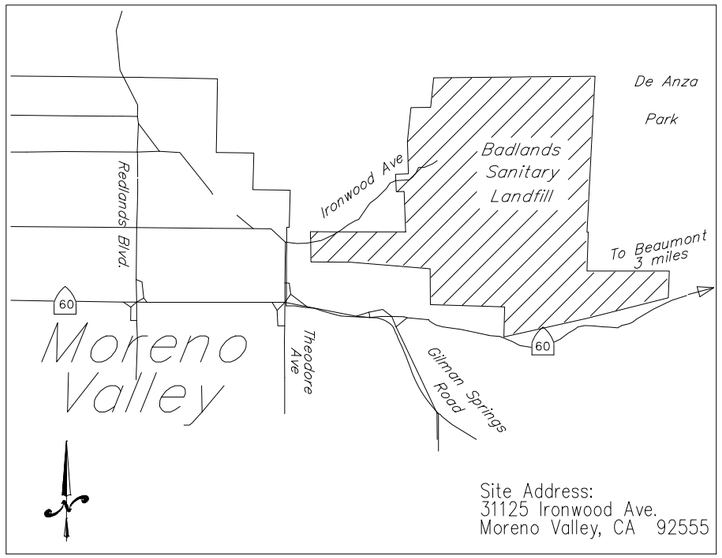
PREPARED BY
DEPARTMENT OF WASTE RESOURCES
ANDY CORTEZ, GENERAL MANAGER/CHIEF ENGINEER
14310 FREDERICK STREET
MORENO VALLEY, CALIFORNIA 92553
TEL. (951) 486-3200 FAX (951) 486-3205

RIVERSIDE COUNTY
DEPARTMENT OF
WASTE RESOURCES



LOCATION MAP

N.T.S.



VICINITY MAP

N.T.S.

FILL PATTERNS

- Asphalt
- Concrete
- Refuse
- Competent Subgrade
- 3"–6" Rock
- 2"–4" Rock
- Crushed Miscelllaneous Base
- Soil Cement

DETAIL CALLOUTS

A / 4 — Detail Number / Sheet Number

CONSTRUCTION NOTE CALLOUTS

④

LEGEND

- Landfill footprint (unlined)
- Landfill footprint (lined)
- 2100 Topo Contours (June 2025)
- PL Property line
- Grade break
- 1.5:1 Gradient & Direction
- Flow Line / Flow Direction
- MLP–18 Gas probe (protect in place)
- LC–9 Ground water well (protect in place)
- GW–11 Existing landfill gas collection system (protect in place)
- Paved Surface
- Top / Toe Slope
- 3590 Existing surveying control points (protect in place)
- Fiber Roll
- Existing access road
- Gas line (above ground)
- Gas line (buried)
- Refuse Fill Limits
- K–Rail
- Gabion Basket
- Welded Wire Fabric

ABBREVIATIONS

AB	Aggregate Base
AC	Asphalt Concrete
APPROX.	Approximate
BC	Begin Curve
C	Cut
℄ or CL	Center Line
CMP	Corrugated Metal Pipe
CO	Clean out
DIA	Diameter
E	Easting
EC	End Curve
EL	Elevation
EOP	Edge of Pavement
Exist.	Existing
F	Fill
℄ or FL	Flow Line
GB	Grade Break
Hor.	Horizontal
HP	High Point
ID	Inside Diameter
INV	Invert
LF	Linear Feet
L	Length
N	Northing
NAD	North American Datum
NTS	Not To Scale
PI	Point of Intersection
POC	Point on Curve
℄ or PL	Property Line
PVI	Point of Vertical Intersection
R	Radius
RC	Reinforced Concrete
RCE	Registered Civil Engineer
RCFC	Riverside County Flood Control
STA	Station
TOE	Toe of Slope
TS	Top of Slope
TYP	Typical
Vert.	Vertical

INDEX OF DRAWINGS

SHEET	FILE NAME	TITLE	SCALE
1	1 - Title Sheet.dwg	Title Sheet	NTS
2	2 - Index, Legend, Vicinity Map.dwg	Index, Legend, Vicinity Map	NTS
3	3 - Site Map.dwg	Site Map	1" = 500'
4	4-6 - Northwest Berm Improvement Plans.dwg	Northwest Berm Improvement Grading Plan	1" = 120'
5	4-6 - Northwest Berm Improvement Plans.dwg	Northwest Berm Improvement Iso Plan	1" = 120'
6	4-6 - Northwest Berm Improvement Plans.dwg	Northwest Berm Improvement Drainage Plan	1" = 120'
7	7 - Drainage Plan.dwg	Drainage Plan	1" = 300'
8	8 - Grind and Overlay Asphalt Road.dwg	Grind and Overlay Paved A.C. Road	1" = 250'
9	9 - 10 Drainage Details	Drainage Details (1)	NTS
10	9 - 10 Drainage Details	Drainage Details (2)	NTS
11	11 - Construction Details #1.dwg	Construction Details (3)	NTS
12	12 - Construction Details #2.dwg	Construction Details (4)	NTS
13	13 - Construction Details #3.dwg	Construction Details (5)	NTS

DESIGNED BY:	JV	DRAWING DATE:	04/15/2025
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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

Not to Scale

Badlands Sanitary Landfill

On-Call Site Improvements 2026

Badlands Index, Legend, and Vicinity Map

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\2 - Index, Legend, Vicinity Map.dwg

Mechanics Area
Reduced Cycle Park Stockpile (RCPS) 1
Engineering/ Operations Office
RCPS 2
RCPS 3
Wet Weather Area
Residential Offload Area
Flare Station
North Perimeter Road
See Sheets 4, 5, 6
Western Stockpile
Fee Booth
Commercial Pad Area
Western Stockpile Basin
Bench P
P2S1 Area
North Access Road
North Perimeter Road
Ironwood Ave.
Bench P
Sub-Canyon Stockpile
See Sheet 7
See Sheet 8
Southwest Sed. Basin

Legend

- Edge of Trash Fill Limits
- Existing Ground (10')
- Property Line
- Disturbance Limits
- Edge of Trash Fill
- Streambed

DESIGNED BY:	JV	DRAWING DATE:	01/30/2026	
DRAWN BY:	JV	FLIGHT TOPO DATE:	01/28/2025	
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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
Andy Cortez, General Manager-Chief Engineer

Scale: 1" = 500' (11" x 17"), 1" = 250' (22" x 34")
0 250 500 750 1000 1250
Datum is mean sea level

Badlands Sanitary Landfill
On-Call Site Improvements 2026

Site Map

SHEET: 3 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\3 - Site Map.dwg

Construction Notes

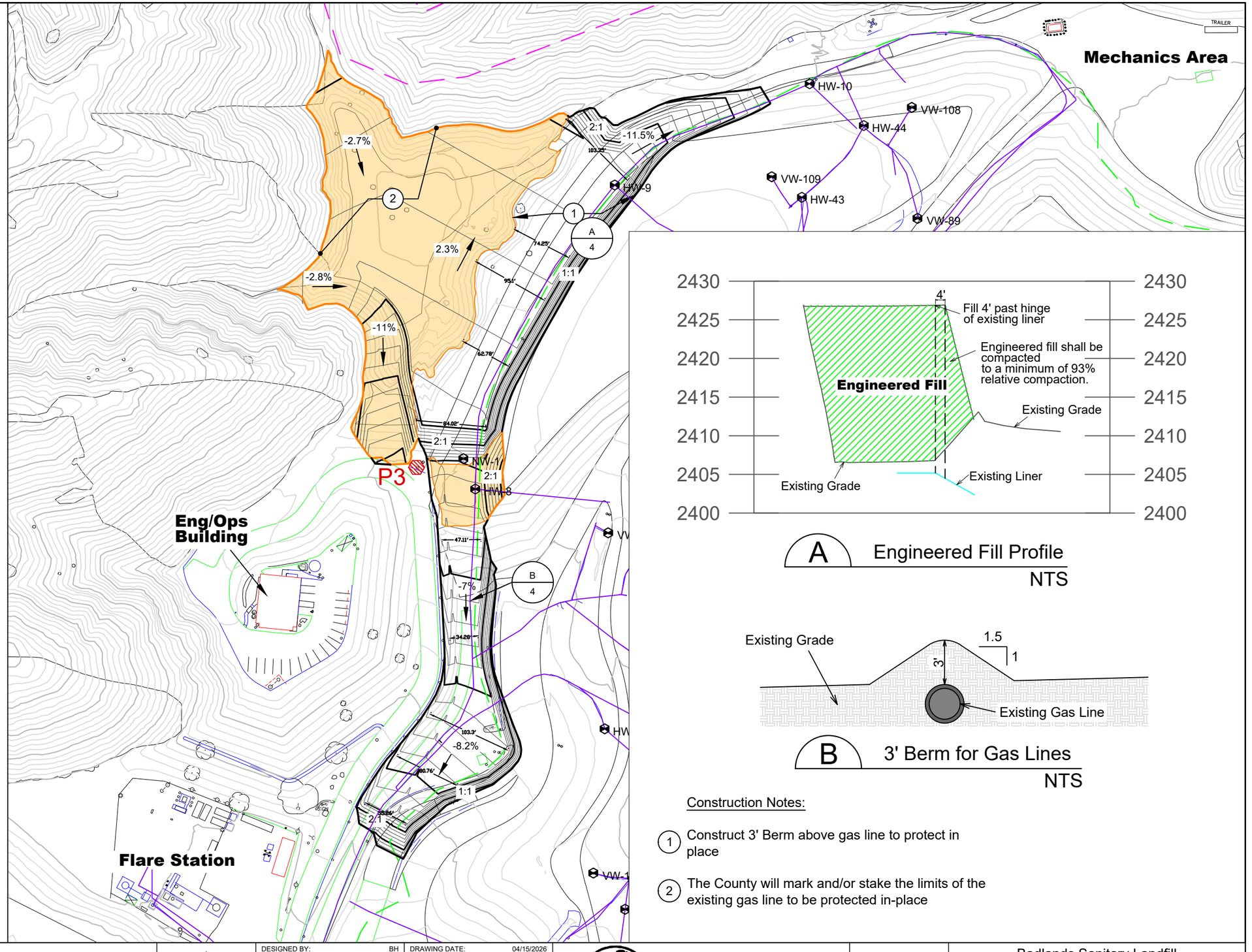
1. Place Engineered Fill to finished grade elevations and to a min. 93% relative compaction in accordance with: A/4
2. Excavate to finished grade.

Estimated Engineered Fill: 39,609 CY
Estimated Cut: 47,755 CY

Note: Remaining fill will be delivered to the wet weather pad as daily cover.
Protect existing gas lines in accordance with: B/4

LEGEND

- 5' Existing Contours
- 2' Design Contours
- Edge of Trash Fill
- Disturbance Limit
- Gas Lines (protect in place)
- P3 Gas Probe (protect in place)
- HW-10 Monitoring Well (protect in place)
- Cut Area



A Engineered Fill Profile
NTS

B 3' Berm for Gas Lines
NTS

Construction Notes:

1. Construct 3' Berm above gas line to protect in place
2. The County will mark and/or stake the limits of the existing gas line to be protected in-place

DESIGNED BY:	BH	DRAWING DATE:	04/15/2026	
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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
Andy Cortez, General Manager-Chief Engineer

Scale: 1" = 120' (11" x 17"), 1" = 60' (22" x 34")
0 60 120 180 240 300
Datum is mean sea level

Badlands Sanitary Landfill
On-Call Site Improvements 2026

Northwest Berm Improvement Grading Plan

SHEET: 4 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\4-6 - Northwest Berm Improvement Plans.dwg

Mechanics Area

Wet Weather Pad

Eng/Ops Building

Flare Station

TRAILER

HW-10
VW-108
HW-44
VW-109
HW-9
HW-43
VW-89
VW-88
HW-86
HW-91
VW-69
VW-51
HW-11
P3
HW-8
VW-92
VW-22
VW-91
HW-42
VW-93
HW-31
HW-22
VW-102
HW-18
HW-23
HW-73
VW-118

LEGEND

- 5' Existing Contours
- 2' Design Contours
- Edge of Trash Fill
- Disturbance Limit
- Gas Lines (protect in place)
- P3 Gas Probe (protect in place)
- HW-10 Monitoring Well (protect in place)
- Cut Area
- -16 Cut
- 13 Fill

DESIGNED BY:	BH	DRAWING DATE:	03/18/2026
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CHECKED BY:	BH	FIELD TOPO DATE:	03/17/2026

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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

Scale: 1" = 120' (11" x 17"), 1" = 60' (22" x 34")

0 60 120 180 240 300

Datum is mean sea level

Badlands Sanitary Landfill

On-Call Site Improvements 2026

Northwest Berm Improvement Iso Plan

SHEET: 5 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\4-6 - Northwest Berm Improvement Plans.dwg

Construction Notes

3. Demolish 62 linear ft. of guard rail, rounded to the nearest rail

4. Demolish approx. 4,260 sf Asphalt

5. Install "Little Mac" Inlet per detail: 2A / 10

6. Flume to outlet onto Asphalt Concrete surface per details: 1E / 9 and 1F / 9

   If needed, saw-cut Asphalt where Engineered Fill meets the Asphalt.

7. Construct Equipment Crossing

8. Construct 10' transition along the Concrete Swale leading into the Trap Channel

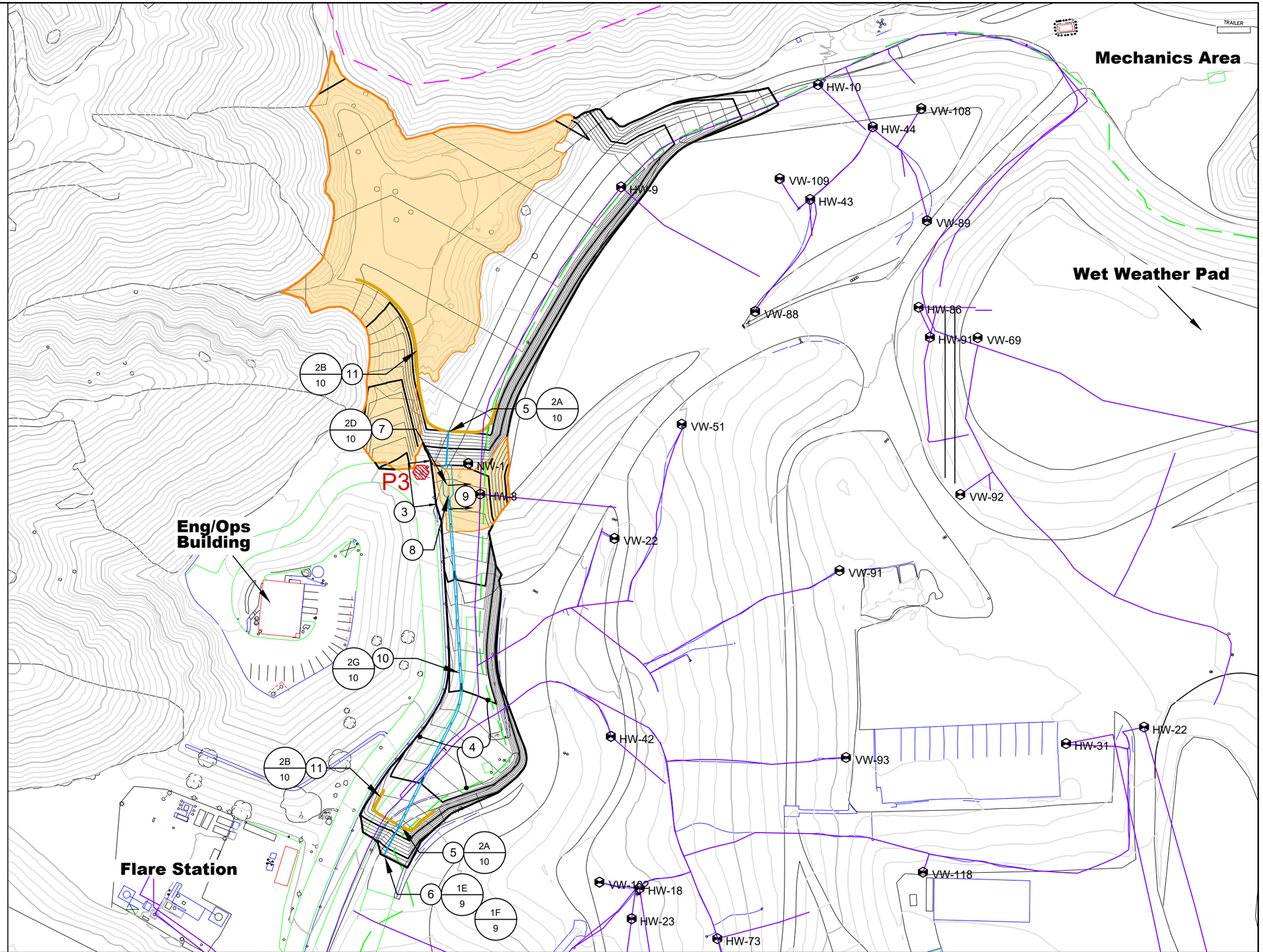
9. Construct Transition Joint per detail: 2E / 10

10. Construct Shotcrete Trap Channel

11. Construct 2' Typical Diversion Berm per detail: 2B / 10

LEGEND

- 5' Existing Contours
- 2' Design Contours
- Edge of Trash Fill
- Disturbance Limit
- Drainage Structure
- Berm
- Gas Lines (protect in place)
- P3 Gas Probe (protect in place)
- HW-10 Monitoring Well (protect in place)
- Cut Area



DESIGNED BY:	BH	DRAWING DATE:	04/15/2026
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CHECKED BY:	BH	FIELD TOPO DATE:	03/17/2026

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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

Scale: 1" = 120' (11" x 17"), 1" = 60' (22" x 34")

0 60 120 180 240 300

Datum is mean sea level

Badlands Sanitary Landfill

On-Call Site Improvements 2026

Northwest Berm Improvement Drainage Plan

SHEET: 6 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\4-6 - Northwest Berm Improvement Plans.dwg

Construction Notes

(12) Protect in place existing drainage structures and gas lines

(13) Construct Asphalt Concrete Channel per detail: 4B/12

(14) Construct Asphalt Concrete Crossing per detail: 5B/13

(15) Construct 1.33' Thick Grouted Riprap Drain per details: 3A/11, 3B/11, 4A/12

(16) Construct a Typical Diversion Berm per detail: 3D/11

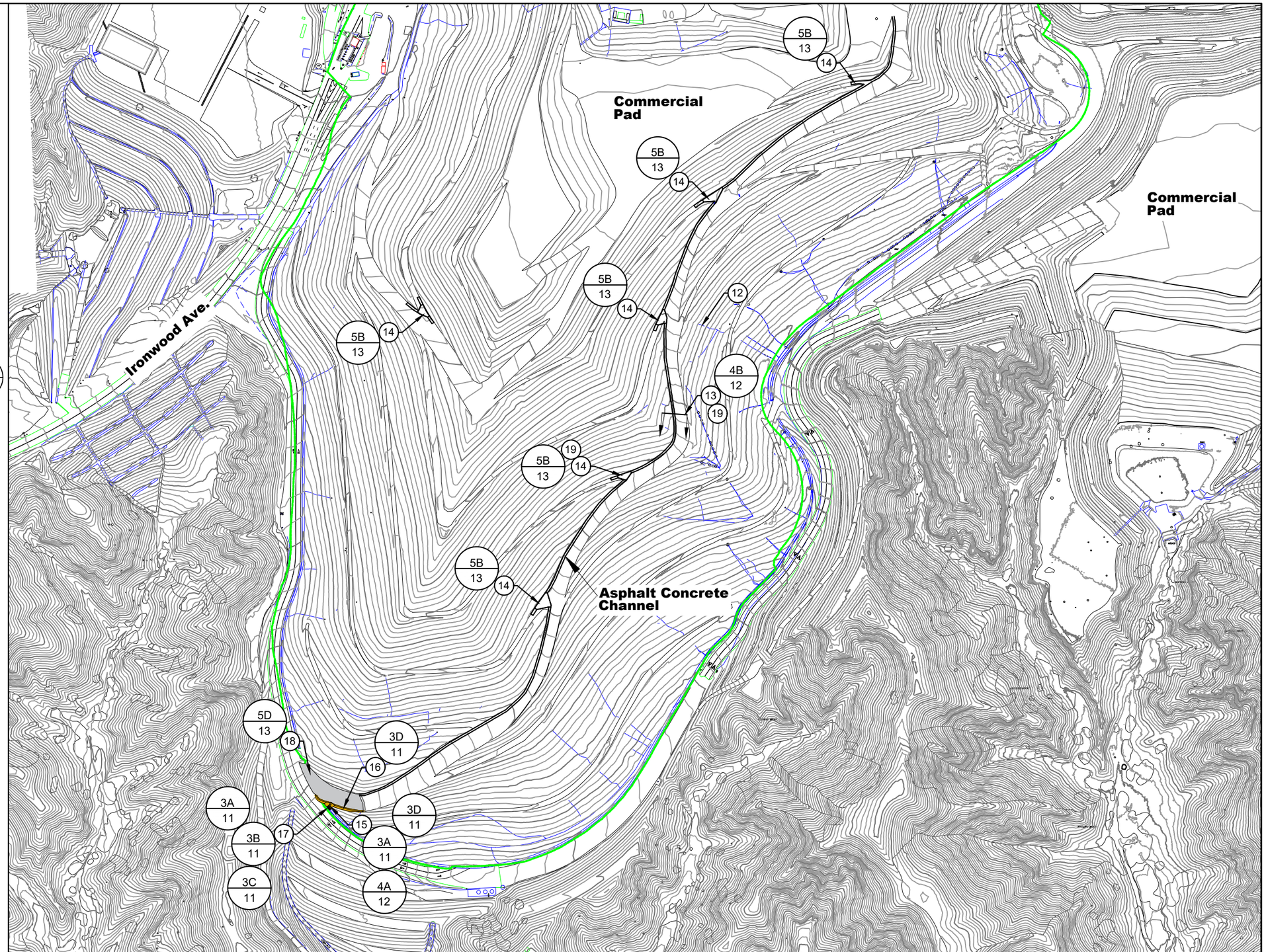
(17) Constuct a Splash Wall per details: 3A/11, 3B/11, 3C/11

(18) Prepare Subgrade and Construct Asphalt Concrete (AC) Pavement per detail: 5D/13

(19) Remove and replace existing 3-6" Rock Drain with 1' of engineered fill cover followed by Asphalt Concrete Channel. Contractor to deposit the 3-6" rock in a location designated by a County Representative.

LEGEND

- 5' Existing Contours
- Edge of Trash Fill
- Asphalt Concrete Structure
- Concrete Hardscape
- Splash Wall
- 2' Diversion Berm
- Asphalt Concrete Pavement



DESIGNED BY:	JV	DRAWING DATE:	04/15/2026
DRAWN BY:	JV	FLIGHT TOPO DATE:	01/28/2025
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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
Andy Cortez, General Manager-Chief Engineer

Scale: 1" = 300' (11" x 17"), 1" = 150' (22" x 34")
0 150 300 450 600 750
Datum is mean sea level

Badlands Sanitary Landfill
On-Call Site Improvements 2026

Drainage Plan

SHEET: 7 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\7 - Drainage Plan.dwg

Construction Notes

(12) Protect in place existing drainage structures and gas lines.

(20) Cold Plane 2-inch Thick section of Existing Asphalt Roadway and Overlay with New Material in accordance with the Detailed Provisions and Project Specifications: 5A / 13

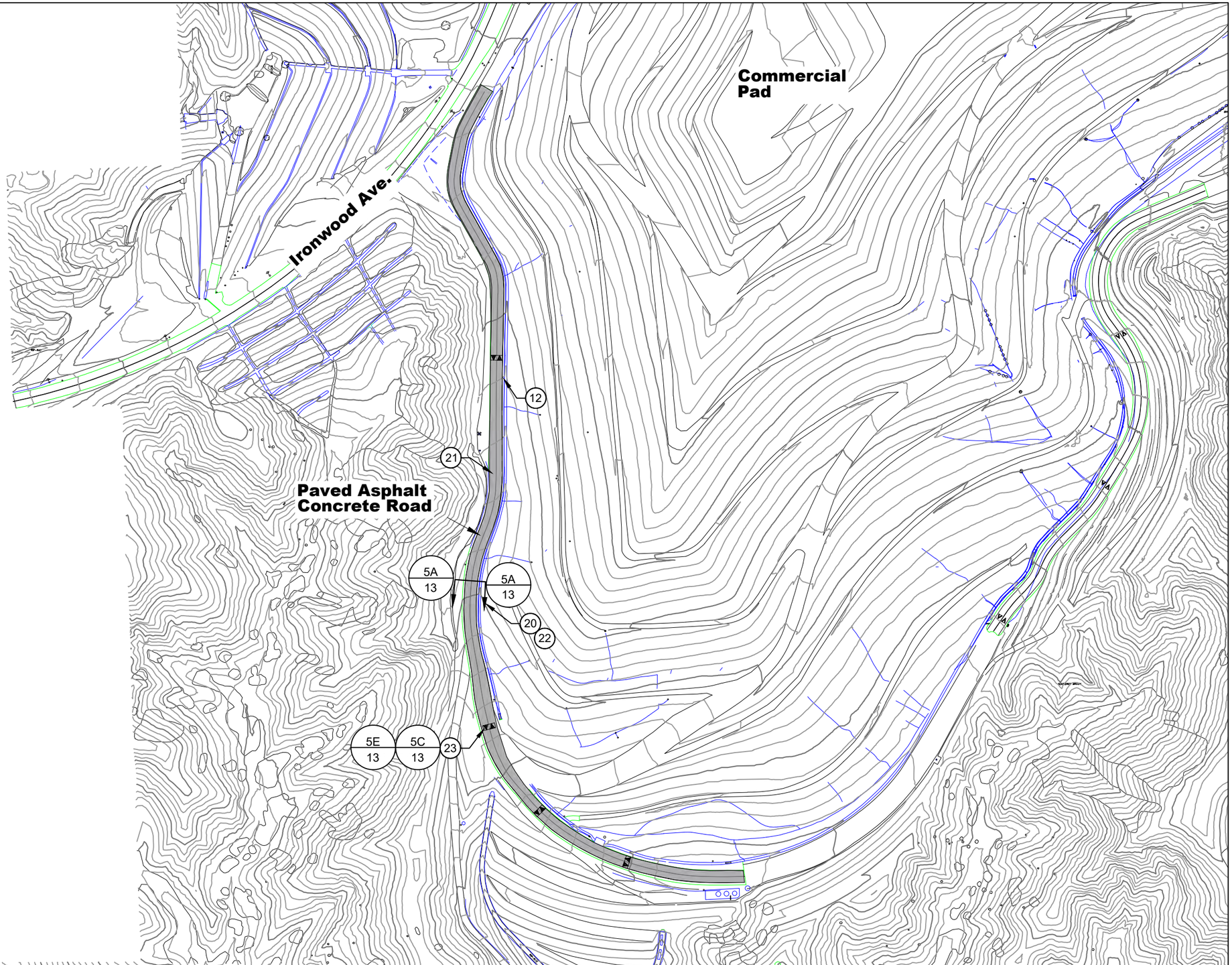
(21) Contractor shall provide traffic control and keep atleast one side of the road open to traffic at all times.

(22) After Cold Planing and Seal Coating Stripe 2,424 LF of Thermoplastic Double Yellow per CA MUTCD 2026 Edition Figure 3A-104 (CA). Two Direction, No Passing Zone, Detail 21.

(23) After cold planing, reconstruct asphalt concrete speed humps and apply thermoplastic striping per details: 5C / 13 and 5E / 13

LEGEND

- 10' Existing Contours
- Concrete Hardscape and Gas Lines
- Existing Asphalt Concrete Road



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DRAWN BY:	JV	FLIGHT TOPO DATE:		01/28/2025
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RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
Andy Cortez, General Manager-Chief Engineer

Scale: 1" = 250' (11" x 17"), 1" = 125' (22" x 34")

0 125 250 375 500 625

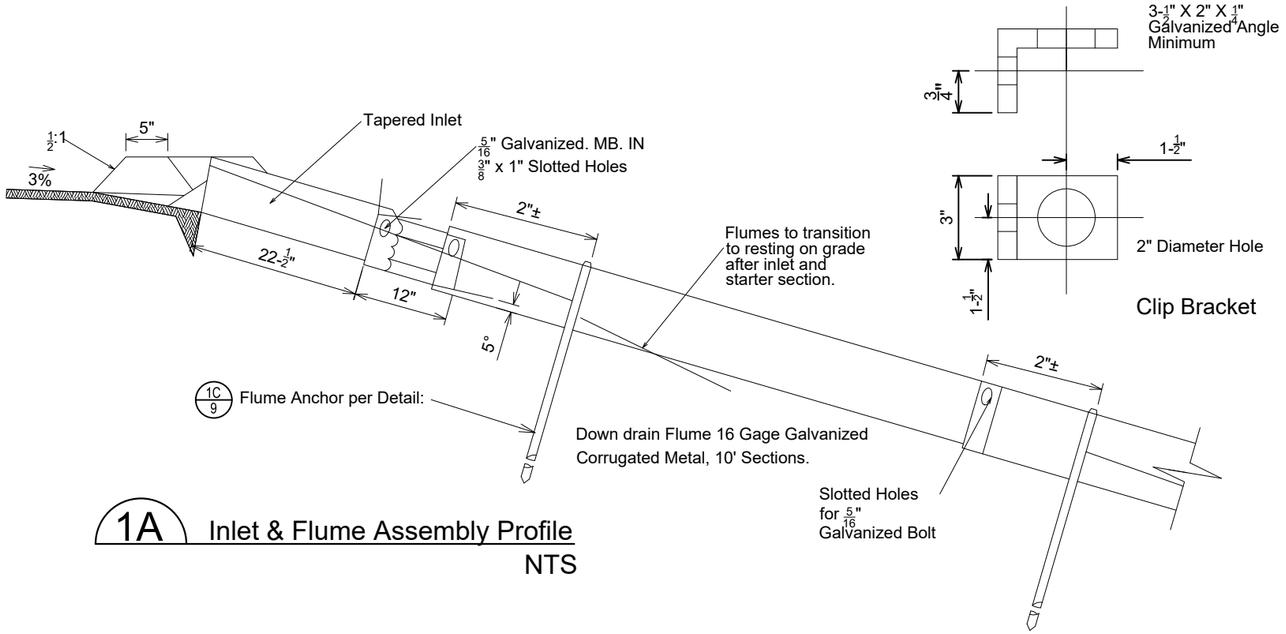
Datum is mean sea level

Badlands Sanitary Landfill
On-Call Site Improvements 2026

Grind and Overlay Paved A.C. Road

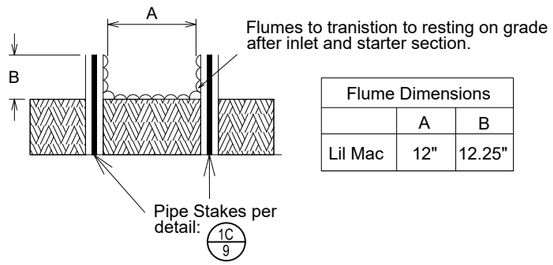
SHEET: 8 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\8- Grind and Overlay Asphalt Road.dwg



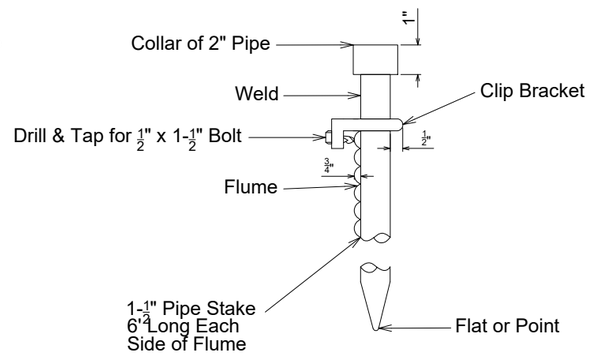
1A Inlet & Flume Assembly Profile
NTS

Clip Bracket

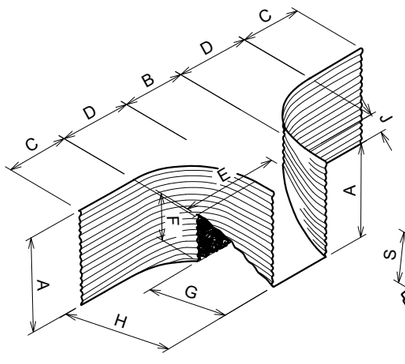


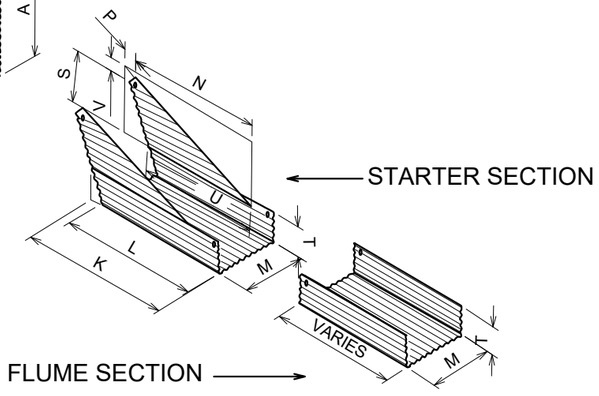
Flume Dimensions		
	A	B
Lil Mac	12"	12.25"

1B Flume Cross Section
NTS



1C Flume Anchor Detail
NTS

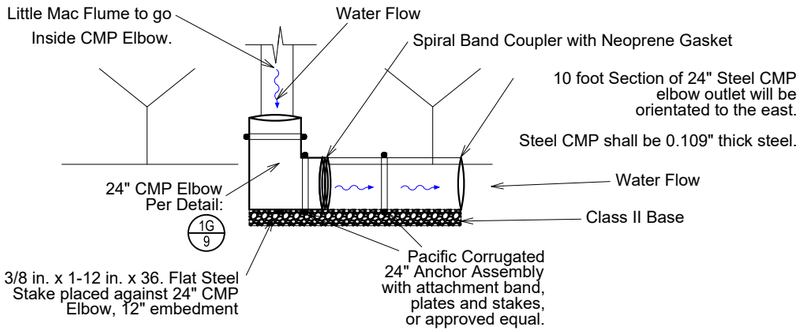




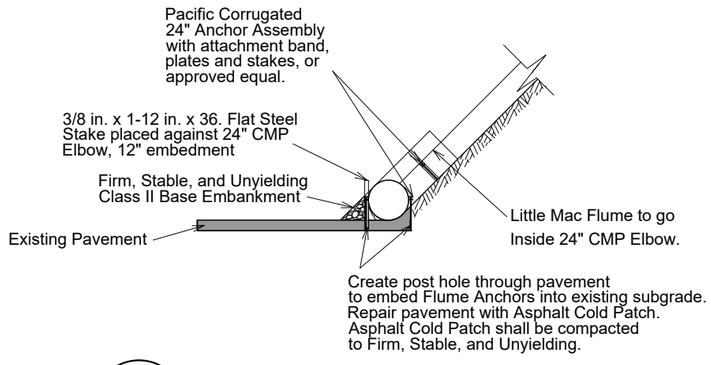
Inlet Section	A	B	C	D	E	F	G	H	J	R
Little Mac	25 - 1/2"	12"	21 - 1/4"	18"	16"	10"	15"	27"	9"	18"

Starter Section & Flume Section	K	L	M	N	P	S	T	U	V
Little Mac	58 - 1/2"	51 - 1/2"	12"	55 - 3/4"	3 - 1/4"	10"	12 - 1/4"	52 - 1/4"	2"

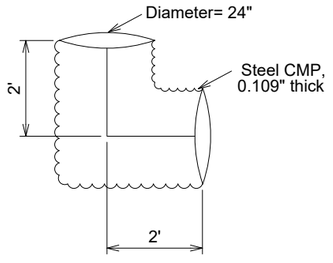
1D Little Mac Inlet, Starter and Flume Sections
NTS



1E Flume Outlet into Elbow
NTS



1F Flume Elbow Outlet Side View
NTS



1G 90° CMP Elbow
NTS

DESIGNED BY:	BH	DRAWING DATE:	04/15/2026
DRAWN BY:	AK	FLIGHT TOPO DATE:	N/A
CHECKED BY:	BH	FIELD TOPO DATE:	N/A

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES
Andy Cortez, General Manager-Chief Engineer

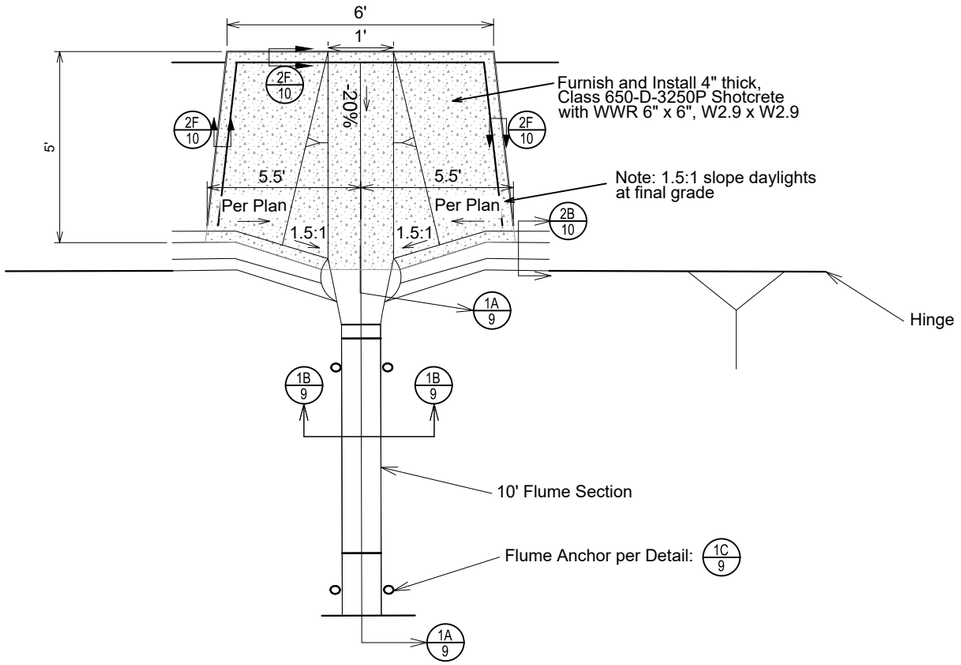
Not to Scale

Badlands Sanitary Landfill
On-Call Site Improvements 2026

Drainage Details (1)

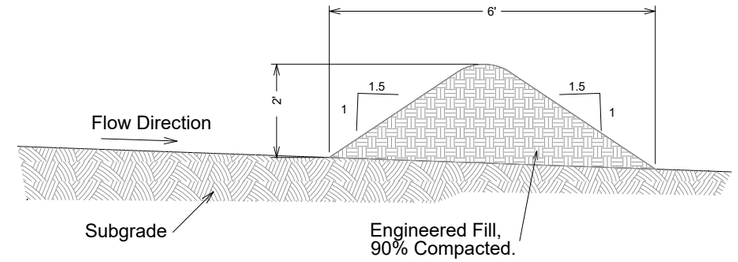
SHEET: 9 OF 13

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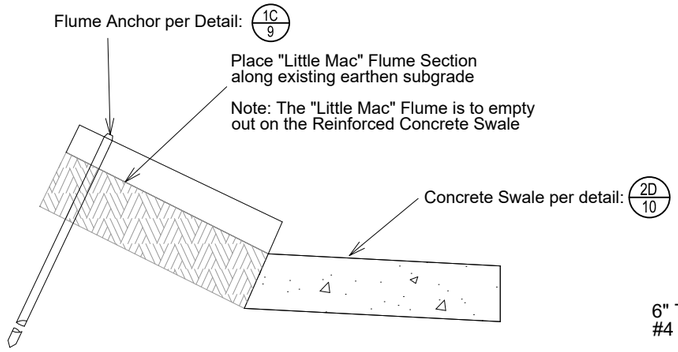
2A Tapered Flume Inlet

NTS



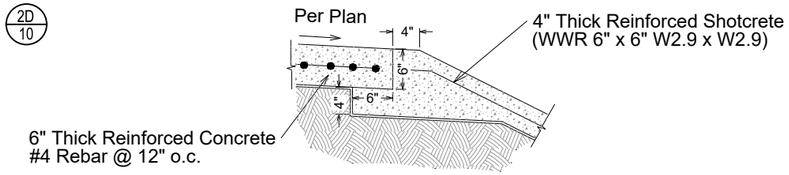
2B 2' Tall Earthen Diversion Berm Detail

NTS



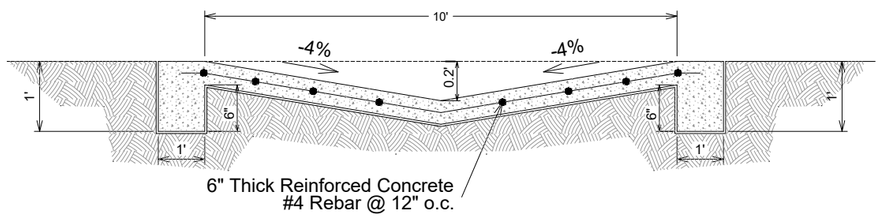
2C Flume Outlet into Swale

NTS



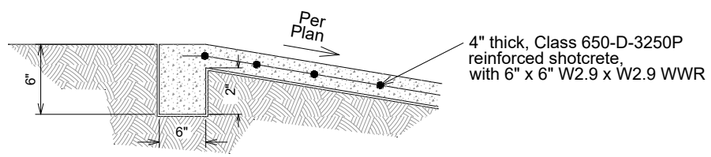
2E Swale to Trap Channel Transition Joint

NTS



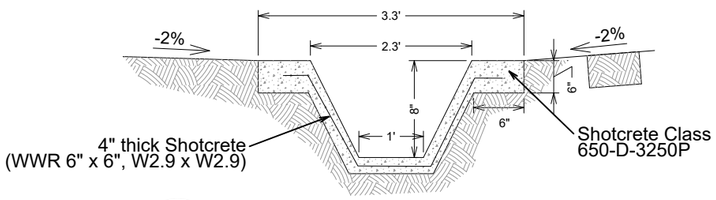
2D 10' Reinforced Concrete Swale

NTS



2F Flume Inlet Cut Off Wall

NTS



2G Open Trap Channel

NTS

DESIGNED BY:	BH	DRAWING DATE:	04/08/2026		
DRAWN BY:	AK	FLIGHT TOPO DATE:	N/A		
CHECKED BY:	BH	FIELD TOPO DATE:	N/A		
NO.	REVISIONS	BY	APPROVED	DATE	

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

Not to Scale

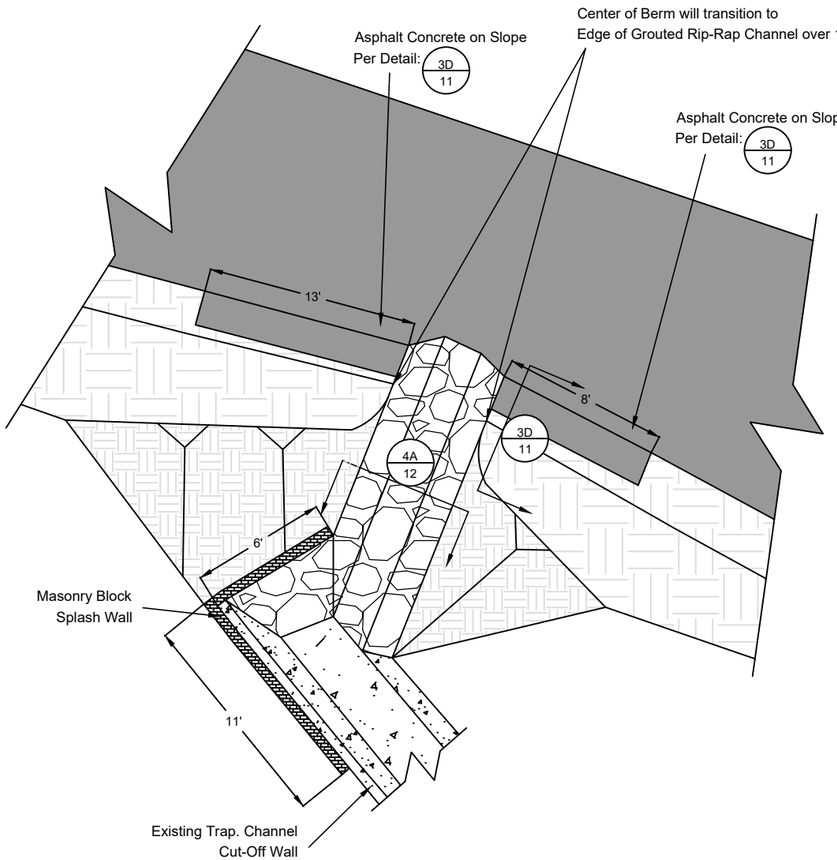
Badlands Sanitary Landfill

On-Call Site Improvements 2026

Drainage Details (2)

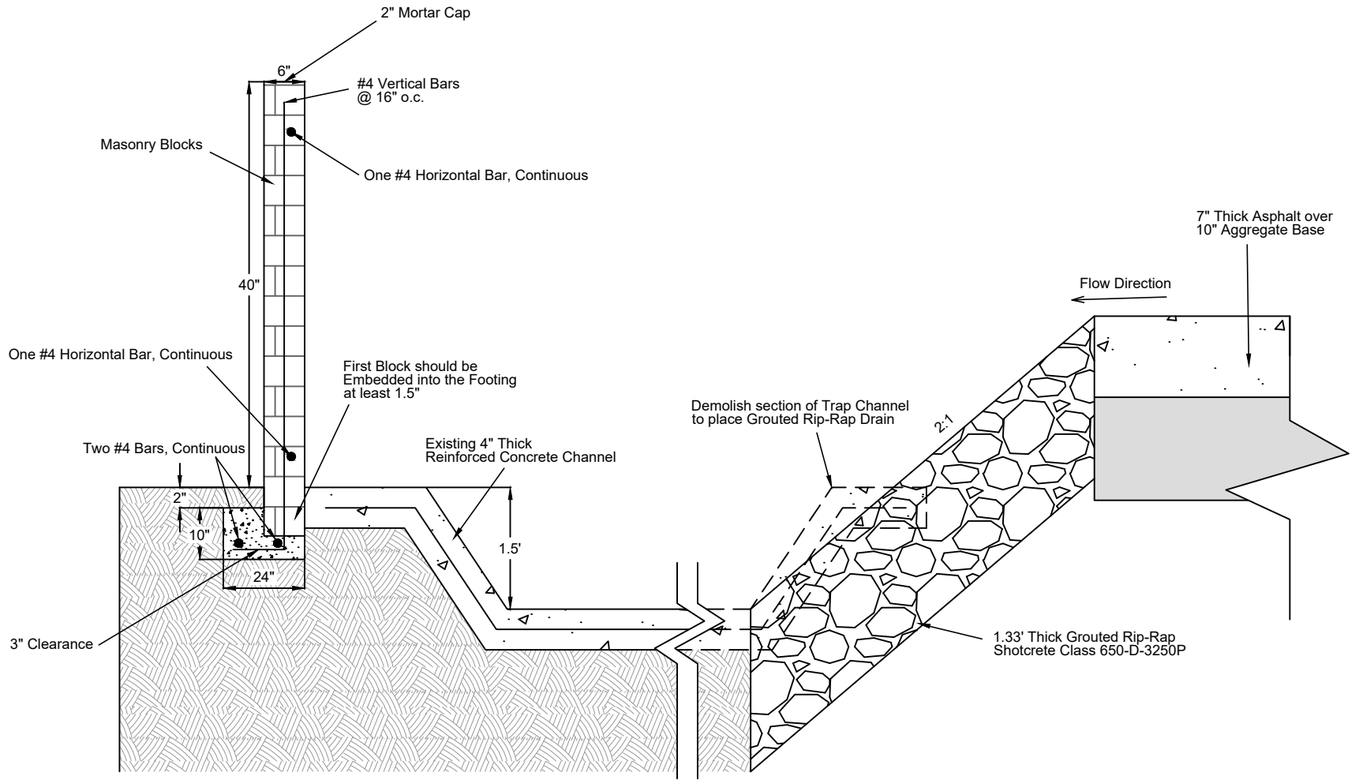
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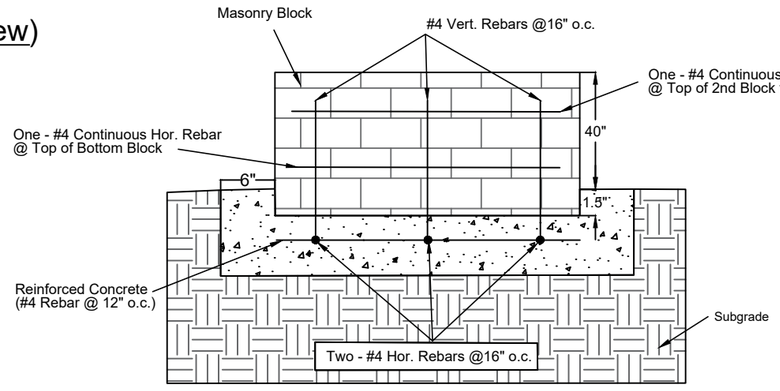
3A Splashwall & Grouted Rip-Rap (Plan View)

Not To Scale



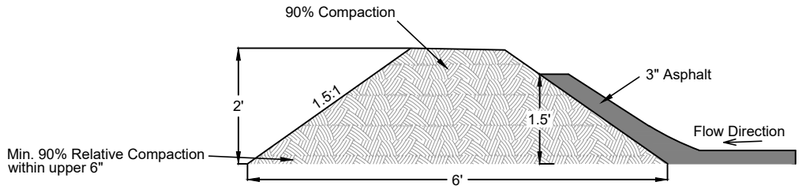
3B Splashwall & Grouted Rip-Rap (Section View)

Not To Scale



3C Splashwall (Front view)

Not To Scale



3D Diversion Berm at Rip-Rap Channel Inlet

Not To Scale

DESIGNED BY:	JV/AK	DRAWING DATE:		04/15/2026
DRAWN BY:	JV/AK	FLIGHT TOPO DATE:		N/A
CHECKED BY:	BH	FIELD TOPO DATE:		N/A
NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

Not to Scale

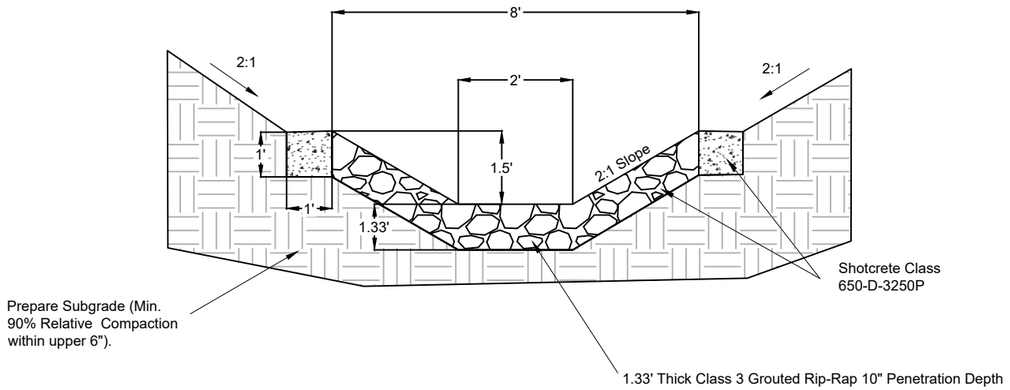
Badlands Sanitary Landfill

On-Call Site Improvements 2026

Construction Details (3)

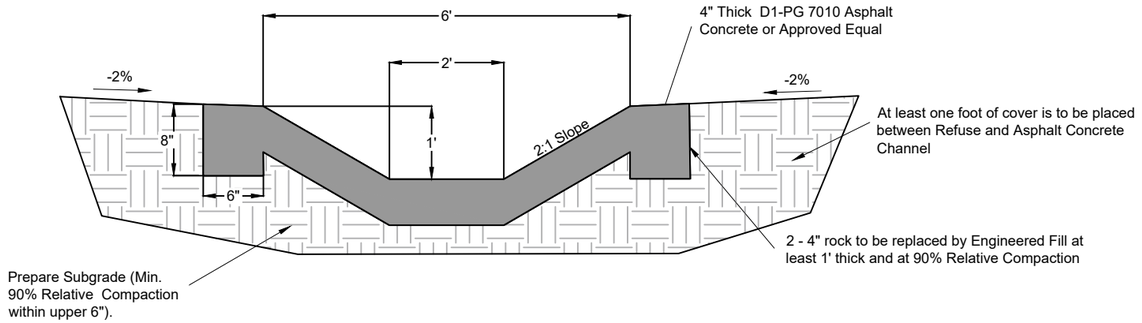
SHEET: 11 OF 13

K:\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\11 - Construction Details #1.dwg



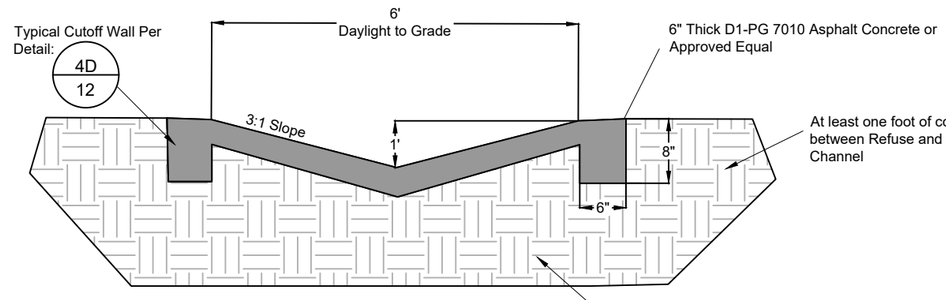
4A Grouted Rip-Rap Channel (Section View)

Not To Scale



4B Typical A.C. Channel (Section View)

Not To Scale

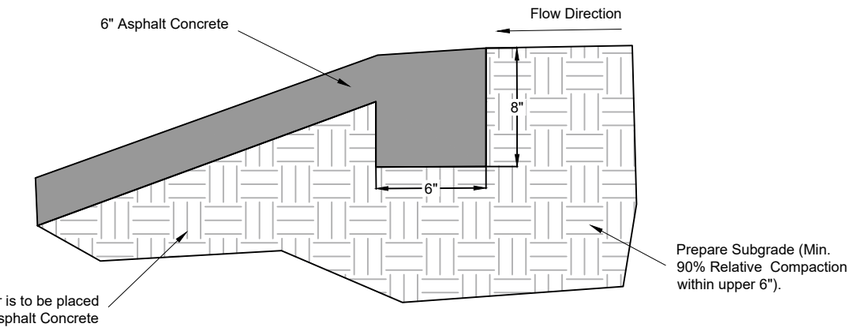


Costruction Notes:

1. Precise location of swale to be placed in low area as determined by a County Representative in the field
2. 6" Asphalt Concrete to be placed in three (3) lifts in A.C. Swale and in all areas subject to vehicle/construction traffic

4C Typical A.C. Swale (Section View)

Not To Scale



4D Typical A.C. Cut Off Wall

Not To Scale

DESIGNED BY:	JV	DRAWING DATE:	04/16/2026		
DRAWN BY:	JV/AK	FLIGHT TOPO DATE:	N/A		
CHECKED BY:	BH	FIELD TOPO DATE:	N/A		
NO.	REVISIONS	BY	APPROVED	DATE	

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

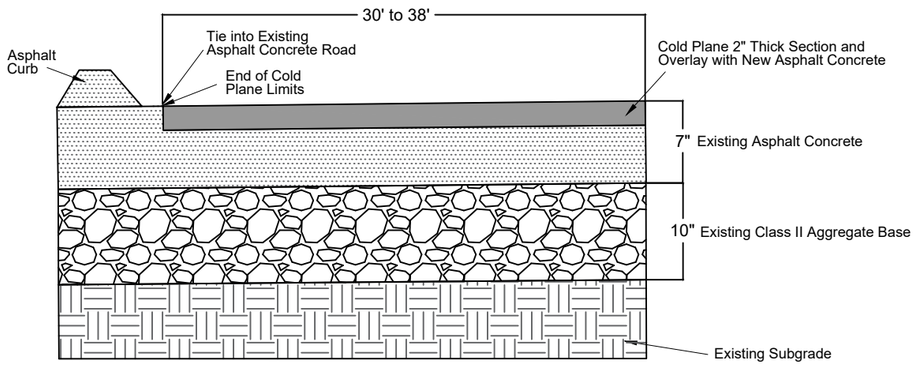
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Badlands Sanitary Landfill

On-Call Site Improvements 2026

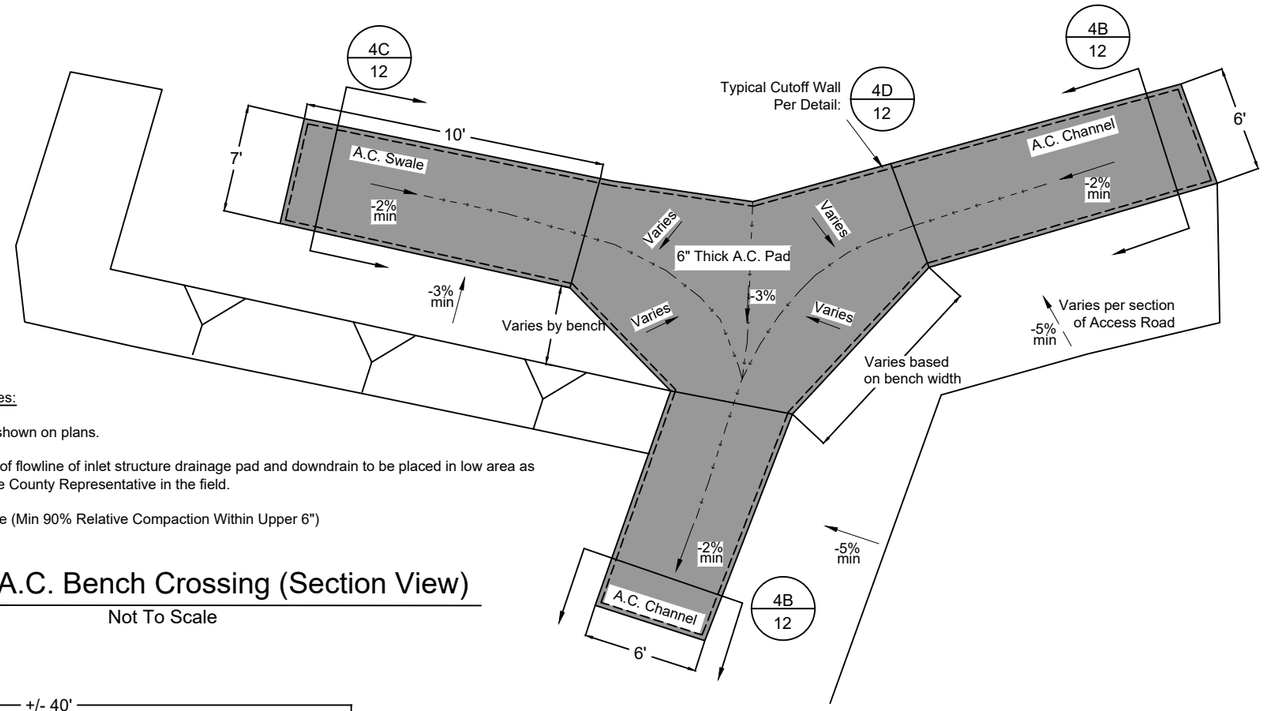
Construction Details (4)

N:\ENG BA\Sites\Badlands\On-Call Projects\2026 On-Call Project\Contract Documents\Design\12 - Construction Details #2.dwg



5A Grind and Overlay A.C. Access Road (Section View)

Not To Scale

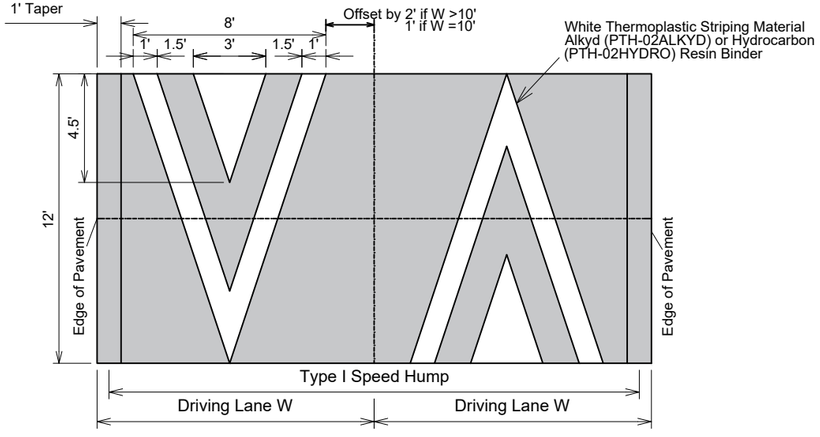


Construction Notes:

1. Angle Varies as shown on plans.
2. Exact placement of flowline of inlet structure drainage pad and downdrain to be placed in low area as determined by the County Representative in the field.
3. Prepare Subgrade (Min 90% Relative Compaction Within Upper 6")

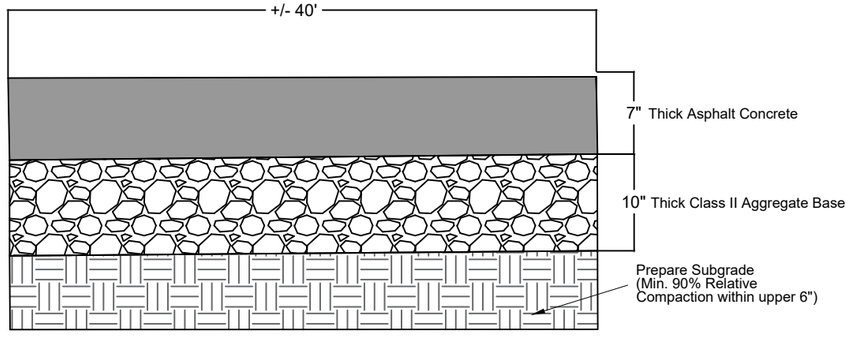
5B Typical A.C. Bench Crossing (Section View)

Not To Scale



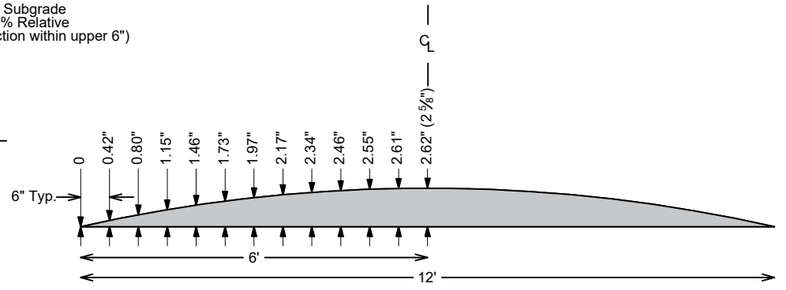
5C Type 1 Speed Hump Marking (Chevron 1)

Not To Scale



5D Asphalt Concrete Pavement (Section View)

Not To Scale



5E Type I Speed Hump 2 5/8" High by 12' Long

Not To Scale

DESIGNED BY:	JV	DRAWING DATE:		04/16/2026
DRAWN BY:	JV	FLIGHT TOPO DATE:		N/A
CHECKED BY:	BH	FIELD TOPO DATE:		N/A

NO.	REVISIONS	BY	APPROVED	DATE

RIVERSIDE COUNTY DEPARTMENT OF WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

Not to Scale

Badlands Sanitary Landfill

On Call Site Improvements 2026

Construction Details (5)

SHEET: 13 OF 13

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RIVERSIDE COUNTY
DEPARTMENT OF
WASTE RESOURCES

Andy Cortez, General Manager-Chief Engineer

NOTICE OF EXEMPTION

DATE: April 28, 2026

TO: County Clerk, County of Riverside (County)

PROJECT CASE NO/TITLE: NOE 26-03: On-call Site Improvements at Riverside County Landfills

PROJECT LOCATION: Badlands Landfill, located at 31125 Ironwood Avenue, Moreno Valley, CA; and, Lamb Canyon Landfill, located at 16411 Lamb Canyon Road, Beaumont, CA.

PROJECT DESCRIPTION: The proposed Project involves the County of Riverside (County) approving contract documents for an on-call contract to provide necessary maintenance and drainage site improvements and two earthwork projects at the Badlands Landfill and Lamb Canyon Landfill.

PUBLIC AGENCY APPROVING PROJECT: County of Riverside (County)

PROJECT SPONSORS: Department of Waste Resources (RCDWR)

The Project is exempt from the provisions of CEQA, specifically by the State CEQA Guidelines as identified below. The Project will not result in any specific or general exceptions to the use of categorical exemptions as detailed under State CEQA Guidelines section 15300.2. The Project will not cause any impacts to scenic resources, historic resources, or unique sensitive environments. Further, no unusual circumstances or potential cumulative impacts would occur that may reasonably create a direct or reasonably foreseeable indirect physical environmental impact.

EXEMPT STATUS:

☐ Ministerial
☐ Declared Emergency
☐ Emergency Project
☐ Statutory Exemption:
☒ Categorical Exemption — **Section 15301, Existing Facilities; 15302, Replacement and Reconstruction; 15303, New Construction or Conversion of Small Structures; 15304, Minor Alterations to Land**
☒ Other Exemption: — **Section 15061(b)(3), General Rule Exemption**

REASONS FOR EXEMPTION:

Section 15061(b)(3) - General Rule Exemption

The activity is covered by the general rule that CEQA applies only to projects, which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

This project is exempt under Section 15061(b)(3) because:
The Project proposes to conduct maintenance and drainage site improvements on an on-call basis at the Badlands Landfill and Lamb Canyon Landfill. As part of the National Pollutant Discharge and Elimination System (NPDES) statewide general permit to regulate industrial storm water discharges, the RCDWR is responsible for the installation and maintenance of drainage structures that collect and channel runoff from the landfill. In addition to the onsite drainage improvements and on-call work, two earthwork projects are included in the contract documents, one at each site. The Project would not have a direct, indirect, or cumulatively significant effect on the environment or environmental resources. As such, the Project meets the scope and intent of Section 15061(b)(3), General Rule Exemption.

This determination is an issue of fact and sufficient evidence exists in the record that the activity will not have a significant effect on the environment. As such, the exemption applies and no further evaluation under CEQA is required. See Muzzy Ranch Co. v. Solano County Airport Land Use Comm'n (2007) 41 Cal. 4th 372.

Section 15301, Existing Facilities
Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

This project is exempt under Section 15301 because:
The Project proposes to conduct maintenance and drainage site improvements of existing facilities and/or structures on an on-call basis at the Badlands Landfill and Lamb Canyon Landfill. Earthwork improvements at the Lamb Canyon Sanitary Landfill consist of the remediation of a landslide on an existing native slope. Earthwork improvements at the Badlands Sanitary Landfill consist of the vertical and horizontal expansion of the Northwest Berm adjacent to the Phase 1 Fill, within an existing permitted area; this improvement extends the service life of the Phase 1 disposal area under existing approvals. As such, the Project is found not to affect any environmental resources; therefore, the Project meets the scope and intent of Section 15301, Categorical Exemption.

Section 15302, Replacement and Reconstruction
Class 2 consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced.

This project is exempt under Section 15302 because:
The Project proposes to conduct maintenance and drainage site improvements of existing facilities and/or structures on an on-call basis at the Badlands Landfill and Lamb Canyon Landfill. Earthwork improvements at the Lamb Canyon and Badlands Sanitary Landfills will occur in an existing permitted area. Therefore, the Project as proposed meets the scope and intent of the Class 2 Categorical Exemption.

15303, New Construction or Conversion of Small Structures
Class 3 consists of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure.

This project is exempt under Section 15303 because:
The Project proposes to request on-call monitoring and maintenance where repairs or new construction is required, this includes earthwork excavation including hauling and stockpiling of daily cover material, drainage improvements, placement of engineered fill, construction of earthen berms, erosion and sedimentation controls, rehabilitation and construction of asphalt concrete roadways, placement of aggregate base material, refuse excavation, and greenwaste application. This work would not have a direct, indirect, or cumulatively significant effect on the environment. The Project as proposed meets the scope and intent of the Class 3 Categorical Exemption.

15304, Minor Alterations to Land
Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes.

This project is exempt under Section 15304 because:
The Project proposes to request on-call monitoring and maintenance which may result in minor alterations to existing land conditions. Due to the previous disturbance and current use of the site, no healthy, mature, scenic trees are present in the Project area. Therefore, the Project as proposed meets the scope and intent of the Class 4 Categorical Exemption.

FINDINGS:

1. Based upon the identified exemptions and justifications above, the RCDWR, on behalf of the County, hereby concludes that no physical environmental impacts are anticipated to occur and the Project as proposed is exempt under CEQA. No further environmental analysis is warranted.

2. The proposed Project is exempt from CEQA pursuant to Section 15061(b)(3), and categorically exempt from CEQA pursuant to Section 15301, 15302, 15303, and 15304.

3. It can be seen with certainty that there is no possibility that this Project would have a direct, indirect, or cumulatively significant effect on the environment; therefore, the activity is exempt under CEQA as previously identified.

If there are any questions regarding the above matter, I can be reached at (951) 486-3200.

Andy Cortez, General Manager - Chief Engineer
Riverside County Department of Waste Resources

By: 
Katherine Veliz

Title: Senior Planner

Date: April 28, 2026

DM# 373687(Word)/373810(PDF)