

VENTURA REGIONAL SANITATION DISTRICT

BID NO. 24-001

TOLAND ROAD LANDFILL

PHASE 4C LINER EXPANSION

CONTRACT SPECIFICATIONS

April 23, 2024

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PART I: BID DOCUMENTS

NOTICE INVITING BIDS
VENTURA REGIONAL SANITATION DISTRICT

The Ventura Regional Sanitation District hereby invites bids for the **TOLAND LANDFILL – Phase 4C LINER EXPANSION**, in accordance with California Public Contract Code section 20783 and other applicable law and the following:

Notice is hereby given that **sealed bids will be received** at the office of the Ventura Regional Sanitation District (District), 4105 Gonzales Rd, Oxnard, California 93036, **until 2:00 p.m. local time, on Wednesday, May 22 10, 2024**, at which time the bids will be publicly opened and read aloud for the project. Bids must be made on the bid forms included in the bid package. Bids that are submitted late according to the official time kept by the District Manager or a designee will be returned unopened. Bids submitted by facsimile or other electronic means will not be accepted. Bids that are incomplete or that otherwise do not conform to the requirements specified in the bid package may be deemed non-responsive.

Phase IV Liner Expansion Project
Bid No. 24-001

Bids are requested to construct a municipal solid waste landfill lined cell at the Toland Road Landfill according to drawings and specifications on file in the office of the District Clerk of the Board. Work includes: (a) excavation of approximately 1,100,000 cubic yards of soil; (b) stockpiling of soil on site; (c) precise grading of the excavation; and (d) installation of approximately 11.2 acres of a composite landfill liner system and the leachate collection and recovery system (LCRS). Incidental and related work includes earthwork, paving, drainage, pipe and miscellaneous construction. Project specifications, are by reference, made a part of this notice. The estimated cost of work is approximately \$11,295,150.

Drawings, specifications and proposal documents may be examined at the District office at 4105 W. Gonzales Rd, Oxnard, California. Copies of the drawings and specifications may be obtained from the District office upon request for a fee of \$40.00 per set.

The following plan room services have obtained copies of the Contract Documents for the work contemplated herein:

BidAmerica
planroom@bidamerica.com
<https://www.bidamerica.com/>
41085 Elm Street
Murrieta, CA 92562

Dodge Plan Room
support@construction.com
<https://www.construction.com/>
1333 S. Mayflower Ave., 3rd Flr.
Monrovia, CA 91016

Ventura Co. Contractors Assoc.
plan.room@vccainc.com
<https://vccainc.com/>
1830 Lockwood, Suite 110
Oxnard, CA 93030

All bids must be made in accordance with the applicable statutes of the State of California, local laws applicable thereto, and as directed in the proposal documents.

Each bid shall be made on the blue Proposal Forms furnished by District and enclosed in a sealed blue envelope (also provided) bearing on the outside the name of the bidder, its address, Bid No., and the name of the project, with no other distinguishing mark(s). The Proposal Form consists of the following documents: Proposal Form; Bid Form; Proposal Bid Bond; Non-Collusion Affidavit; and Statement of Qualifications and Business References. All documents comprising the Proposal Form must be fully completed by the bidder and timely received by District for a bid to be considered responsive and eligible for consideration. A proposal guarantee of not less than ten percent (10%) of the total bid amount shall accompany each bid and may be in the form of cash, a bid bond, cashier's check, or certified check payable to Ventura Regional

Sanitation District.

Qualified securities will be permitted in lieu of cash retentions in accordance with California Public Contract Code §22300.

It shall be the sole responsibility of the bidder to see that its bid is received by District before the time of bid closure as specified above. Any bid received after the scheduled closing time for receipt of bids, as specified above, shall be returned to the bidder unopened.

Each bidder must be a licensed Contractor in the State of California (Class A) and qualified to perform the work described in the Contract.

The District Board of Directors reserves the right to reject any or all bids, and to waive any or all irregularities. Award of the Contract, if any, will be made within 60 days after the date of bid opening, to the lowest responsive, responsible bidder as determined by the Board in its sole judgment. No bidder may withdraw its bid for 60 days after the date of bid opening. Work shall begin within 15 days after receipt of the Notice to Proceed and all work shall be completed within 180 calendar days after the date specified in the Notice to Proceed.

Bidders are reminded that they must comply with the provisions of the California Labor Code pertaining to the payment of prevailing wage rates (Labor Code §1770 et seq.). Pursuant to Labor Code §1773.2, a copy of the prevailing per diem rates of wages in Ventura County is on file with the District Clerk of the Board. A copy of these rates of wages will be made available to any interested party upon request. Contractor must post copies of the prevailing wage schedule at each job site.

Pursuant to Title 15, Chapter 7 of the California Civil Code (§3247 et seq.), if this Contract involves an expenditure in excess of \$25,000, the successful bidder must, before entering upon performance of the work, file a Payment (Labor & Materials) Bond with the District in the form set forth in the Contract Documents or in such other form as is satisfactory to the District. The amount of the Bond shall be 100 percent of the Contract price.

A mandatory pre-bid conference will be held at 10:00 a.m. local time, on Wednesday, May 8, 2024, at the Toland Road Landfill, 3500 North Toland Road, Santa Paula, California. The meeting will be held for the purpose of answering any questions concerning the project. None of the information transmitted at this meeting will be construed to modify the plans and specifications in any way. Any modification of the plans and specifications will be forwarded to all Contract Documents holders as a written addendum.

DATED: April 23, 2024


Chris Theisen, General Manager

Published in the
Ventura County Star on April 26

INSTRUCTIONS TO BIDDERS

Section 1. Examination of Site and Contract Documents

Each bidder shall attend the mandatory pre-bid meeting of the proposed work and fully acquaint itself with conditions relating to the project so it will fully understand the facilities, difficulties and restrictions attending the execution of the work under the Contract. Bidders shall thoroughly examine and be familiar with the Contract Documents, project drawings and specifications. The failure or omission of any bidder to receive or examine any Contract Documents, forms, instruments, addenda or other documents, or to visit the site and become acquainted with its existing conditions, shall in no way relieve any bidder from obligations with respect to the bid or the Contract. Submission of a bid shall be taken as prima facie evidence of compliance with this section.

Section 2. Interpretation of Drawings, Specifications and Contract Documents

If a potential bidder is in doubt as to the true meaning or intent of any part of the drawings, specifications or other Contract Documents, or finds errors in or omissions from the drawings and specifications, the bidder may submit to the District Office a written request for an interpretation or correction thereof. Such written request shall be made to District far enough in advance of the bid opening to allow time for issuance of an appropriate written addenda, if any. Written addenda shall be the sole means for modifying the plans and/or specifications prior to the bid opening. Any interpretation or correction of the Contract Documents will be made only by addendum duly issued and a copy of such addendum will be mailed or delivered to each person receiving a set of the Contract Documents. District shall not be bound by oral communications purportedly modifying or interpreting the plans and/or specifications, regardless of when or by whom such oral communications are made, and the bidder should not rely upon such oral communications in preparing its bid.

Section 3. Preparation of Proposal Form

Bids on the blue Proposal Form (which includes the Bid Form) provided by District shall be submitted at such time and place as is stated in the Notice Inviting Bids. All blank spaces in the Proposal Form must be filled in, in typewriter or ink, in both words and figures where required. The total bid must be stated in both words and figures.

- a. No changes shall be made in the phraseology of the forms. Any additions, deletions, conditions or limitations to the Proposal Form; incomplete or partial proposals; recapitulations of the work bid upon; alternative proposals; or any modification of the Proposal Form which is not specifically called for in the Contract Documents will render the proposal irregular. Such modifications or proposals may result in District rejection of the bid as not being responsive to the invitation to bid.
- b. Bidders will not be released on account of errors. Written amounts shall govern in cases of discrepancy between amounts stated in writing and amounts stated in figures. In case of discrepancy between unit prices and totals, unit prices will prevail. If a unit price is omitted, it will be determined from the item total, if entered. If no monetary symbol (\$ or ¢) is entered with a unit price, lump sum or extension, a dollar sign will be assumed to be the bidder's intent.
- c. The bid submitted must not contain any erasures, interlineations or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction the signature of the person or persons authorized to sign the bid.

Section 4. Preparation of Bid Form

- a. State on the Bid Form, in figures, the unit prices, lump-sum prices, and extensions as indicated, which shall be the prices for which the bidder proposes to supply all materials and services and perform all work required by the drawings and specifications. All items described are to be construed as complete and in place. Prices quoted shall include all taxes and fees imposed upon the bidder. Bid on all items listed in the Bid Form unless otherwise indicated on said form.
- b. When the proposal for the work is to be submitted on a unit price basis, unit price proposals will be accepted on all items of work set forth in the Bid Form, except those designated to be paid for as a lump sum. The estimate of quantities of work to be done is tabulated in the Bid Form and, although stated with as much accuracy as possible, is approximate only and is assumed solely for the basis of calculation upon which the award of contract shall be made. Payment to Contractor will be made on the measurement of work actually performed by Contractor as specified in the Contract Documents. District reserves the right to increase or decrease the amount of any class of work as may be deemed necessary, unless otherwise specified in the Special Provisions.
- c. When the proposal for the work is to be submitted on a lump-sum basis, a single lump-sum price shall be submitted in the appropriate place. The amount to be paid to Contractor shall be the amount of the lump-sum proposal as adjusted for additions or deletions resulting from changes in construction.

Section 5. Signatures

The bidder shall date and sign its proposal, in ink, in the space provided therefor. The bid must be signed in the name of the bidder. Unsigned proposals will not be considered. If the bidder is a corporation, the legal name of the corporation shall be set forth in the space provided, together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If the bidder is a partnership, the true name of the partnership shall be set forth in the space provided, together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership. If the signature is by an agent other than an officer of a corporation or a member of a partnership, a power of attorney must either be on file with District prior to opening of proposals or submitted with the proposal; otherwise, the proposal will be regarded as not properly authorized and will not be considered.

Section 6. Licensing of Bidders

Prior to submission of bids, bidders shall be licensed in accordance with the provisions of California Business & Professions Code Section 7000 et seq. in the classification required for the work bid on. The bidder's license number, license classification and license expiration date shall be inserted in the Proposal Form. The bidder's name shall correspond in all respects with the name shown on the license. License numbers, names and expiration dates are verified with the State of California.

Section 7. Bid Security Deposit

Each bid shall be accompanied by cash, a certified or cashier's check drawn on a bank in good standing payable to the Ventura Regional Sanitation District, or a Bid Bond written by a corporate surety satisfactory to District, in an amount not less than ten percent of the total proposal amount. The cash, check or bond shall be given as a guarantee the successful bidder(s) shall execute the Contract in conformance with the Contract Documents and shall provide the bond or bonds as specified in the Contract after notification of the award of Contract to the bidder. Deposits of three or more low bidders, the number being at the sole discretion of District, will be held for 60 days or until execution of the Contract, whichever first occurs, at which time the deposits will be returned to unsuccessful bidder(s). All other deposits will be returned after consideration of the bids.

Section 8. Non-Collusion Affidavit

As required by California Public Contract Code Section 7106, the bidder must execute and deliver with the Proposal Form a Non-Collusion Affidavit in the form included herein.

Section 9. Agreements and Bonds

Where bids are \$5,000 or more, the Contract which the successful bidder, as Contractor, will be required to execute, and the forms and amounts of surety bonds which will be required at the time of execution of the Contract, are included in the Contract Documents and are on file in the office of the District Clerk of the Board, 4105 W Gonzales Rd, Oxnard, California, and should be carefully examined by the bidder.

Section 10. Withdrawal of Bids

Bid proposals may be withdrawn prior to the scheduled closing time for receipt of bids by written request, signed by the bidder or its authorized agent delivered to the Office of the District Clerk of the Board. No bidder may withdraw its bid for 60 days after the date of bid opening.

Section 11. Bidders Interested in More Than One Bid

No person, firm or corporation shall be allowed to make, file or submit more than one bid for the same work unless alternate bids are specifically called for. A person, firm or corporation that has submitted a subproposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a subproposal or quoting prices to other bidders or making a prime proposal.

Section 12. Bid Modifications

No oral or telephone (including telephone fax) modification of any bid submitted will be considered.

- a. If the bidder desires to make changes in a bid item or a group of bid items prior to the time for closing bids, the bidder may complete and deliver the Bid Modification Form included herein and deposit it with the Proposal Form.
- b. If used, the Bid Modification Form must be included with a fully executed Proposal Form or delivered separately to the District Clerk of the Board prior to the time for bid closure. The form must be signed and show the proper project description and Bid number. If more than one form is submitted, the latest form shall clearly indicate if it replaces or supplements the previous form(s).
- c. When the Bid Modification Form is used and a modification is entered applying to more than one bid item, the adjusted unit prices will be computed as follows:
 1. Unit prices entered on the bid sheet will be multiplied by the numbers of units to get the line totals of the original bid. If necessary, corrections will be made as specified in Section 3.d.
 2. The increase or decrease specified on the Bid Modification Form will be applied to the line totals found in subparagraph (1) above in the proportion those line totals are to the sum of the group of line totals specified to be modified, rounding to the nearest one cent.
 3. Modified unit prices will be computed by dividing the modified line totals found in subparagraph (2) above by numbers of units, rounding to the nearest one cent.

d. When a modification is to be applied to only one bid item, the adjusted unit price will be computed in the same manner except there will be no proportioning done. The bid abstract and Contract will show adjusted prices.

Section 13. Award of Contract

- a. Award of the Contract, if any, will be to the lowest responsive, responsible bidder for the total base bid, as determined by District in its sole judgment, within 60 days after the date of the bid opening. District reserves the right to reject any or all bids, and to waive irregularities or informalities in any bids or in the bidding process.
- b. Only one Contract will be awarded. Written notice of the award will be delivered or mailed to the bidder's address indicated in the Proposal Form. Upon receipt of the notice of award, the bidder shall promptly obtain the required insurance coverage, certificates of insurance, contract bonds and any other required documents.

Section 14. Execution of the Contract

Within 15 days after receiving notice of the award from District, the successful bidder shall sign and deliver to District the executed Contract, together with all related Contract Documents, including proof of insurance coverage, payment/performance bonds and any other documents as required herein. District shall issue a Notice to Proceed within ten working days from the date of execution of the Contract by both parties.

Section 15. Failure to Execute Contract

Should the successful bidder to whom an award has been made fail to execute and deliver to District the Contract Documents within 15 days from the date of receiving notice of the award, District may, subject to the provisions of California Public Contract Code Section 5100 et seq., declare the bidder's bid security deposit forfeited as damages caused by the failure of the bidder to enter into the Contract, and may award the work to the next lowest responsive, responsible bidder, or may alternatively call for new bids.

Section 16. Evidence of Responsibility

Bidders shall submit with their Proposal Form a Statement of Qualifications and Business References showing the bidder's financial resources, its construction experience and other information relevant to performance of the Contract. Upon District's request, a bidder whose bid is under consideration for award of a Contract shall submit other supplemental evidence demonstrating its financial resources, construction experience and any other information deemed relevant by District in its consideration of the bidder's Proposal Form.

Section 17. Listing Subcontractors

Each bidder shall submit a list of the proposed subcontractors on this project as required by the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §4100 et. seq.). These provisions are provided in the Proposal Form.

Section 18. Workers' Compensation

In accordance with provisions of California Labor Code Section 3700, Contractor shall secure the payment of worker's compensation to its employees. Contractor shall sign and file with District a certification of compliance with this law in the form included as part of the Contract Documents prior to performing the work of the contract.

Section 19. Time of Completion

Contractor shall complete, in an acceptable and timely manner, all work set forth in the contract within the time period referenced in the Special Provisions. Time extensions will be granted for delays as specified in Article 3 of the General Provisions. Failure to complete the work in a timely fashion shall subject Contractor to liquidated damages as specified in Article 3 of the General Provisions.

Section 20. Compliance with Law

Each bidder shall inform itself of, and the bidder awarded a Contract shall comply with, all federal, state and local laws, statutes, ordinances and regulations relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning employment of labor, protection of public and employee safety and health, environmental protection, permits, fees, consent orders, amended consent orders and/or consent decrees, and similar matters.

Section 21. Job Site Safety

Contractor shall be solely and completely responsible for job site conditions, including safety of all persons on the property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. The required and/or implied duty of District to conduct construction review of Contractor's performance does not, and is not intended to, include review of the adequacy of Contractor's safety measures in, on or near the construction site.

Section 22. Insurance

Bidders' attention is directed to the insurance requirements set forth in the General Provisions. It is highly recommended bidders confer with their insurance carriers or brokers to determine in advance of bid submission the availability of insurance coverage and endorsements as prescribed and provided herein. If an apparent low bidder fails to comply strictly with the insurance requirements, that bidder may be disqualified from award of the contract.

BID MODIFICATION FORM

Toland Road Landfill – Phase 4C Liner Expansion

Bid No. 24-001

To Ventura Regional Sanitation District:

Make the following modifications to the prices bid in this Proposal:

<u>Bid Item</u>	<u>DECREASE the Total Price Bid for Bid Items Indicated in the first column by:</u>	<u>INCREASE the Total Price bid for Bid Items Indicated in the first column by:</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Note: This form may be used to modify the total price bid for an item or group of items on the Proposal Form without the necessity of recomputing line totals, unit prices, or the total price bid. It is particularly intended to allow adjustments for last-minute material quotes or subcontract bids.

Adjustments will be made in accordance with Section 12 (Bid Modifications) of the Instructions to Bidders.

Date: _____

Contractor _____

Signed _____

PROPOSAL FORM

To: Board of Directors
Ventura Regional Sanitation District
4105 W Gonzales Rd
Oxnard, California 93036

For: Toland Road Landfill – Phase 4C Liner Expansion Bid No. 24-001

The undersigned, as bidder, submits this proposal to District Board of Directors and hereby agrees and declares that:

Agreement to Contract

Bidder has carefully examined the location of the proposed work, the proposed form of Contract and all Contract Documents thereto (including General and Special Provisions and the plans therein referred to). Bidder proposes and agrees that if this proposal is accepted, bidder will contract with District in the form of a copy of the Contract as set forth in District's specifications, to provide all necessary labor, machinery, tools, equipment, insurance, etc., and do all work and furnish all materials specified in the Contract, for completion of the subject work, in the manner and time therein prescribed, in a skilled, workmanlike manner to District's satisfaction, and bidder will accept in full payment therefor the amounts as proposed hereunder.

Non-Collusion Affidavit

Pursuant to California Public Contract Code Section 7106, bidder has executed and delivered with this Proposal Form a Non-Collusion Affidavit. The provisions of this Non-Collusion Affidavit are incorporated by reference herein.

Proposal Retention

Proposals delivered to District at the time set for opening shall be irrevocable. No bidder may withdraw its bid for a period of 60 calendar days after the date set for opening of the bids. Cash, a certified or cashier's check, or bid bond in a form acceptable to District in the amount of not less than ten percent of the total bid amount shall be given as a guarantee that bidder will enter into the Contract within the time stated in the Instructions to Bidders if the award is made to bidder by District. In case of refusal or failure by bidder to enter into the Contract in accordance with Section 15 of Instructions to Bidders, the bid security shall be forfeited to District.

Proposal Responsibility

District shall not be responsible for any errors or omissions on the part of the undersigned in preparing this bid.

District's Right of Rejection & Waiver

District reserves the right to reject any or all bids and to waive any irregularities or informalities in the bids or in the bidding.

**Incorporation of Notice Inviting Bids
and Instructions to Bidders**

The provisions of the Notice Inviting Bids and Instructions to Bidders are incorporated by reference as though fully set forth herein.

Time Required for Completion

Bidder agrees to fully complete the work within the completion time specified in the Special Provisions, and pay liquidated damages as specified by the Contract should bidder fail to complete the work within the allotted time.

List of Subcontractors

Pursuant to the Subletting and Subcontracting Fair Practices Act, California Public Contract Code Section 4100, et seq., each bidder submitting bids on public works projects shall set forth:

- a. The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of 0.5 percent of the prime Contractor's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of 0.5 percent of the prime Contractor's total bid or \$10,000, whichever is greater.
- b. The portion of the work which will be done by each such subcontractor under this project. The prime Contractor shall list only one subcontractor for each such portion as is defined by prime Contractor in its bid.

The information requested below must be filled out completely. All subcontractors will be required to obtain any required business licenses.

	Subcontractor	License	Description of Work
1.	_____	_____	_____
	Name	Class	
	_____	_____	_____
	Business Address	Number	
	_____	_____	_____
	City	Exp. Date	
2.	_____	_____	_____
	Name	Class	
	_____	_____	_____
	Business Address	Number	
	_____	_____	_____
	City	Exp. Date	

3. _____
 Name Class

 Business Address Number

 City Exp. Date

4. _____
 Name Class

 Business Address Number

 City Exp. Date

5. _____
 Name Class

 Business Address Number

 City Exp. Date

Bidder's Submission of Proposal

The person whose signature is affixed to the last page of this Proposal, submits this Proposal Form to the Board of Directors of the Ventura Regional Sanitation District and hereby declares:

- a. The bidder has read this proposal, abided by and agrees to the conditions herein, and carefully examined the Contract Documents, project plans and specifications, and hereby proposes to furnish all materials and do all work required to complete the work in accordance with the plans and specifications for the unit prices or lump sums named in the Bid Form attached hereto and made a part hereof.
- b. The addenda indicated on the Bid Form are acknowledged.
- c. The bidder, as principal, acknowledges being bound by the attached bond or other acceptable bid guarantee.

The names of the principal officers of the corporation submitting this proposal, or of the partnership, or of all persons interested in this proposal as principals are:

 Name Officer/partner/principal

 Name Officer/partner/principal

Name

Officer/partner/principal

d. The Contractor's license number of the bidder is _____ and the classification of the license is _____. The expiration date of the license is _____.

I make this Proposal and declare under penalty of perjury under the laws of the State of California that the statements herein are true and correct, and this Proposal Form is executed at _____, California, on the ____ day of _____ 2024.

(If sole proprietor or partnership)

(If Corporation)

Signature of Bidder

Name of Corporation

Title (Sole Owner, Partner, etc.)

State of Incorporation

Name of Bidder

By: _____
President

By: _____
Secretary

BID FORM
Phase 4C Liner – Toland Landfill
BID NO. 24-001

Item	Item Description	Units	Quantity	Unit Rate	Total Cost
1	Mobilization / Demobilization	LS	1		\$ -
2	Survey and Preparation of As-Built Drawings	LS	1		\$ -
3	Demolition, Clearing, Grubbing, and Stripping of Work Areas	LS	1		\$ -
4	Traffic Control (Assume 1 Person for 40 Hrs/Week x 12 Weeks)	HR	480		\$ -
5	Mass Earth Excavation	CY	1,110,000		\$ -
6	Mass Earth Stockpile (Incl. Eng. Fill Diversion Berm at Top of Stockpile)	CY	1,110,000		\$ -
7	Waste Excavation and Hauling to Active Disposal Area	CY	20,000		\$ -
8	Clay Excavation, Processing, and Stockpiling	CY	6,400		\$ -
9	Subgrade Preparation (Floor and Slope Liner)	SF	491,100		\$ -
10	2-ft Low Perm. Clay Placement (Floor Liner)	SF	61,000		\$ -
11	Supply & Install LCRS Drainage Gravel (Floor Liner - Incl. Pipe Trench)	SF	61,000		\$ -
12	Supply & Install 80-Mil DST Geomembrane (Floor Liner)	SF	61,000		\$ -
13	Supply & Install 16-oz Nonwoven Geotextile (Floor Liner - 2 Layers)	SF	122,000		\$ -
14	Operations Layer Process and Placement (Floor Liner)	CY	5,000		\$ -
15	Supply & Install Geosynthetic Clay Liner (GCL) (Slope Liner)	SF	430,100		\$ -
16	Supply & Install 80-Mil SST Geomembrane (Slope Liner)	SF	430,100		\$ -
17	Supply & Install 16-oz Nonwoven Geotextile (Slope Liner)	SF	430,100		\$ -
18	Supply & Install UV Protective Layer (Slope Liner)	SF	430,100		\$ -
19	Supply & Install Protective Layer Ballast System (Slope Liner)	LS	1		\$ -
20	Operations Layer Process and Placement 3-ft Thick on Benches (Slope Liner)	CY	2,500		\$ -
21	Operations Layer Process and Placement 15-ft on Slope Sections (Slope Liner)	CY	5,000		\$ -
22	Anchor Trench Excavation and Backfill (Dirt Benches & Floor Termination)	LF	2,100		\$ -
23	Anchor Trench Excavation and Backfill, Shotcrete & A.C. Overlay (EPDC)	LF	410		\$ -
24	Supply & Install 8-in SDR 11 HDPE LCRS Pipe	LF	2,500		\$ -
25	Supply & Install Req. LCRS System Components (e.g., Bends, Sleeves, Tie-ins, Boots, Hardware, Etc.)	LS	1		\$ -
26	Access Road Crossing for LCRS Pipe (Incl. Backfill, Base, Asphalt, etc.)	LS	1		\$ -
27	Landfill Gas System Modifications (Raise 7 Wells - Approx. 492 LF Combined)	LF	492		\$ -
28	Supply & Install 24-in Corrugated HDPE Drainage Pipe (Incl. Crossings & Backfill Material)	LF	500		\$ -
29	Supply & Install Req. HDPE Drainage Pipe Components (e.g., Inlets, Bends, Trash Rack, Gaskets, Hardware, Slope Anchoring System, etc.)	LS	1		\$ -
	Total Project Bid				\$ -

**BID FORM
Toland Landfill
BID NO. 24-001**

GRAND TOTAL BID PRICE FOR ALL WORK :
 In Numbers: _____
 In Words: _____

Receipt of the following addenda is acknowledged:

Number

Date

[Bidder must fill in number and date of each addenda or enter the word "**none**" if appropriate]

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Notwithstanding Section 2 of the Instructions to Bidders, call 805-658-4638 to confirm all addenda have been received.

Signature	Date
Name of Bidder	
Mailing Address	
City/State/Zip	
Telephone	FAX

PROPOSAL BID BOND

(10% of total bid)

Bid No. 24-001 for Toland Road Landfill – Phase 4C Liner Expansion

Ventura Regional Sanitation District

4105 W Gonzales Rd

Oxnard, California 93036

(Note: NOT NECESSARY WHEN CASH OR A CERTIFIED OR CASHIER'S CHECK ACCOMPANIES BID)

KNOW ALL MEN BY THESE PRESENTS:

Principal, _____, and undersigned Surety doing
(Contractor's Name)
business as _____ located
(Company Name)
at _____ acknowledge
(Street Address, City, State)

that they and their heirs, executors, administrators and successors are jointly and severally bound to the VENTURA REGIONAL SANITATION DISTRICT (District), for ten percent of the total bid, to be paid to District if the proposal shall be accepted and the proposed Contract awarded to Principal, and Principal shall fail to execute the Contract within 15 days of date of Notice of Award of Contract, as specified in Section 15 of the Instructions to Bidders, and to furnish the required Labor & Material and Performance Bonds and evidence of insurance coverage; otherwise this obligation to be void. It is hereby agreed bid errors shall not constitute a defense to forfeiture.

If suit is brought upon this bond by Obligee and judgment is recovered, Surety shall pay all costs incurred by Obligee in such suit, including reasonable attorney's fees to be fixed by the court.

IN WITNESS WHEREOF, we have hereunto set our signatures and seals on this ___ day of _____, 2024 at _____, California.

Name of Surety

(SEAL)

Address

Telephone Number

Signature of Authorized Representative

Note: Signatures of those executing for the surety must be properly acknowledged.

Name of Principal Contractor

(SEAL)

Address

Telephone Number

Signature of Authorized Representative

NON-COLLUSION AFFIDAVIT
(To be executed by bidder and submitted with bid
Pursuant to California Public Contract Code §7106)

VENTURA REGIONAL SANITATION DISTRICT
Bid No. 24-001 for Toland Road Landfill – Phase 4C Liner Expansion

State of California
County of _____

_____, being first duly sworn, deposes and says that
(Individual's Name)

he/she is _____ of _____, the party making the
(Position Title) (Contractor's Name)

foregoing bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the Contract or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his/her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date _____, 2024 _____
Signature

at _____, California.
City within California

If executed outside California, the following certificate shall be executed:

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

Date _____, 2024 _____
Signature

Subscribed and sworn to before me on _____, 2024.
_____, Notary Public

**STATEMENT OF QUALIFICATIONS
AND BUSINESS REFERENCES**

Name of Bidder: _____

Location of Principal Office: _____

1. Are you acting as an individual, partnership, corporation or joint venture? _____

Note: If a joint venture, give information for each of the venturers by name. Attach additional sheets if necessary.

2. Are you licensed as a Contractor to do business in California? _____

License Number _____ Classification _____ Expiration Date _____

3. How many years has your organization been in business under its present business name? _____

4. How many years of experience (Contractor or subcontractor) has your organization had in construction work similar to the work you are interested in bidding?

5. Show similar projects your organization has completed during at least the last five years in an attached tabulation to include: year, contract price, kind of construction, location of work, name and address of engineer, name and address of owner.

6. Has your organization or any officer or employee of your organization who has a proprietary interest in your organization ever been disqualified, removed or otherwise prevented from bidding on or completing a federal, state, or local government project because of a violation of law or a safety regulation? If so, explain the circumstances.

7. Has your organization for reasons other than as listed above ever failed to complete a contract? If so, explain the circumstances.

8. Has your organization ever been in a position of default such that payment proceedings and/or execution on a payment, performance and/or bid bond have become involved? If so, give details.

9. Provide a minimum of three references from engineers, owners or public agencies for which you have done work.

10. Provide bank and surety company references.

11. Is any litigation pending against your organization? _____ If so, give details.

12. Provide an estimate for the cost of the Contractor's Performance Bond, Payment Bond, and insurance.

The undersigned represents and warrants that the above information is true and accurate to the best of its knowledge.

Bidder hereby authorizes and requests any person, firm or corporation to furnish any information requested by District to verify the information contained herein.

Dated _____

Signature

Title

Name of Bidder

PART II: SPECIFICATIONS

SPECIAL PROVISIONS
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SPECIAL PROVISIONS

ARTICLE 1: WORK UNDER THIS CONTRACT

The work includes constructing the Phase 4C Liner Improvements at the Toland Road Landfill in Ventura, California. In general, the project includes unclassified excavation, fill, subgrade preparation, construction of a geosynthetic composite liner system, a LCRS, and miscellaneous civil improvements as represented on the Drawings and in these Specifications, including the following plans and specifications:

- **Phase 4C Liner:** Plan Sheets 1-18 consists of 18 (eighteen) plan sheets (2'x3' full size drawings). Technical Specifications for the Excavation, Liner and LCRS are the 2nd section following the Special Provisions. The Plans and Specifications for this portion of work may commonly be referred to as "Phase 4C Liner".

Unless otherwise provided, the Contractor shall furnish all materials, equipment, tools, labor and incidentals necessary to complete the Work. No separate payment will be made for any item that is not specifically set forth in the Bid Sheets, and all costs therefore shall be included in the prices named in the Bid Sheets for any work required in the Contract Documents. All work shall be measured and paid at unit (CY, LF, LS, etc.) on bid form.

Unless otherwise noted, the specifications and standard plans of the latest edition of the Green Book shall apply. When reference to Caltrans standards is made, the latest version of the Caltrans standards and specifications shall apply.

ARTICLE 2: PROJECT PERIOD

It is anticipated award of the Contract will occur on or June 6, 2024 and work will commence within approximately 15 calendar days thereafter. Work shall begin on the date stated in the Notice to Proceed and shall be completed within **180 calendar days** after said date. Contractor shall proceed with construction in such a way as not to interfere with general landfill operations. Time of work shall be limited to Monday through Saturday, from 5:30 a.m. to 7:00 p.m. (daylight hours only). At the discretion of District, maintenance may be coordinated outside these hours, except Sunday. Note that the contract provides for an extension of time in the event of unusually severe weather which may occur during the rainy season or otherwise. Contractor shall re-grade the work area after rain days in order to resume work.

ARTICLE 3: PREBID CONFERENCE

Prospective bidders are required to attend a prebid conference to be held on Wednesday, May 8, 2024 at 10 a.m. at the Toland Road Landfill, Santa Paula, California. The meeting will be held for the purpose of answering questions concerning the project. None of the information transmitted at this meeting will be construed to in any way modify the plans and specifications. Any modification will be forwarded to all plan holders as an addendum.

ARTICLE 4: HEALTH AND SAFETY

- a. The work is to be performed by or under the supervision of the District, all on the Toland Road Landfill property. All activities and work shall comply with applicable local, State and Federal

health and safety rules. The District will be responsible for procuring various permits, and the Contractor shall comply with applicable codes and permit conditions.

- b. Contractor shall inform its personnel and subcontractors of potential dangers related to working in and around a sanitary landfill.
- c. Any trenching deeper than five feet (5') or confined space entry shall require a permit from District before any work commences in the excavation or confined space by Contractor. District permit provides notification of excavation and confined space entry required by applicable regulatory agencies as well as ensuring Contractor understands OSHA regulations. Precautions against asphyxiation, air poisoning and combustible gas should be taken as follows:
 - (1) Testing: The atmosphere should be tested in any excavation prior to entering. Portable battery operated equipment should be on hand for measuring methane, oxygen, and hydrogen sulfide. If testing suggests that unsafe conditions exist, then precautions should be taken as described below.
 - (2) Asphyxiation and Toxic Gases: If low oxygen (less than 20%) or high levels of toxic gases such as hydrogen sulfide are detected, the confined space should be ventilated and the worker should use a breathing apparatus. Gasoline engine operated blowers and hoses of the type used to clear sewer manholes prior to entering should be available at the job site during all trenching when personnel may have to enter excavations.
 - (3) Explosive Gases: Caution should be exercised not to ignite combustible gases with engine sparks. Backhoe and other equipment should be outfitted with spark arrestors. A combustible gas indicator shall be used at all times during trenching and drilling operations to detect the presence of methane gas in and around the work.

Precautions must be taken during any welding operations to prevent sparks from contacting combustible gas mixtures.

Smoking shall not be permitted in any area that has not been specifically designated as a "Smoking Area".

Any buried pipe shall be placed as soon as possible after pipe trenching is complete. All trenches shall be promptly backfilled with suitable soil material. If excavated material is not suitable for backfilling purposes, then the District will provide suitable backfill material.

- (4) Buddy System: No person should enter a confined space or trench where toxic gases or asphyxiants may be present unless another person is stationed within eyesight for the purpose of watching and providing assistance, if necessary. Workman in even shallow trenches should wear shoulder harnesses with a safety rope attached and extending to the grade next to the trench.
- (5) Routine Monitoring: Measurements should be made periodically for methane, hydrogen sulfide, and oxygen in any substantial open trenches even if it is not anticipated workers will enter the trenches.
- (6) Other Practice: Workers should avoid whenever possible working downwind of trenches and handling refuse. Overall-type clothing along with gloves should be worn.

ARTICLE 5: {This article intentionally left blank}

ARTICLE 6: CONSTRUCTION SURVEYS

Elevations and general job site controls and boundaries will be provided by District prior to the start of construction. All further survey required to complete construction in accordance with the Plans and Specifications will be Contractor's responsibility.

District will establish benchmarks and primary control points outside the Work limits. Contractor shall employ a licensed Land Surveyor or a qualified Registered Civil Engineer licensed in the State of California to provide all lines and grades necessary to perform the Work, and all survey required for quantity verification and data for Record Drawings as indicated in these Special Provisions.

6.1 Survey Data Submittal

All Contractor survey information shall be submitted to Engineer no later than five (5) working days from the date the survey was conducted. The data shall be provided on Thumb disks with hard copy print out.

a. Pre-construction Survey

Prior to initiation of site work, Contractor shall perform a survey to confirm that site conditions are representative of the information contained in blue line construction drawings. Contractor shall submit a written report of any/all discrepancies to Engineer at least one week in advance of work commencement. The report shall include a topographic map that clearly indicates the discrepancies. Contract work paid to Contractor on a volume basis shall require Contractor's surveyor to perform an independent topographical survey of the work area for comparison with the contract documents. All discrepancies between Contractor's topographical and contract drawings shall be reported to Engineer prior to initiation of work. Any unresolved discrepancies will be resolved by a mutually agreed upon third party.

Contractor shall generate an electronic pre-construction survey surface. The surface shall be generated using approved pre-construction aerial or ground survey data. All electronic surfaces shall be generated using raw survey data (i.e., mass points and break lines) and shall not rely on contours or digitization methods to generate surfaces except with the consent of Engineer. Surfaces shall be comprised of a Triangular Irregular Network (TIN), also being the basis for a Digital Terrain Model (DTM). All such surfaces shall be created commensurate with National Mapping Accuracy Standards equal to that matching the scale and contour interval of the contract drawings.

b. Survey Control Plan

Contractor shall submit a survey control plan indicating proposed control points provided in the construction drawings. The plan shall be submitted to Engineer at least ten (10) days in advance of beginning any construction and Engineer shall respond with comments or approval within five (5) days of receipt. Primary control shall be based on and tied to at least three Surveyor control stations provided by District. The establishment of all future primary control points will be tied to the same control stations or to the previously established primary control stations. No work shall commence until any/all discrepancies between the survey information contained in the construction documents and the field conditions at the start of work are resolved. Any changes to the survey control plan during the project shall be submitted to Engineer for approval prior to implementation.

6.2 Survey Notification

Contractor shall notify Engineer in writing (e-mail is acceptable) at least two days prior to performance

of any Quality Control (QC) survey work. Upon completion of the QC survey work for each construction element, or daily at a minimum, the results shall be forwarded to Engineer. A Quality Assurance (QA) check survey may immediately follow the QC surveys. Engineer will then compare the data and advise Contractor whether work can continue. Regardless, Contractor is ultimately responsible for assuring the work is completed to the lines and grades per Plans and Specifications.

6.3 Primary And Secondary Survey Control

A system of primary survey control (basis for setting out) has been established in the construction documents for use by Contractor. Contractor shall verify the accuracy of the primary control provided and establish a survey control plan for secondary control points necessary for construction work layout. All secondary survey control shall be established proximate to the work site and used for developing subsequent control and/or laying out the work. Layout lines for use in constructing the work shall be taken directly from the secondary control. Secondary control shall be established by Contractor's surveyor with due diligence in accordance with local survey industry standards to enable the third party CQA surveyor to retrace the steps of Contractor's surveyor during check surveys.

6.4 Protection Of Monuments, Stakes And Marks

Contractor shall preserve and protect all survey monuments and related marks at the site and shall maintain the primary control points per the Survey Control Plan. Any removal, disturbance or destruction of monuments shall be conducted in accordance with the contract documents and Survey Control Plan.

All stakes or otherwise deleterious material originating for construction activities shall be collected and disposed of properly, especially for earthwork scheduled to receive or be placed/compacted on top of or come in contact with geomembrane materials.

6.5 Survey Timing/Frequency

Contractor's surveyor shall complete the survey of each constructed element in a timely manner so as not to delay any of the work. For grade sensitive elements (e.g., ditch or road subgrade), the QC survey must be presented to and accepted by Engineer prior to proceeding with the next work element (e.g., paving).

For long linear elements such as roads and drainage ditches, the QC survey shall be completed in segments as the work progresses (i.e., not when the entire length has been graded) to prevent grade errors from compounding and causing major rework. The survey shall be performed immediately after completing each bench segment or as determined practical by Engineer prior to recording said data. Contractor shall provide a written statement for Engineer that, based on survey prepared by a State of California licensed Land Surveyor, the grading is in conformance with the Plans and Specifications. Engineer shall review the data and notify Contractor immediately of any discrepancies noted.

If it is determined that any portion of the excavation does not meet the required lines, grades, and dimensions shown on the Plans or the requirements of the Specifications, Contractor will be required to cease all excavation activities until a corrective action is determined by Engineer and completed by, and at the expense of, Contractor. Work days lost by Contractor due to a work stoppage of this type will not be credited to Contractor when determining liquidated damages for failure to complete the work within the authorized contract time.

In all cases, Engineer shall be afforded the opportunity to conduct a QA check survey of all aforementioned Contractor QC survey segments prior to Contractor proceeding with construction in these areas.

6.6 Survey Deliverables

a. Survey Recordkeeping

Survey records consisting of copies of original field notebooks, field/office calculations, survey notes, sketches, field drawings, CAD drawings and surveyor's red line as-built drawings and data from electronic data collectors shall be stored in a survey field notebook/binder or plan rack as appropriate. Any surveyor's red line "mark-up" drawings and survey field notebook(s) will become the property of District upon project completion.

b. As-Built Survey Data

Contractor's survey data shall be collected throughout the project to show as-built conditions. This includes all underground as well as surface elements. In addition to a hard copy printout, this data shall be provided in an ASCII format and shall include: point number, northing and easting, elevations, and descriptions of point.

The ASCII format shall be as follows:

PPPP,NNNNNN.NNN,EEEEEE.EEE,ELEV,Description, where P is the point number, N is the Northing, E is the Easting, Elev is the elevation, and Description is the description or type of point.

Contractor shall, upon 24-hour advance notice, provide access to any equipment, files and personnel used for logging and processing survey data (including earthwork volume computations) to Engineer for verification purposes.

Contractor's surveyor shall merge design drawings and as-built data into original survey as-built drawings. Data shall include:

- c. Coordinates and elevations of all constructed areas finish subgrade and completed surfaces.
- d. Curve data including centerline stationing, elevation offsets to edge, cross slope (percent) as well as longitudinal slope (percent) for all drainage structures, roadways (paved and temporary).
- e. Elevations and coordinates at beginning, end, changes in alignment and grade breaks should be located during original survey work.
- f. Coordinates and elevation of all corners for drainage facilities including drop structures to properly locate the as-built position on record drawings.
- g. Coordinates and elevations for flow line of interceptor drains, drainage ditches, at a center-to-center spacing not to exceed 25 feet or otherwise approved by Engineer. The edge of the channel where it adjoins any other structure (e.g., perimeter access road) shall be surveyed at the same spacing.
- h. Elevations and coordinates for transition structures at a spacing not to exceed 10 feet or two shots, whichever provides a more accurate location.
- i. Coordinates and elevations necessary to locate all new and/or relocated infrastructure including but not limited to gas lines, condensate lines, power poles, and guy wire supports. Vertical clearance and location in plan shall be provided for all above ground utility lines installed as well as existing lines where vertical clearance has been changed due to cut and/or fill placement.
- j. All newly installed, exposed or modified existing below ground utilities shall be located

in plan by elevation and coordinates prior to covering.

Upon completion of work, one complete set of as-built contract (red line) drawings shall be delivered to the Engineer within 15 calendar days of project completion as a condition of final acceptance of the work.

6.7 Earthwork Quantities

a. As-Built Data

For purposes of payment on earthwork quantities, Contractor shall conduct a comprehensive as-built survey which complies with all aforementioned requirements. Contractor may determine as-built topography using aerial photogrammetry methods, ground survey methods, or a combination thereof. The method used shall be submitted in writing to and pre-approved by Engineer.

The National Map Accuracy Standards shall be adhered to at a minimum. Scale and contour intervals shall be at least equal to that of the design drawings. At a minimum, the following intervals shall apply: For earthwork areas less than 10 acres, the maximum contour mapping interval will be 1 foot; otherwise larger areas shall use 2 foot contour interval mapping.

Contractor shall produce a complete electronic as-built surface in conformance with the requirements set forth in these specifications. The generated electronic surface file shall be provided to Engineer for verification.

Contractor shall produce an electronic boundary file that accurately conforms to the project site boundary depicted on the plans or as modified during construction by approved change order. The electronic boundary file shall be provided to Engineer for verification prior to use in any earthwork computations or map generation.

b. Earthwork Volume Computations

Contractor shall prepare a comprehensive procedures plan for conducting all earthwork volume calculations. The plan shall be submitted for Engineer's approval at least ten (10) days prior to performance by Contractor of any as-built earthwork volume computations. At a minimum, this plan will include a description of all computer hardware proposed for use, the specific software package and version to be used, and a complete step-by-step procedure for conducting the volume computations. Earthwork volumes shall be computed by comparing approved pre-construction and as-built surfaces described above using "composite" or "grid (5' grid spacing)" methods or other method upon Engineer's approval. All earthwork quantities shall be independently verified by Engineer prior to approval. The independent verification by Engineer shall utilize the same basic procedures as those used by Contractor.

Any unresolved discrepancies between Engineer and Contractor shall be resolved by a mutually agreed upon third party calculation.

Any interim or soon to be buried (or otherwise obstructed) earthwork shall be surveyed and quantified as the project progresses to enable timely verification by Engineer.

District will establish benchmarks and primary control points outside the Work limits. Contractor shall employ a licensed Land Surveyor or a qualified Registered Civil Engineer licensed in the State of California to provide all lines and grades necessary to perform the Work, and all survey required for quantity verification and data for Record Drawings as indicated in these Special Provisions.

ARTICLE 7: ORDINANCES, PERMITS AND LICENSES

The work covered by this Contract is permitted under the conditions of Ventura County Conditional Use

Permit No. PL17-0121 and associated zoning clearances, and Regional Water Board authorization. There are no other known permits, approvals or inspection fees required other than Contractors licenses, NPDES/SWPPP Filing Fees (see Article 15), business licenses and similar licenses for the work.

ARTICLE 8: CONCEALED OR UNFORSEEN CONDITIONS:

It is understood by both parties that Contractor has made a pre-bid investigation of the site in accordance with the Instructions to Bidders. All concealed, unforeseen, or materially differing conditions are the responsibility of Contractor in the absence of an actual material, intentional misrepresentation by District as to conditions on the site. District may have made available to Contractor information on conditions that may be encountered on the site, but such information is for the exclusive use of District and District does not make any representations as to the completeness or the accuracy of the information made available. Contractor shall give written notice of any conditions encountered at the site that are unforeseen, concealed, or materially different from those set forth in the Plans or Specifications, or ordinarily encountered and generally recognized as inherent in the Work. Such written notice shall be given within five days of the Contractor's discovery of any such conditions.

ARTICLE 9: GEOLOGIC INFORMATION:

Geologic Information for the Detention Basin area of the project is provided in Attachment 1 to the Special Provisions. Actual conditions encountered by Contractor during performance of the Work may differ from the information presented because the information is based on limited borings.

The Phase 4C Liner area is comprised entirely of Pico Formation and Landslide Deposits. No Alluvial material is anticipated in this area.

ARTICLE 10: NON-INTERFERENCE WITH DISTRICT OPERATIONS

a. Contractor shall provide all traffic control for the duration of the project. Contractor may not interfere with landfill operations during the performance of work unless specific approval has been given by District in writing. The priority of District is to maintain safe and efficient access to the active refuse filling area as shown on the plans.

b. The following measures are required to assure non-interference by Contractor with District operations:

- 1) Contractor shall provide a "Traffic Phasing Plan" showing how continuous access will be maintained to the refuse disposal area. District will work with Contractor as much as possible including:
 - i) Coordinating early closures of the landfill when possible. Typically the landfill is open until 4:00 p.m.. The District will accommodate earlier closure request from the Contractor – the earliest closure of the landfill will typically be 2:30 to 3:30 p.m.. Expecting early closure for 1 to 2 weeks is difficult, and is the most time the Contractor should expect to be accommodated for this contract, though the District will work in good faith to accommodate the Contractor's needs in this area. Significant advance notice is required to assure early closures, 7 days at minimum.
 - ii) Coordinating Saturday closures when possible. The landfill is open for business (i.e. – there is landfill traffic on open days) on Saturdays when requested by commercial haulers, which often occurs through the summer. May is the most likely summer month to be closed some Saturdays, it is less likely in June and July and becomes more likely again in August and September. Note we generally need to be open on a Saturday to make up for a Holiday closure (July 4th and Thanksgiving are the likely holidays in the expected period of this contract). Significant advance notice is required to assure Saturday closures, 7 days at

minimum.

- 2) Contractor must provide continuous access to the active/existing refuse dumping area shown on the plans. The existing access on the existing main paved access road cannot be altered without prior authorization of the District.
- 3) Contractor shall provide a haul route and traffic control plan for District 7 days prior to start of work. The District maintains the right to deny any unsafe haul route and traffic plans with reasonable cause.
- 4) Stopping of incoming/uphill landfill-related traffic will be avoided when possible, and allowed only when authorized by the District. Downhill traffic may be stopped for up to 5 minutes. Incoming landfill traffic may be stopped only where grades allow for comfortable restarting and acceleration of landfill traffic/trucks.
- 5) Contractor haul road traffic may not exceed **20** miles per hour in the following circumstances:
 - i) haul roads are within 100 feet of landfill access roads; or
 - ii) within 200 feet of approaching an access road intersection.
- 6) At any point where the Contractor is stopping landfill access road traffic, the Contractor shall provide traffic control. Traffic control, at a minimum, shall consist of a separate traffic controller for each direction of landfill access road traffic.
- 7) Contractor shall provide five days written notification of changes in haul road traffic patterns.
- 8) Access shall be maintained to water drop tank throughout Contractor's construction period.

ARTICLE 11: JOB PROGRESS SCHEDULE AND SCHEDULE OF VALUES

Within 14 days of the execution of the Agreement, Contractor shall submit a proposed Schedule of Operations. The Schedule shall indicate criticality of operations and milestones established by District. The schedule shall also reflect anticipated submittal dates for shop drawings, and procurement, fabrication, and delivery schedules of major materials required for the project.

If Contractor elects to submit an early completion schedule for the project, it does so at its risk and such a submission does not change the Contract completion date reflected in the Notice to Proceed. District will not accept any responsibility for, nor be held liable for, any damages allegedly caused by Contractor's failure to complete the Project within its proposed early completion schedule.

The Project Schedule shall be updated monthly. The updated schedules shall indicate any deviations from the original schedule and provide a narrative description of problem areas, current and anticipated delaying factors and their impact, and an explanation of corrective actions taken or proposed.

In addition to the Schedule of Operations, Contractor shall submit, on a weekly basis, a two-week "look ahead" schedule. The "look ahead" schedule will include only those activities that will be in progress, started, or completed during the next two-week period.

Within 14 days of the execution of the Agreement, Contractor shall submit a proposed Schedule of Values. The Schedule of Values should include the general categories noted in the Bid Schedule; however, broad categories may be subdivided into their various components. The Schedule of Values will be used to facilitate Progress Payments; therefore, any subdivision of work should be reflected as easily identifiable and measurable units. Final acceptance of the Schedule of Values will be at the sole discretion of Engineer.

ARTICLE 12: SHOP DRAWINGS AND SUBMITTALS

During the pre-construction conference, Contractor shall provide for Engineer's review a complete listing of all anticipated Contractor submittals and the proposed submittal dates for each. Contractor shall indicate items as shop drawings, compliance certificates, material samples, or guarantees.

All Contractor submittals shall be accompanied by a transmittal letter that shall clearly indicate the item being submitted for review. The transmittal letter shall include a blank white space 3 inches by 4 inches for review notations. Each transmittal shall have identified the following information as applicable:

- a. Project title and location
- b. Contractor/SubContractor name
- c. Supplier name
- d. Manufacturer name
- e. Specification location

If additional data for the submitted item is anticipated to be provided at a later date, Contractor shall so state on the transmittal.

Submittals shall be numbered consecutively and only one item shall be included per submittal. Subsequent submittals for the same item shall reference the original number and include an extension of that number, i.e., 2.0 becomes 2.1 or 2-A, etc. Six copies of each submittal required by the Special Provisions shall be furnished at least 15 working days prior to the intended use, unless otherwise indicated.

Engineering data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement, and operation of component materials and devices; the external connection, anchorages and supports required; performance characteristics; dimensions needed for installation and correlations with other materials and equipment; and all additional information as required in these Special Provisions.

Submittal data shall be sufficient to verify compliance with all requirements of these Specifications and references.

Certified test results (test certificates) required for demonstrating proof of compliance of materials with specification requirements will be signed by an official authorized to certify on behalf of Contractor and will contain the name and address of Contractor, the project name and location, the quantity, and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates will be signed by a laboratory official authorized to certify on behalf of the laboratory and will contain the name and address of the testing laboratory, the material tested, the testing standards followed, and the testing results. Certification will not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on samples, the material is found not to meet the specific requirements.

Any changes proposed by Contractor shall be stated in a cover letter and essential details of such changes shall be clearly shown in the data submitted.

Calculations to support the adequacy of the design in meeting specified performance ratings or requirements shall be submitted when required by these Special Provisions.

Data sheets, catalog cuts or drawings showing more than the particular item under consideration shall be marked to cross off all but the applicable information.

Engineer's review of drawings and data submitted by Contractor will cover only general conformity to the Drawings and Specifications. After Engineer has completed the review, the submittal will be returned with one or more of the following notations:

- f. No Exception Taken
- g. Make Corrections Noted
- h. Rejected
- i. Revise and Resubmit
- j. Submit Specified Item

A "No Exception Taken" response to a submittal does not constitute a blanket approval of dimensions, quantities, and details of the material, equipment, device, or items shown, and does not relieve Contractor from responsibility for errors or deviation from the Contract requirements. A "Make Corrections Noted" response does not relieve Contractor from the responsibility of providing all information required by the Contract.

The project requirements include pre-shipment approval of several of the liner components. Contractor is advised that material will not be approved for use in the work until the appropriate submittals have been provided and are approved by Engineer.

Review of partial or incomplete submittals will be at the discretion of Engineer.

Engineer will advise Contractor of any anticipated additional costs related to review of partial or incomplete submittals, or expedited review when due to late submission by Contractor. Upon Contractor's request and agreement with Engineer, the additional or expedited review will proceed.

ARTICLE 13: PRE-CONSTRUCTION CONFERENCE

Prior to the start of the Work, a pre-construction conference will be arranged by District and Design Engineer. This conference will be attended by Contractor and his major subcontractors. The purpose of this conference is to acquaint Contractor with District's administrative requirements and policies, to give emphasis to those contract requirements considered most essential, to introduce the District's Representative and Contractor personnel, to reach agreement on the timing and method of all procedures related to the efficient progress of the Work, and to discuss any other items that may require clarification. The procedures and distribution of all correspondence and documents related to the Contract will also be established. The pre-construction conference will be held at the Toland Road Landfill at a mutually agreed upon date and time.

ARTICLE 14: PROJECT MEETINGS

Project meetings will be held on a regular basis, (typically weekly) at a time and location to be established by Engineer to discuss the progress and execution of the Work. Contractor and any subcontractors, suppliers, or vendors whose presence is necessary or requested will attend these meetings. All decisions, instructions and interpretations given by Engineer at these meetings will be binding and final. The proceedings of these meetings will be recorded by Engineer, and Contractor will be furnished copies for its use.

ARTICLE 15: REGULATORY COMPLIANCE

- a. Contractor shall be responsible for obtaining all trade-related permits required by the Project, permits required for the operation and storage of any equipment or hazardous regulated materials brought onsite, and permits required for dispensing and storing of petroleum-related products.
- b. Contractor shall maintain copies of all permits required for construction of this Project at

the job site.

c. **Regulatory Compliance Authorities**

All work shall be performed in accordance with the most current, applicable regulatory criteria and standards, which include, but are not limited to:

- (1) Waste Discharge Requirements issued by the respective California Regional Water Quality Control Board;
- (2) Resource Conservation and Recovery Act, Subtitle D;
- (3) California Code of Regulations Titles 8 (Cal –OHSA), 14, 23, and 27;
- (4) Ventura County Air Pollution Control District Rules;
- (5) National Pollutant Discharge Elimination System (NPDES);
- (6) Uniform Fire Code;
- (7) APWA Standard Specifications.

15.1 Ordinances

Construction shall conform to all Federal, State, District, and local codes, ordinances, regulations, and standards having jurisdiction thereof. In the case of conflict between any such applicable documents mentioned above and the specifications and drawings, the highest requirement shall govern. No additional charges shall be allowed for any changes to make work conform with regulations of above-mentioned documents or governing agencies, but shall be considered as completely included in the Contract price.

15.2 Cultural and Scientific Resources

a. District may employ the services of a paleontological/archaeological firm to monitor the excavation at the project site. Contractor shall cooperate with the personnel of the firm. In the event the paleontologist or archaeologist asks Contractor to stop work in a particular section of the excavation, Contractor shall abide by the request immediately.

b. If Contractor’s operations uncover, or Contractor’s employees find any burial grounds or remains, ceremonial objects, petroglyphs, and archaeological or paleontological, or other artifacts of like nature within the construction area, Contractor shall immediately notify District’s onsite representative of Contractor’s findings and shall modify the construction operations, so as not to disturb the findings pending receipt of notification as to determination of the final disposition of such findings from District.

c. Should the findings, or notification as to disposition of findings, result in delays or extra work, additional time and/or extra work, payment will be allowed as provided for within this Contract.

d. Any findings of a cultural/scientific resource nature shall remain the property of District and not become the property of the person or persons making the discovery.

15.3 Disposal of Solid Waste

Contractor shall be responsible for proper disposal of all refuse. Unless the waste meets Class III solid waste criteria, and any other requirements in the landfill’s solid waste facilities permit.

Solid waste resulting from maintenance and service may be disposed of within the active landfill at no charge if acceptable within the guidelines of a Class III landfill and approved in writing by District. Contractor shall contact District Project Manager prior to disposal for the designated disposal area.

Any other solid or liquid waste resulting from service and maintenance that is unacceptable for disposal in a Class III landfill, and is acceptable under the requirements in the landfill’s solid waste facilities

permit, (including tires) shall be the sole responsibility of Contractor and shall be included as part of the Fixed Rate Price Agreement. Contractor shall arrange for a State approved waste-handling firm to dispose of any material classified as hazardous or unacceptable waste. This firm shall be bonded and found acceptable to District CEO/Risk Management. Contractor shall submit proof of this firm being retained by Contractor within ten (10) calendar days of the effective date of the Contract. Any unacceptable refuse left beyond thirty (30) days may be disposed of by District and any related costs shall be deducted directly from the monthly invoicing, performance bond, or other method at the option of District, as stated within this Section under Maintenance of Work Area.

15.4 Disposal of Liquid Waste

District does not permit disposal of liquid waste of any kind in District Landfills. This includes any waste materials, sludges, soils, etc. with moisture content over 50%.

15.5 Storm Protection

a. Contractor shall take every practicable precaution to minimize danger to persons and to the work during rainy or windy conditions. Contractor shall protect all District facilities within its work project.

b. As part of its storm protection, Contractor shall provide a stormwater management plan (erosion control plan), to be reviewed and approved by District. The plan shall be prepared in accordance with applicable portions of the California Storm Water Best Management Practice Handbooks (BMP) and Section 15.6 below.

15.6 NPDES Stormwater Discharges

During the course of Construction, District will monitor Contractor's operations and will notify Contractor of any non-compliance issues observed. Such monitoring does not relieve Contractor of the responsibility for implementation of the Plan(s) and for upgrading and maintaining appropriate control of all aspects of the Plan(s). Contractor shall also notify District Engineer of any condition that could lead to noncompliance with the permit requirements. Contractor shall be responsible for stormwater monitoring at the landfill to comply with its proposed stormwater management plan, if necessary.

Contractor shall not be entitled to any time extensions or compensation for any cost due to any action required as a result of Contractor's failure to comply with those provisions of the SWPPP within Contractor's control. Contractor shall be responsible for ensuring that Contractor's subcontractor(s) comply with the provisions of this Section. Contractor shall be liable for any action or fine imposed by the regulatory agencies on those incidents of noncompliance that are within Contractor's area of responsibility.

15.7 Discovered Hazardous Waste

a. Contractor shall promptly, and before the following conditions are disturbed, notify District in writing of any:

- (1) Material that Contractor believes may be 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;
- (2) Subsurface or latent physical conditions at the site differing from those indicated; and
- (3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

b. District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve a hazardous waste, and cause a decrease or increase in Contractor's cost of, or the

time required for, performance of any part of the work, District shall issue a Change Order under the procedures described in the Contract. If hazardous waste is found, District will contact its key waste Contractor to properly remove and dispose of the waste. Contractor shall not disturb the waste. Contractor shall immediately notify District if the waste is found leaking, not containerized, or vapors or odors are detected.

c. In the event that a dispute arises between District and Contractor where the conditions materially differ, or involve hazardous waste, or a decrease or increase in Contractor's cost of, or the time required for performance of any part of the work, Contractor shall not be excused any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. Contractor retains any and all rights provided either by the Contract or by law pertaining to the resolution of disputes and protests between the contracting parties.

15.8 Contractor Generated Hazardous Waste

Contractor is responsible for the proper handling, storage, transportation (per all Federal, State and Local Regulations), and disposal of any hazardous, liquid or nuisance wastes (i.e. finely divided, powdery/dusty materials, strong odor, etc.) it generates on District property or elsewhere when performing work on District's behalf.

Contractor must have a District Safety Officer review and approve Emergency/Contingency Plan for handling spills of hazardous, liquid or nuisance materials it is using while working on District property or elsewhere when performing work on District's behalf. This shall include proper handling, removal and disposal of these materials per all applicable Federal and State requirements. The Plan shall also include emergency notification to District staff and emergency personnel. The spill-damaged area(s) must be restored/repaired to its original condition by Contractor in a correct and timely manner and to the satisfaction of District.

Contractor shall provide copies of all manifests, bills of lading, etc. to District upon request to verify proper disposal to a licensed, permitted facility has occurred.

District has the authority to perform inspections of Contractor's work area at any time to insure all applicable regulations are being adhered to.

Contractor is responsible for training its employees, as required by OSHA CCR Title 8, in the proper handling, storage, transportation and disposal of hazardous materials. These employees must also be trained in the Emergency/Contingency Plan and know immediate response procedures should a release occur.

Contractor shall keep emergency response equipment and materials available in the working area, should a release occur.

15.9 Fugitive Dust/Air Quality Emissions

As a requirement of the Ventura County-issued Conditional Use Permit for the site, Contractor is required to submit a detailed schedule of sub-tasks being undertaken to best identify times and activities that have the greatest potential for dust generation. In conjunction with the "Schedule of Activities", Contractor shall submit a formal Dust Control Plan detailing how dust will be controlled throughout the duration of the project. Contractor's Dust Control procedures and performance shall include the following:

a. All provisions of this section, Article 15.9 Fugitive Dust/Air Quality Emission, and additional measures as detailed in the Technical Specifications for the Phase 4C Liner, Section A, subsection 3.6. Contractor shall comply with Greenbook specification 7-8.1, "Cleanup and Dust Control".

- b. Water trucks will be used to spray water on haul roads and working areas as often as is practical without risking the possibility of water percolating into the landfill or creating an unsafe slick surface. The use of water resulting in mud on District access roads or parking areas will not be permitted.
- c. Trucks and equipment are strictly prohibited from traveling on areas that may generate dust without watering or otherwise controlling dust beforehand.
- d. Grates or clean crushed rock (maintained clean) will be installed to reduce the amount of dirt/dust which may be tracked onto the paved roads as vehicles leave the unpaved roads and Contractor's work areas. Any District areas with a crushed rock surface that are filled or contaminated by soils from Contractor's operation will be replaced with similar clean crushed rock base by Contractor.
- e. Pulverized soil: Do not drive on roads with pulverized soil that may be affected by vehicle travel. Soil in the roadway should be moisture conditioned and compacted before driving on. Pulverized soils in working areas (i.e. - liner placement areas, etc.) creating dust shall be moisture conditioned to prevent the creation of dust.
- f. Minimizing dust-creating activities during periods of high winds. If the dust control is not manageable during periods of high winds, District reserves the right to close-down Contractor's operations.

During the course of construction, District will monitor Contractor's operations. If dust control/air emission issues are noted, Contractor will be advised. If Contractor fails or refuses to correct the noncompliance immediately, District may terminate Contractor's right to proceed with the work, by written notice to Contractor. In such event, District may take over the work and prosecute the same to completion, by contract or otherwise at Contractor's expense, and may take possession of and utilize in completing the work such materials, appliances, and plants as may be on the site of the work and necessary therefor. Whether or not Contractor's right to proceed with the work is terminated, Contractor and Contractor's Sureties shall be liable for any damage to District resulting from Contractor's refusal or failure to complete the work within the specified time. Contractor shall not be entitled to any time extensions or compensation for any cost due to any such action as a result of Contractor's failure to comply with the provisions of these specifications that are within Contractor's control. Contractor shall be responsible for ensuring that all subcontractor(s) comply with the provisions of this section. Contractor shall be liable for any action or fine imposed by the Ventura County Planning or VCAPCD on those incidents of noncompliance that are within Contractor's area of responsibility. Contractor shall also notify District of any condition that could lead to noncompliance with the permit requirements.

15.10 Biological and Habitat Protection

District will inform Contractor of any biological resources that would or could be impacted by the project, and specify any required mitigation measures or procedures to protect those resources during construction. Contractor shall not disturb designated riparian habitat areas. Contractor shall also coordinate construction activities such that the time spent working within the 100-foot buffer area is held to a minimum as continuous monitoring of the habitat is required of District during construction work. Contractor shall be responsible for complying with these protection measures, and for ensuring that all subcontractors also comply. District has the authority to perform inspections of Contractor's work area at any time to ensure that these measures or procedures are being followed.

Contractor shall notify District at least 48 hours before any work within 100 feet of the riparian habitat is scheduled or performed. District will coordinate independent monitoring of all work performed within 100 feet of the habitat. Contractor will maintain operations to a minimal level within the riparian habitat zone, and will, at all times, cooperate with District and the independent monitor. Note that any work within 100 feet of the primary streams flowing into and through the Detention Basin

requires this notification.

15.11 Maintenance of Work Area

Contractor shall be responsible for maintaining clean equipment and a clean working area. Removal of contaminated soil as a result of maintenance activities shall be the sole responsibility of Contractor and shall be mitigated to District's satisfaction immediately following written notice from Project Manager. The area of contamination may be tested and certified by a third independent party qualified to conduct the evaluation. The proposed certifying firm shall submit qualifications to Project Manager for acceptance and approval. All costs associated with contaminated soil removal, disposal and certification, if necessary, shall be the sole responsibility of Contractor. Prior to removal, Contractor must provide a manifest of transport showing legal disposal of contaminated material. A copy of the manifest, certified and approved by the disposal location, shall be provided to District prior to shipment. If the manifest is not submitted, District will withhold or deduct directly the estimated cost of removal and disposal from monthly invoice, plus five percent (5%) administration fee until the manifest or appropriate documentation is submitted by Contractor.

15.12 Regulatory Compliance Authorities

Contractor shall not be entitled to any time extensions or compensation for any cost due to any action required as a result of Contractor's failure to comply with the requirements of 15.1 through 15.11 above that are within Contractor's control. Contractor shall be responsible for ensuring that Contractor's subcontractor(s) comply with the provisions of this Section. Contractor shall be liable for any fine or penalty imposed by any regulatory agency or for any other cost incurred by District as a result of regulatory noncompliance arising from any action or inaction of Contractor or its Subcontractor(s).

ARTICLE 16: MEASUREMENT AND PAYMENT

No separate payment will be made for compliance with these Special Provisions. All costs involved shall be included in the applicable Contract price for the items to which the work applies.

To secure payment, Contractor shall submit invoices in accordance with General Provisions Article 8 based on the lump sum contract.

16.1 Authority

Actual quantities and measurements supplied or placed in the work will be determined by District from as-built surveys or measurements. Any dispute between Contractor and District regarding as-built surveyed or measured quantities for payment will be settled by a third-party surveyor whose fees will be paid by the non-prevailing party in the dispute.

16.2 Unit Quantities

Quantities indicated on the Bid Form are for Bid and Contractor purposes only. Actual quantities and measurements supplied or placed in the Work determined by District from as-built surveys or measurements made by Engineer, multiplied by the unit prices stated on the Bid Form, will determine payment.

Payment will be made on the basis of installed and constructed in-place quantities, listed as such for each bid item on the Bid Form.

16.3 Measurement of Quantities

All quantities measured will be actual installed or constructed in-place quantities in conformance with the project drawings, and as authorized by Engineer.

- a. Measurement by Volume shall be by the cubic dimension using the installed mean length and width and the design height or thickness.
- b. Measurement by Area shall be by the mean length and width, or radius.
- c. Linear measurement shall be along the centerline or mean chord.
- d. Lump Sum shall be per the completed item of work.

16.4 Defect Assessment

Any Work not conforming to the requirements of these Specifications shall be removed and replaced by, and at the expense of Contractor in accordance with these Specifications.

If, in the opinion of District and Engineer, it is not practical to remove and replace the Work, Engineer or District will direct on to the following remedies:

- a. The defective Work may remain, but the unit price will be adjusted at the discretion of District.
- b. The defective Work will be partially repaired to the instruction of Engineer, and the unit price will be adjusted at the discretion of District.

Individual sections of the Specifications may modify these options or identify a formula or percentage unit price reduction.

The authority of District to assess the defect and identify payment adjustment is final.

16.5 Non-Payment

Payment will not be made for any of the following:

- a. Products or materials supplied by Contractor that are determined to be unacceptable before or after placement.
- b. Products or materials supplied by Contractor that are not completely unloaded from the transporting vehicle.
- c. Products or materials supplied by Contractor that are placed beyond the lines and levels of the required Work.
- d. Products or materials supplied by Contractor that remain on hand after completion of the Work.
- e. Load, hauling, and disposing of rejected products or material supplied by Contractor.

16.6 Payment

It is the intent of these Specifications that full compensation for all labor, material, and equipment required to complete the items of work listed in Technical Specification Section L, in accordance with the Drawings and Specifications shall be considered as included in the Contractor's unit price indicated in the submitted Proposal.

ARTICLE 17: EFFORTS TO REDUCE DIESEL EXHAUST EMISSIONS

All Construction equipment shall meet Ventura County Air Pollution Control District (VCAPCD), Air

Quality Management Plan (AQMP), and California Air Resources Control Board (CARB) Tier 4 emissions standards. District supports the efforts of the Ventura County Air Pollution Control District to reduce NOx and carcinogenic diesel exhaust emissions from heavy-duty vehicles by providing consideration, where feasible, to Contractors using heavy-duty alternative fuel vehicles when awarding contracts for services. If Contractor uses heavy-duty alternative fuel vehicles, please describe such measures in a letter accompanying the bid submittal.

ARTICLE 18: MISCELLANEOUS CLARIFICATIONS AND CONSTRUCTION NOTES

Material Disposal from Clearing and Grubbing:

All excess materials from clearing and grubbing shall be transported to, and disposed of in, the active landfill area as directed by the District.

Access to Landfill Offices: Access to the landfill offices shall be maintained at all times for District employees as well as deliveries. Any temporary access roads for these purposes shall be well graded and maintained (i.e. – dust control, reasonable grades, turning radii, etc.).

Water:

Contractor shall have full access to the District's water drop tank, but not interfere with District's use of water drop tank. Contractor can install a temporary drop tank and pump to supply water for their use also.

Haul Road/Route Maintenance: Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed and the area cleaned immediately, especially on paved areas and shoulders. See Greenbook spec 7-8.1.

Any damage to paved roads used as haul roads shall be promptly replaced to maintain smooth, efficient landfill traffic flow. Rutting, alligating and other less time-critical damage to paved roads used as haul roads shall be repaired by Contractor before end of project. Cold-patch AC is not an acceptable repair of roads.

Reclaiming Existing Base and AC:

All Existing AC and road base to be removed on existing roads shall be reused for this project, or stockpiled at District's direction. AC and road base shall be stockpiled separately.

PART II: TECHNICAL PROVISIONS

TECHNICAL SPECIFICATIONS

PHASE 4C LINER PROJECT

**Toland Road Landfill
3500 Toland Road
Santa Paula, California 93060**

Submitted To:

Ventura Regional Sanitation District
4105 W Gonzales Rd
Oxnard, CA 93036

Submitted By:

Dragomir Design-Build, Inc.
3514 El Camino Real
Atascadero, California 93422

February 2024

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SECTION 01010

SUMMARY OF WORK

GENERAL

SUMMARY

- A. This Section describes the general requirements for the construction of the Phase 4C Disposal Area at the Toland Road Landfill located in Ventura County, California. The Work shall generally consist of clearing, grubbing, and stripping; excavation and stockpiling of overburden soils; engineered fill placement; subgrade preparation; installation of composite base and slope liner systems; installation of a leachate collection and removal system (LCRS); placement of operations layer soil; placement of a UV protective layer and sandbag ballast system over the exposed slope liner; installation of permanent and temporary stormwater and leachate controls; construction of permanent and temporary access roads; and other incidentals necessary to complete the Work as shown on the Drawings and described in these Specifications

CONTRACTOR'S RESPONSIBILITIES

- A. Start, layout, construct, and complete the Work in accordance with the Contract Documents.
- B. Provide a competent Superintendent, capable of reading and understanding the Contract Documents, who shall receive instructions from the OWNER or the OWNER'S authorized representative(s). The Superintendent shall have full authority to execute the Work in accordance with the Contract Documents.
- C. The CONTRACTOR shall be responsible for transporting, permitting, and/or conveying all required construction water.
- D. Pay costs of legally required sales, consumer, and use taxes and governmental fees.
- E. Forward submittals and communications to the CONSTRUCTION MANAGER. Where applicable, the CONSTRUCTION MANAGER shall coordinate submittals and communications with the representatives who shall give approvals and directions through the CONSTRUCTION MANAGER.
- F. Maintain order, safe practices, and proper conduct at all times among CONTRACTOR'S employees. The OWNER, and the OWNER'S authorized representative(s), may require that disciplinary action be taken against an employee of the CONTRACTOR for disorderly, improper, and/or unsafe conduct. Should an employee of the CONTRACTOR be dismissed from his/her duties for misconduct, incompetence, or unsafe practice, or any combination thereof, that employee shall not be rehired for the duration of the Work.
- G. Coordinate execution of the Work with the OWNER, public utilities, private utilities, and/or other CONTRACTORS performing work on or adjacent to the work site; eliminate, or minimize to the fullest extent possible, delays in the Work and conflicts with the OWNER, those utilities, and/or other CONTRACTORS. Coordinate utility activities and activities of the OWNER with the CONSTRUCTION MANAGER. Schedule private utility and public utility work relying on survey points, lines, and grades established by the CONTRACTOR to occur immediately after those points, lines, and grades have been established. Confirm coordinate measurements for each individual case with the CONSTRUCTION MANAGER by memorandum.

- H. Coordinate activities of the various trades, suppliers, and subcontractors engaged in the performance of the Work.
- I. Obtain all necessary building, grading, excavation, stormwater, and construction permits. Permit fees shall be paid by the OWNER.

RESERVED

CONFORMANCE

- A. Work shall conform to the Drawings and Specifications of the Technical Design Report, which form a part of the Contract Documents.

DEFINITIONS

OWNER	The term OWNER means Ventura Regional Sanitation District, with whom the CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.
CONSTRUCTION MANAGER	The term CONSTRUCTION MANAGER means the representative of the OWNER for the purpose of administration and inspection of the Work. The CONSTRUCTION MANAGER may be a member or group of the OWNER'S staff or may be an external firm. The OWNER shall inform the CONTRACTOR in writing at the start of the Work who the CONSTRUCTION MANAGER shall be. During the period of Work the CONSTRUCTION MANAGER shall act as an authorized representative of the OWNER.
DESIGN ENGINEER	The term DESIGN ENGINEER means Dragomir Design-Build, Inc., the firm responsible for the design and preparation of the Drawings and these Specifications. The DESIGN ENGINEER is responsible for approving all design changes, modifications, or clarifications during construction.
CQA CONSULTANT	The term CQA CONSULTANT means the representative of the OWNER for the purpose of conducting construction quality assurance (CQA) monitoring, sampling, testing, documenting, and reporting.
CONTRACTOR	The term CONTRACTOR means the firm that is responsible for performing the Work. The CONTRACTOR'S responsibilities include the Work of any and all subcontractors and suppliers.
GEOSYNTHETICS INSTALLER	The term Geosynthetics INSTALLER means the firm that is responsible for the installation of the geosynthetics. The Geosynthetics INSTALLER may work directly for the OWNER or as a subcontractor to the CONTRACTOR.
WORK	The term Work means the entire completed construction or various separately identifiable parts thereof that are required to be furnished under the Contract Documents. Work includes any and all labor, services, materials, equipment, tools, supplies, and

facilities required by the Contract Documents and necessary for the completion of the Project. Work is the result of performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

WORKING DAY

A calendar day, exclusive of Saturdays, Sundays, and OWNER'S recognized legal holidays, on which weather and other conditions not under the control of the CONTRACTOR shall permit construction operations to proceed for the major part of the day with the normal working force engaged in performing the controlling item or items of the Work which would be in progress at that time. The working day is subject to the conditions and work restrictions outlined in these Specifications.

REGULAR WORKING HOURS

Between 6:00 a.m. and 5:00 p.m. on allowable working days.

CALENDAR DAY

Each day of the year including all OWNER-approved holidays.

CONTRACT TIMES

- A. The CONTRACTOR shall commence Work in accordance with the General Conditions and the Standard Contract.

CONTRACTOR'S USE OF WORK SITE

- A. Confine work site operations to areas permitted by law, ordinances, permits, and the Contract Documents. The CONTRACTOR shall ensure that all persons under CONTRACTOR'S control (including Subcontractors, their workers, and agents) are kept within the boundaries of the work site and shall be responsible for any acts of trespass or damage to property by persons who are under CONTRACTOR'S control. Consider the safety of the Work, and that of people and property on and adjacent to the work site, when determining amount, location, movement, and use of materials and equipment on the work site.
- B. The CONTRACTOR shall be responsible for protecting private and public property including pavements, drainage culverts, wells, fencing, electricity, highways, telephone, and similar property and making good of, or paying for, all damage caused thereto. Control of erosion throughout the Project is of prime importance and is the responsibility of the CONTRACTOR. The CONTRACTOR shall comply with the requirements of the existing Storm Water Pollution Prevention Plan (SWPPP) for the Toland Road Landfill. The CONTRACTOR shall provide and maintain all necessary measures to control erosion during progress of the Work to the satisfaction of the CONSTRUCTION MANAGER and all applicable laws and regulations. All provisions for erosion and sedimentation control apply equally to all areas of the Work.
- C. CONTRACTOR shall promptly notify OWNER and CONSTRUCTION MANAGER in writing of any subsurface or latent physical conditions at the work site that differ materially from those indicated or referred to in the Contract Documents. CONSTRUCTION MANAGER shall promptly review those conditions and advise OWNER in writing if further investigations and/or tests are necessary. Promptly thereafter, OWNER shall obtain the necessary additional investigations and/or tests and furnish copies to the CONSTRUCTION MANAGER and CONTRACTOR. If CONSTRUCTION MANAGER finds

that the results of such investigations and/or tests indicate that there are subsurface and latent physical conditions that differ materially from those intended in the Contract Documents, and which could not reasonably have been anticipated by CONTRACTOR, a Change Order shall be issued incorporating the necessary revisions.

PRESERVATION OF SCIENTIFIC INFORMATION

- A. Federal and state legislation provides for the protection, preservation, and collection of data having scientific, prehistoric, historical, or archaeological value (including relics and specimens) which might otherwise be lost due to alteration of the terrain as a result of any construction work.
- B. If evidence of such data/information is discovered during the course of the Work, the CONTRACTOR shall immediately stop Work in that area and notify the CONSTRUCTION MANAGER, giving the location and nature of the findings. Written confirmation shall be forwarded within two (2) working days. The CONTRACTOR shall exercise care so as not to damage artifacts uncovered during excavation operations and shall provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the OWNER'S representatives and/or any government agencies.
- C. Where appropriate, by reason of a discovery, the OWNER may order delays in the time of performance, or changes in the Work, or both. If such delays and/or changes are ordered, the time of performance and contract price shall be adjusted in accordance with the applicable clauses of the Contract Documents.

EXISTING UTILITES

- A. The CONTRACTOR shall be responsible for locating, protecting, flagging, and identifying all existing utilities. The CONTRACTOR shall request that Underground Service Alert (USA) locate and identify the existing utilities. This request shall be made at least 48 hours prior to beginning Work.
- B. Costs resulting from damage to utilities shall be borne solely by the CONTRACTOR. Costs of damage shall include repair and incidental costs resulting from the unscheduled loss of utility service to affected parties.
- C. The CONTRACTOR shall immediately stop work and notify the CONSTRUCTION MANAGER of all utilities damaged or unanticipated utilities encountered. The CONTRACTOR shall also provide the CONSTRUCTION MANAGER with the exact location of all utilities encountered during construction.
- D. If specified by the CONSTRUCTION MANAGER, utility potholes shall be carefully dug by the CONTRACTOR to verify the presence of underground utilities.
- E. Damage to utilities by the CONTRACTOR during pothole operations shall be borne solely by the CONTRACTOR.

PRODUCTS

(Not Used)

EXECUTION

(Not Used)

END OF SECTION

SECTION 01032

INTENT OF DRAWINGS AND SPECIFICATIONS

GENERAL

CONTRACT DRAWINGS AND SPECIFICATIONS

- A. The intent of the Drawings and these Specifications is to prescribe a complete Work which the CONTRACTOR shall perform in a manner acceptable to the OWNER and in full compliance with the terms of the Contract.
- B. The Drawings show general arrangements for the Work which shall be used by the CONTRACTOR in the preparation of shop and field drawings. Particular care shall be given to all layouts to make sure all equipment is accessible for operation.
- C. The CONTRACTOR shall provide the OWNER with a complete and operable system, even though the Drawings and these Specifications may not specifically call out all items of work required of the CONTRACTOR to complete the CONTRACTOR'S tasks, incidental appurtenances, materials, and the like and maintenance.
- D. The CONTRACTOR is to perform the Work in accordance with the cross-sections, thicknesses, gradients, lines, and dimensions shown on the Drawings. Any deviations shall be approved by the DESIGN ENGINEER prior to performing the Work.
- E. The dimensions on the Drawings are presumed to be correct, but the CONTRACTOR shall be required to carefully check all dimensions prior to beginning the Work. If errors or omissions are discovered by the CONTRACTOR, the CONTRACTOR shall immediately notify the CONSTRUCTION MANAGER in writing and await the CONSTRUCTION MANAGER'S notification before proceeding.

PRECEDENCE OF CONTRACT DOCUMENTS

- A. If there is a conflict between Contract Documents, the document highest in precedence shall control. The precedence shall be:
 - 1. Permits.
 - 2. Special Provisions.
 - 3. General Terms and Conditions.
 - 4. Construction Drawings.
 - 5. Technical Specifications.

CHANGES TO DRAWINGS AND SPECIFICATIONS

- A. It is inherent in the nature of construction that some changes to the Drawings and these Specifications may be necessary during the course of construction to adjust them to actual field conditions encountered, and it is the essence of the Contract to recognize a normal and expected margin of change. The

CONSTRUCTION MANAGER shall have the right to make such changes from time to time in the Drawings, these Specifications, and in the character of the Work as may be necessary or desirable to ensure the completion of the Work in the most satisfactory manner without invalidating the Contract.

- B. Changes to the Drawings and these Specifications shall be documented and tracked as stipulated in the Project's Construction Quality Assurance (CQA) Plan.

PRODUCTS

(Not Used)

EXECUTION

(Not Used)

END OF SECTION

SECTION 01100

MOBILIZATION

GENERAL

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all facilities necessary for work on the project; 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.

END OF SECTION

SECTION 01300

SUBMITTALS

GENERAL

SUBMITTAL PROCEDURES

- A. Transmit each submittal with a cover letter to the OWNER or CONSTRUCTION MANAGER.
- B. Each submittal shall have a unique submittal number.
- C. Submittals shall be numbered sequentially. Re-submittals shall have the original number with an alphabetic suffix (A, B, C, etc.) to indicate the sequence of the re-submittal.
- D. Identify the Project; date; CONTRACTOR, Subcontractors, and/or suppliers; pertinent Drawing sheet and detail number(s); and Specification Section number(s), as appropriate.
- E. Identify variations from the Contract Documents and product or system limitations that may be detrimental to successful performance of the Work.
- F. Provide space for DESIGN ENGINEER and/or CQA CONSULTANT review stamps.
- G. Revise and re-submit submittals as required; identify all changes made since the previous submittal.
- H. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- I. When catalog pages are submitted, applicable items shall be clearly identified.
- J. An electronic copy (preferred) of each submittal shall be provided to the OWNER or CONSTRUCTION MANAGER. The OWNER shall not accept submittals from anyone other than the CONTRACTOR.
- K. The CONTRACTOR shall review all submittal packages prior to transmittal to the OWNER or CONSTRUCTION MANAGER for completeness and accuracy.

CHECK OF RETURNED SUBMITTALS AND WAIVER OF CLAIMS

- A. The CONTRACTOR shall check and review the submittals returned for correction and ascertain whether the required corrections result in extra cost above that included in the Contract and shall give written notice to the CONSTRUCTION MANAGER within five (5) working days if, in the CONTRACTOR'S estimation, extra costs result from the corrections. The CONTRACTOR'S failure to give such written notice before starting the Work covered by returned submittal constitutes a waiver by the CONTRACTOR of claims for extra costs resulting from required corrections. Payment based on such written notice is not approved until authorized by the OWNER.

PRODUCT DATA SUBMISSION

- A. For each product item included in the Work, include the manufacturer's name and address, the trade or brand name, all conditions of the manufacturer's guarantee and warranty, information to fully describe each item, and supplementary information as may be required for approval. Mark catalog cuts,

brochures, and data to indicate the items proposed and their intended use. Clearly mark product parameters which are specifically called out in these Specifications.

EQUIPMENT DATA SUBMISSION

- A. Submit complete technical, performance, and catalog information for every item proposed for installation in the Work. Include information on performance and operating curves, ratings, capacities, characteristics, power efficiencies, manufacturer's standard guarantees and warranties with the terms and conditions fully described, and all other information to fully illustrate and describe the items as may be specified or required for approval.

SUBMITTAL REVIEW AND ACCEPTANCE

- A. The submittal review period shall be ten (10) consecutive working days in length and shall commence on the first working day immediately following the date of arrival of the submittal or re-submittal in the OWNER'S office. The time required for mail delivery of the submittal or re-submittal back to the CONTRACTOR shall not be considered a part of the submittal review period.
- B. The acceptance of drawings and data submitted by the CONTRACTOR shall cover only general conformity to the Drawings and these Specifications, external connections, and dimensions which affect the layout. The DESIGN ENGINEER'S and/or CQA CONSULTANT'S review of submittals shall not relieve the CONTRACTOR from responsibility for errors, omissions, or deviations, nor responsibility for compliance with the Contract Documents.

RE-SUBMITTALS

- A. When the drawings and data are returned marked "REVISE AND RESUBMIT" or "MAKE CORRECTIONS NOTED," the corrections shall be made as noted thereon and as instructed by the DESIGN ENGINEER and/or CQA CONSULTANT and shall be re-submitted.
- B. When corrected copies are re-submitted, the CONTRACTOR shall highlight or otherwise direct specific attention to all revisions and shall list separately those revisions made other than those called for on previous submissions.
- C. The need for more than one re-submission shall not entitle the CONTRACTOR to extension of the Contract Time.

COSTS FOR SUBMITTALS

- A. All costs for the preparation, correction, and delivery of the submittals are considered incidental to the Contract and shall be included in CONTRACTOR'S costs.

PRODUCTS

(Not Used)

EXECUTION

REQUIRED SUBMITTALS

- A. The following shall require submittals:

1. Material certifications and product data for all geosynthetics.
2. Material quality control data and certificates.
3. Material certifications and product data for LCRS and drainage pipe.
4. LCRS drainage aggregate.
5. Class 2 aggregate base.
6. Pipe trench backfill material.
7. Material quality control data for concrete mix design.
8. Items not fully detailed and specified in the Drawings or these Specifications.

ITEMS NOT REQUIRING SUBMITTALS

- A. A submittal is not required for products and equipment completely specified or salvaged on-site.

CONSTRUCTION SCHEDULE

- A. At the pre-construction meeting, the CONTRACTOR shall submit to the CONSTRUCTION MANAGER for review a schedule of the proposed construction operations. The construction schedule shall indicate the sequence of the Work and the time of completion of each component of the Work.
- B. Submit initial progress schedule in duplicate within ten (10) days after Effective Date of Agreement for CONSTRUCTION MANAGER to review.
- C. Revise and resubmit the schedule as required.
- D. Submit revised schedules with each Application for Payment, identifying changes since the previous version, unless otherwise directed by the OWNER.
- E. Submit a horizontal bar chart with a separate line for each major item of Work or operation, identifying the first workday of each week. Include on the bar chart construction/placement rates for the major items of Work. CONTRACTOR shall develop proposed construction schedule on the basis of a five- or six-day working week. Sufficient labor, equipment, and materials shall be provided by the CONTRACTOR to complete the Work on a five- or six-day per week basis. Night work and work on Sundays shall only be approved by the OWNER if the Work falls behind the approved construction schedule.
- F. Show the complete sequence of construction by activity, identifying the Work of separate stages and other logically grouped activities. Indicate the start date, finish date, and duration of each task. At a minimum, the following activities shall be shown on the construction schedule:
 - Mobilization.
 - Clearing, grubbing, and stripping.
 - Excavation and stockpiling.
 - Engineered fill placement.

- Compacted clay liner placement.
 - Subgrade preparation.
 - Geosynthetic clay liner installation.
 - HDPE geomembrane installation.
 - Nonwoven geotextile cushion installation.
 - LCRS drainage aggregate and collection piping installation.
 - Nonwoven geotextile separator installation.
 - UV protective layer and sandbag ballast system installation.
 - Operations layer placement.
 - Installation of permanent and temporary stormwater controls.
 - Demobilization and site clean-up.
- G. Indicate estimated percentage of completion for each item of Work at each submission with Application for Payment.
- H. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.
- I. The construction schedule as approved by the OWNER shall be an integral part of the Contract and shall establish interim Contract completion dates for various activities. Should an activity not be completed within ten (10) working days after its stated schedule date, the CONSTRUCTION MANAGER shall have the option to recommend to the CONTRACTOR to expedite completion of the activity by whatever means deemed appropriate and necessary, without additional compensation to the CONTRACTOR.
- J. Should any activity be twenty (20) or more working days behind schedule, the OWNER shall have the right to perform the activity or to have the activity performed by whatever method the OWNER deems appropriate. Costs incurred by the OWNER in connection with expediting construction activities under this Paragraph shall be reimbursed to the OWNER by the CONTRACTOR.
- K. It is expressly understood and agreed that failure by the OWNER to exercise the option to either order the CONTRACTOR to expedite an activity or to expedite the activity by other means shall not be considered precedent-setting for any other activities. The Work shall be executed in strict accordance with the construction schedule unless a variance has been received by the CONSTRUCTION MANAGER and approved by the OWNER.

MANUFACTURER'S CERTIFICATES

- A. When required by these Specifications, submit manufacturer's certificates to the CQA CONSULTANT for review, in quantities specified for product data.
- B. Indicate whether the material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

- C. Certificates may be recent or previous test results on material or products but must be acceptable to the CONSTRUCTION MANAGER and CQA CONSULTANT.

RECORD SURVEY AND DRAWINGS

- A. The CONTRACTOR shall keep a set of Drawings at the site and mark the as-built conditions.
- B. A complete and accurate set of record drawings shall be signed and dated by the CONTRACTOR and shall be labeled with the following: “These record drawings completely and truly represent the contract work as installed.”
- C. Record drawings shall be delivered to the CONSTRUCTION MANAGER prior to final acceptance of the Work by the CONSTRUCTION MANAGER.
- D. Record drawings shall show all changes in “clouds” to clearly identify any deviations from the Drawings.
- E. Any utilities identified in the work areas during construction shall be clearly shown on the record drawings.
- F. The record survey shall be performed by the CONTRACTOR in accordance with Section 01400 and shall meet the requirements of these Specifications and the Project’s Construction Quality Assurance (CQA) Plan.
- G. Survey of the as-built subgrade, compacted clay liner, LCRS drainage aggregate, and operations layer surfaces shall be on a grid with a maximum spacing of 50 feet or an equivalent method approved by the CQA CONSULTANT, with additional elevations at 50-foot centers along all grade breaks. The elevations for the subgrade, compacted clay liner, LCRS drainage aggregate, and operations layer surfaces shall be at the same grid locations and shall be used to document thickness conformance. The record survey shall include locations and elevations of all other Work as directed by the CONSTRUCTION MANAGER.
- H. Record drawings shall be prepared to scale, with the scale clearly marked. Record drawings of details may not be to scale, but all dimensions shall be clearly identified. Record drawings shall be submitted to the CQA CONSULTANT for review and approval. Record drawings shall be provided on bond and electronically in AutoCAD 2018 format or more recent. The DESIGN ENGINEER shall provide the base AutoCAD file map. Different elements of the Work shall be presented on different layers in the base AutoCAD file provided by the DESIGN ENGINEER.

HEALTH AND SAFETY PLAN

- A. The CONTRACTOR shall submit a Health and Safety Plan in accordance with these Specifications.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

- A. Due to the short construction period of this project, the CONTRACTOR shall abide by Toland Landfill’s Industrial General Permit SWPPP. The CONTRACTOR shall be responsible for controlling storm water run-on, run-off, erosion, and sediment to such an extent as needed to maintain compliance with the Industrial General Permit SWPPP and to protect the Work, adjacent landfill operations, and adjacent structures.

END OF SECTION

SECTION 01400

CONSTRUCTION QUALITY CONTROL AND QUALITY ASSURANCE

GENERAL

CONSTRUCTION QUALITY CONTROL

- A. The CONTRACTOR shall be responsible for construction quality control of the Work and all appurtenances as described in these Specifications.
- B. The CONTRACTOR shall monitor quality control over suppliers, manufacturers, subcontractors, products, services, site conditions, and workmanship, to produce Work of specified quality.
- C. The CONTRACTOR shall fully comply with manufacturers' instructions, including each step-in sequence.
- D. Should manufacturers' instructions conflict with the Contract Documents, the CONTRACTOR shall request clarification from the CONSTRUCTION MANAGER before proceeding.
- E. The CONTRACTOR shall comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- F. The CONTRACTOR shall perform Work using persons qualified to produce workmanship of specified quality.
- G. The CONTRACTOR shall secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.
- H. The CONSTRUCTION MANAGER shall determine and decide all questions which may arise as to the quality and acceptability of materials and Work performed; the manner of performance and the rate of progress of the Work; the interpretations of the Contract Documents relating to the Work; the acceptable fulfillment of the Contract Documents on the part of the CONTRACTOR; and the amount and quantity of the items of Work performed and materials which are to be paid for under the Contract.
- I. All materials and equipment shall be new and of the specified quality and equal to the samples found to be acceptable by the CQA CONSULTANT, if samples have been submitted.
- J. The Work shall be performed and completed in a thorough, workmanlike manner, notwithstanding omissions in the Contract Documents; and it shall be the duty of the CONTRACTOR to call the CONSTRUCTION MANAGER'S attention to apparent errors or omissions and request instructions in writing before proceeding with the Work.
- K. The CONSTRUCTION MANAGER may, by appropriate written instructions, correct errors and omissions. Instructions and corrections shall be as binding upon the CONTRACTOR as though contained in the original Contract Documents.

CONSTRUCTION QUALITY ASSURANCE

- A. Materials, equipment, methods of construction, and workmanship shall be subject to the inspection of the CQA CONSULTANT as outlined in the Project's Construction Quality Assurance (CQA) Plan. Defective materials, equipment, or work shall be replaced, corrected, or otherwise made good by the CONTRACTOR at the CONTRACTOR'S own expense.
- B. On all questions concerning the acceptability of materials or equipment, execution of the Work, and the determination of costs, the decision of the CONSTRUCTION MANAGER shall be final and binding upon all parties.
- C. The CONTRACTOR shall at all times maintain proper facilities and provide safe access to all parts of the Work, to the shops wherein the Work is in preparation, and to all warehouses and storage yards wherein materials and equipment are stored, for purposes of inspection by the CQA CONSULTANT.
- D. The CONTRACTOR shall provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the work site or at the source of products to be tested, and to facilitate tests and inspections.
- E. Notify the CQA CONSULTANT at least 24 hours prior to the expected time for operations requiring inspection services.
- F. Retesting required because of non-conformance to specified requirements shall be performed by the CQA CONSULTANT on instructions by the CONSTRUCTION MANAGER. Payment for retesting shall be charged to the CONTRACTOR by deducting inspection or testing charges from the Contract Price.
- G. Employment of the CQA CONSULTANT by the OWNER shall in no way relieve the CONTRACTOR of obligations to perform the Work in accordance with the requirements of the Contract Documents.

MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When stipulated in these Specifications, required material or product suppliers or manufacturers shall provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, and quality of workmanship as applicable and to initiate instructions when necessary.
- B. Individuals shall report observations and site decisions, or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

SURVEYING

- A. At least two control monuments shall be established by the CONTRACTOR at locations convenient for daily tie-in. The vertical and horizontal controls for these control points shall be established within normal land surveying standards. The CONTRACTOR shall use these control points in laying out and providing ongoing geometric control of the Work. The control monuments shall be shown on all record drawings.
- B. Surveying shall be performed under the direct supervision of a licensed Land Surveyor or registered Civil Engineer authorized to practice land surveying under Chapter 15, Article 3, Section 8731 of the Professional Engineering Act of California, as amended January 1, 1992, who may also be the senior surveyor on site. Personnel shall be experienced in all aspects of surveying, including detailed and accurate documentation.
- C. The survey instruments used for the Work shall be sufficiently precise and accurate to meet the needs of the Project. Survey instruments shall be capable of reading to a precision of 0.01 feet.

- D. It shall be the CONTRACTOR'S sole responsibility to control the Work so that all of the geometric requirements of the Project are met. The CONTRACTOR shall immediately notify the CONSTRUCTION MANAGER and the CQA CONSULTANT of any discrepancy found in the Work. It shall be the CONSTRUCTION MANAGER'S sole prerogative to approve or reject work which does not meet the requirements contained in these Specifications and the Drawings, but which, in the CONSTRUCTION MANAGER'S sole opinion, may nevertheless meet the intention of the Contract Documents.
- E. The CONTRACTOR shall be responsible for the accuracy of all Work and shall maintain all reference points, stakes, etc., throughout the duration of the Project. Damaged or destroyed points, benchmarks, or stakes or any reference points made inaccessible by the progress of the Work shall be replaced or transferred by the CONTRACTOR at the CONTRACTOR'S sole expense. Any of the above points shall be referenced by ties to acceptable objects and recorded. Any alternations or revisions in the ties shall be so noted and the information furnished to the CONSTRUCTION MANAGER immediately. All computations necessary to establish the exact position of the Work from control points shall be made and preserved by the CONTRACTOR. All computations, survey notes, and other records necessary to accomplish the Work shall be neatly made and shall be made available on-site for review by the CQA CONSULTANT.
- F. During the progress of the Work, the CONTRACTOR shall be required to furnish all of the surveying and stake-outs incidental to the proper location by line and grade for each phase of the Work. For any operation requiring extreme accuracy, the CONTRACTOR shall re-stake with pins or other acceptable hubs located directly adjacent to the Work at a spacing approved by the CONSTRUCTION MANAGER.

PRODUCTS

(Not Used)

EXECUTION

(Not Used)

END OF SECTION

SECTION 01510

PROJECT RECORD DOCUMENTS

GENERAL

AUTHORITY OF THE CONSTRUCTION MANAGER

- A. The CONSTRUCTION MANAGER shall decide all questions which may arise as to the quality and acceptability of materials furnished and Work performed; all questions which may arise as to the interpretation of the Drawings and these Specifications; and all questions as to the satisfactory and acceptable fulfillment of the Contract on the part of the CONTRACTOR.
- B. The OWNER shall have the authority to stop the Work if odor or dust becomes a nuisance.

AUTHORITY OF THE CQA CONSULTANT

- A. The CQA CONSULTANT employed by the OWNER shall be authorized to monitor all Work performed and materials and equipment furnished. Such monitoring may extend to all or part of the Work, and to the preparation, fabrication, or manufacture of the materials and equipment to be used. The CQA CONSULTANT shall not alter or waive the provisions of the Contract Documents.
- B. The CQA CONSULTANT shall keep the CONSTRUCTION MANAGER informed as to the progress of the Work and the manner in which it is being performed. The CQA CONSULTANT shall call the CONTRACTOR'S attention to non-conformance with the Contract Documents that the CQA CONSULTANT may have observed. The CQA CONSULTANT shall not approve or accept any portion of the Work, issue instructions contrary to the Contract Documents, or act as a foreman for the CONTRACTOR. The CQA CONSULTANT may reject defective materials, equipment, or Work subject to the final decision of the CONSTRUCTION MANAGER.
- C. The CONSTRUCTION MANAGER may delegate additional authority to the CQA CONSULTANT. In such cases, the CONSTRUCTION MANAGER shall notify the CONTRACTOR of such action.

COORDINATION AND INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

- A. The Specifications, Drawings, General Conditions, Special Conditions, Construction Quality Assurance (CQA) Plan, Contract Change Orders, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be coordinated and to describe and provide for a complete Work.
- B. Should it appear that the Work or other matters relative thereto are not sufficiently detailed or explained in the Contract Documents, the CONTRACTOR shall apply to the CONSTRUCTION MANAGER for such further explanations as may be necessary and shall conform to them as part of the Contract.
- C. In the event of a doubt or question arising regarding the true meaning of the Contract Documents, reference shall be made to the CONSTRUCTION MANAGER, whose decision thereon shall be final.
- D. In the event of a discrepancy between a drawing and the figures written thereon, and/or the Drawings and these Specifications, the CONTRACTOR shall notify the CONSTRUCTION MANAGER in writing and wait for approval before proceeding. Scaled dimensions shall not be used in the performance of the Work.

PRODUCTS

(Not Used)

EXECUTION

PERFORMANCE REQUIREMENTS

- A. The CONTRACTOR shall furnish the CONSTRUCTION MANAGER with every reasonable facility for ascertaining whether or not the Work as performed is in accordance with the requirements and intent of these Specifications and the Contract.
- B. Should a Work be covered before acceptance or consent of the CONSTRUCTION MANAGER is obtained, it shall, if required by the CONSTRUCTION MANAGER, be uncovered for examination at the CONTRACTOR'S sole expense.

END OF SECTION

SECTION 01510

PROJECT RECORD DOCUMENTS

MAINTENANCE OF RECORD DOCUMENTS

- A. CONTRACTOR shall maintain at the job site one copy of the following Contract Documents for record purposes:
- Contract Drawings
 - Specifications
 - Addenda
 - Change Orders
 - OWNER/CONSTRUCTION MANAGER Field Orders
 - Reviewed Shop Drawings
 - Clarifications or Explanatory Drawings and Specifications
 - Inspection Reports
 - Field Test Records
- B. Record documents shall be stored in the field office or other approved location, apart from documents used in the field for construction.
- C. Record documents shall not be used for construction purposes.
- D. Documents shall be made available at all times for inspection by the OWNER/CONSTRUCTION MANAGER and their authorized representatives.

RECORD DRAWINGS

- A. Project Drawings
1. CONTRACTOR shall maintain “as-built” or Record Drawings of all work and subcontracts, continuously as the job progresses. A separate set of prints, for this purpose only, shall be kept at the job site at all times.
 2. These drawings shall be kept up-to-date and may be reviewed and approved by the OWNER/CONSTRUCTION MANAGER prior to approval of monthly progress payments.
 3. All deviations from the drawings, exact locations of permanent property markers or monuments, all utilities and services, mechanical and electrical lines, details and other work shall be finally incorporated on the Record Drawings.

4. During the course of construction, actual locations to scale shall be identified on the Record Drawings for all runs of mechanical and electrical work, including all site utilities and services, installed underground, in walls, or otherwise concealed. Deviations from the Contract Drawings shall be shown in detail. All main runs, whether piping, conduit, ductwork, or drain lines shall be located by plan dimension and elevation.
5. No work shall be permanently concealed until the required information has been recorded.
6. Where the Contract Drawings are not of sufficient size, scale or detail, CONTRACTOR shall furnish his own drawings for incorporation of details and dimensions.
7. The final set of Record Drawings shall be signed and dated by the CONTRACTOR and shall include sufficient record survey data and shall be delivered to the OWNER/CONSTRUCTION MANAGER prior to the OWNER's acceptance of the Project.

B. Addenda and Change Orders

1. Changes to the Contract Drawings effected by Addenda, Change Orders or OWNER/CONSTRUCTION MANAGER's Field Orders shall be identified by number and effective date.
2. When revised drawings are issued as the basis of or along with addenda, these revised drawings shall be incorporated into the Record Drawings with appropriate annotation.

C. Shop Drawings

1. One complete set of shop drawings, including manufacturers' printed catalog cuts and data, shall be collected and maintained for record purposes.

RECORD SPECIFICATIONS

A. Project Specifications

1. Information, changes and notes shall be recorded in the specifications in blank areas, such as page margins or the back of opposite pages, or on separate sheets incorporated into the specifications book. All such information, changes and notes shall be recorded in red.
2. In each section, in an appropriate location, record the manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
3. The record specifications book shall be complete and shall include all documents and forms listed under Bidding Requirements, Contract Forms, and Terms and Conditions.
4. The record specifications book shall be delivered to the OWNER/CONSTRUCTION MANAGER prior to the OWNER's acceptance of the project.

B. Addenda, Change Orders, and Field Orders

1. All Addenda, Change Orders and OWNER/CONSTRUCTION MANAGER's Field Orders shall be incorporated into the front of the specifications book in reverse chronological order.

2. In addition, the changes to the specifications effected by Addenda, Change Order of Field Order shall be annotated on the affected page or pages of the specifications, or adjacent thereto.

SUBMITTALS

- A. At completion of the project, and before submitting invoice for final payment, CONTRACTOR shall deliver record documents to OWNER/CONSTRUCTION MANAGER.
- B. Submittal of record drawings shall be accompanied by a transmittal letter containing the following information:
 1. Date of submittal.
 2. Project title and number.
 3. CONTRACTOR's name and address.
 4. Title and number of each record document. Shop drawings may be grouped in basic categories or divisions of work.
 5. Certification that each document as submitted is complete and accurate.
 6. Signature of CONTRACTOR or authorized representative.

END OF SECTION

SECTION 01550

TEMPORARY FACILITIES

GENERAL

SUMMARY

- A. The CONTRACTOR shall provide all temporary facilities and utilities required for executing the Work; protection of employees and the public; protection of the Work from damage by fire, weather, or vandalism; and such other facilities as may be specified or required by an applicable law, ordinance, rule, or regulation.
- B. The CONTRACTOR shall provide its own office space, if necessary. The location of the office shall be approved by the OWNER.

ELECTRICAL SERVICE

- A. Electrical power may not be available at the site. The CONTRACTOR shall arrange for a temporary electric connection or supply a generator capable of providing the power required to operate tools or equipment or to provide area lighting as needed. Temporary power, whether supplied by a utility company or by a generator, shall conform to the requirements of the latest version of the National Electrical Code, the latest version of the National Electrical Safety Code, and all other applicable federal, state, and local standards, regulations, and ordinances.
- B. The allowable hours of generator operation shall be the same as the regular working hours for the Project. All generators shall be fitted with a residential quality muffler.

FIRST AID

- A. First aid kits meeting the minimum requirements of the Occupational Safety and Health Administration (OSHA) shall be provided in a readily accessible location or locations indicated in the CONTRACTOR'S Health and Safety Plan as outlined in these Specifications.

CONSTRUCTION FACILITIES

- A. Construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

STAGING AND SHORING

- A. Temporary supports shall be designed with an adequate safety factor to assure stability and adequate load bearing capacity.
- B. Trenches greater than 4 feet in depth shall be shored or sloped according to Cal/OSHA requirements.

TEMPORARY ENCLOSURES

- A. When any activity hazardous to property or the health of employees and the public is in progress, the area of that activity shall be enclosed adequately to contain the dust, overspray, or other hazards. In the event there are not permanent enclosures in the area, or such enclosures are incomplete or inadequate, the CONTRACTOR shall provide suitable temporary enclosures.

WARNING DEVICES AND BARRICADES

- A. The CONTRACTOR shall adequately identify and guard all hazardous areas, holes, pits, and conditions by visual warning devices and physical barriers. Such devices shall, at a minimum, conform to the requirements of Cal/OSHA.

HAZARDS IN PUBLIC ACCESS AREAS

- A. Trenches and other essentially continuous excavations in public access areas, running parallel to the general flow of traffic, shall be marked at reasonable intervals by traffic cones, barricades, or other suitable visual markers during daylight hours. During hours of darkness, these markers shall be provided with either torches, flashers, or other adequate lights.

FIRE EXTINGUISHERS

- A. A sufficient number of fire extinguishers of the type and capacity required to protect the work site and ancillary facilities shall be provided in readily accessible locations.

ODOR CONTROL

- A. The CONTRACTOR shall comply with the provisions for control of odors and emissions as required by the Ventura County APCD and the OWNER.

SANITATION FACILITIES

- A. The CONTRACTOR shall provide and maintain ample field latrines and ablation accommodations in accordance with Cal/OSHA requirements for all workers employed by the CONTRACTOR, including subcontractor personnel. Field latrines and ablation accommodations shall be provided and maintained in a sanitary condition at all times during the Work.

MATERIAL STORAGE

- A. A materials storage area shall be designated to the CONTRACTOR by the CONSTRUCTION MANAGER. The CONTRACTOR shall be responsible for the security of all of its materials and equipment.

PRODUCTS

(Not Used)

EXECUTION

(Not Used)

END OF SECTION

SECTION 01600

DUST CONTROL

GENERAL

- A. This work shall consist of applying water for the alleviation or prevention of dust nuisance. Dust resulting from the CONTRACTOR's performance of the work, either inside or outside the work area, shall be controlled by the CONTRACTOR.
- B. Dust control operations shall be performed by the CONTRACTOR at the time, location and in the amount required, and as often as necessary to prevent excavation or fill work, demolition operation, or other activities from producing dust in amounts harmful to person or causing a nuisance to persons living nearby or occupying buildings in the vicinity of the work. The CONTRACTOR is responsible for compliance with Fugitive Dust Regulations issued by the Ventura County Air Pollution Control District (VCAPCD).
- C. Control of dust shall be by sprinkling of water, use of approved dust preventatives, modifications of operations or any other means acceptable to the CONSTRUCTION MANAGER, the Regional Water Quality Control Board (VRWQCB), the VCAPCD, and any Health or Environmental Control Agency having jurisdiction over the facility. The engineer shall have the authority to suspend all construction operations if, in his opinion, the CONTRACTOR fails to adequately provide a dust control.

SUBMITTALS

(Not Used)

EXECUTION

- A. Access and haul roads shall be watered on a continuous basis to control dust.
- B. The OWNER may halt all operations if dust control is not sufficient in the OWNER'S opinion.
- C. Other methods of dust control and suppression may be used; however, OWNER approval must be obtained prior to such use.
- D. No visible dust will be allowed for the duration of the project.
- E. A minimum of one manned water truck shall be in operation at all times during the mass excavation to provide dust control on all excavation, haul road interim access road, stockpile and staging areas; more water trucks or other equipment may be used by the CONTRACTOR to maintain these areas in a misted condition at all times during the mass excavation, if needed.
- F. Alternative materials such as chemical dust suppressants, crushed rock or asphalt may be suggested as further means of dust control if the OWNER determines that the CONTRACTOR's dust control efforts area inadequate.
- G. The CONTRACTOR may use the OWNER'S drop tank located south of the scale house for dust control.

- H.** The OWNER may require all excavation activities to cease if the CONTRACTOR's dust control efforts fail to meet any of the requirements of these specifications, until such time that the CONTRACTOR can demonstrate a return to compliance.

END OF SECTION

SECTION 01800**SAFETY PROCEDURES****GENERAL****SUMMARY**

- A. This Section establishes the minimum safety requirements and guidelines for the performance of the Work.
- B. The CONTRACTOR is advised that decomposing refuse produces landfill gas which is approximately 50% methane (natural gas) by volume and is potentially flammable and/or explosive.
- C. The CONTRACTOR shall submit a project-specific Health and Safety Plan and a copy of its Injury and Illness Prevention Program to the OWNER for review and approval prior to beginning Work.
- D. The CONTRACTOR shall hold mandatory daily tailgate safety meetings on the site, as well as formal weekly safety meetings. The OWNER or any of the OWNER'S authorized representatives may attend these meetings.

GENERAL REQUIREMENTS

- A. The CONTRACTOR shall have sole responsibility and liability for the safety, efficiency, and adequacy of the CONTRACTOR'S personnel, equipment, and methods and for any damage or injury resulting from their failure or improper maintenance, use, or operation.
- B. The CONTRACTOR shall be solely and completely responsible for the conditions at the Work areas arising from the CONTRACTOR'S execution of the Work. This requirement shall apply continuously and not be limited to normal working hours.
- C. The CONTRACTOR shall provide all personnel working on the Project with orientation and training on the potential hazards anticipated and the appropriate use of safety equipment.
- D. The CONTRACTOR'S dirt-hauling equipment's path of travel may at times intersect the general public's path of travel on the landfill. The CONTRACTOR is responsible for providing adequate traffic control at these intersections, up to and including full-time traffic control personnel, to the satisfaction of the CONSTRUCTION MANAGER or OWNER.
- E. Neither the OWNER nor the CONSTRUCTION MANAGER shall have liability resulting from injury or death to CONTRACTOR'S employees or subcontractors and their employees.
- F. A health and safety officer, employed by the CONTRACTOR, shall be present at all times during construction of underground facilities. The health and safety officer may be the site Superintendent or other responsible regular employee of the CONTRACTOR provided he/she has had special health and safety training. The health and safety officer shall have responsibility for the enforcement of the Health and Safety Plan, particularly as it applies to drilling and excavation activities. The health and safety officer shall be identified by name in the Health and Safety Plan.
- G. Many gases are heavier than air and settle in low areas such as trenches and excavations; therefore, additional precautions shall be observed in these areas. Specifically, the need for constant O₂ monitoring,

forced ventilation, combustible gas monitoring, VOC monitoring, respiratory protective equipment, etc. shall be determined by the CONTRACTOR. The CONSTRUCTION MANAGER may impose additional requirements when deemed necessary for worker safety.

HEALTH AND SAFETY PLAN

- A. The CONTRACTOR shall develop and maintain for the duration of the Work a written, site-specific Health and Safety Plan that shall effectively incorporate and implement all applicable requirements. This plan shall meet the requirements of California Code of Regulations (CCR) Title 8, Section 5192.
- B. In addition to requirements set forth in other sections of these Specifications, the CONTRACTOR'S Health and Safety Plan shall contain provisions for aspects of protection against bodily injury from heavy construction equipment, tools, and equipment required to construct the Project.
- C. The Health and Safety Plan shall include the location and route to the nearest hospital or emergency facility. All CONTRACTOR employees and subcontractors working on the Project shall be thoroughly familiar with the emergency route.
- D. In the event the Health and Safety Plan is determined by the CONSTRUCTION MANAGER, OWNER, or the state or federal regulatory agencies to be inadequate to protect the employees and the public, the plan shall be modified prior to the beginning of Work to meet the minimum requirements of the OWNER or the state or federal regulatory agencies at no additional cost to the OWNER.
- E. Acceptance of the CONTRACTOR'S Health and Safety Plan by the OWNER does not release the CONTRACTOR of liability in the event of an accident or injury, nor does it place any liability on the CONSTRUCTION MANAGER or OWNER.
- F. Provisions shall be made to protect against ingestion, absorption, or inhalation of hazardous compounds and for the handling of refuse in a safe, sanitary, and proper manner.
- G. The CONTRACTOR'S Health and Safety Plan shall contain trenching and excavation safety guidelines particular to landfill work.

REGULATORY REQUIREMENTS

- A. The CONTRACTOR shall comply with the provisions of safety regulatory bodies including, but not necessarily limited to:
 - 1. OSHA and Cal/OSHA regulations for construction.
 - 2. 29 Code of Federal Regulations (CFR) Parts 1926 and 1910.
 - 3. CCR Title 8, in particular Section 5192.
 - 4. All other applicable federal, state, county, and local laws, ordinances, codes, and requirements.
- B. If any of these requirements are in conflict, the more stringent requirement shall apply. The CONTRACTOR'S failure to be thoroughly familiarized with the aforementioned safety and health provisions shall not relieve the CONTRACTOR of responsibility for full compliance with the obligations and requirements set forth herein.

SPECIAL SAFETY CONSIDERATIONS RELATED TO LANDFILL WORK

- A. Portions of the Work involve excavation and removal of and construction near municipal refuse. The refuse to be encountered is reported to be municipal solid waste, debris from clearing and grubbing activities, commercial waste, and possibly a small amount of industrial waste. The landfill emits landfill gas, which contains methane, carbon dioxide, and trace volatile gases which may be toxic, hazardous, and/or carcinogenic.
- B. The CONTRACTOR is advised that decomposing refuse produces landfill gas which is approximately 50% methane (natural gas) by volume and may contain hydrogen sulfide and trace volatile gases which may be toxic, hazardous, and/or carcinogenic. Landfill gas is colorless; can be odorless; is combustible; may contain hydrogen sulfide, toxic, or hazardous material; and may lack oxygen. Landfill gas can also migrate through several thousand feet of soil adjacent to landfills. The CONTRACTOR is therefore advised of the need for precautions against fire, explosion, toxic exposure, and asphyxiation when working in or near excavations on the project site.
- C. The landfill may contain leachate liquid contaminated with substances found in the landfill which may be corrosive, toxic, carcinogenic, mutagenic, or otherwise hazardous.

PRODUCTS

(Not Used)

EXECUTION

GENERAL REQUIREMENTS

- A. The CONTRACTOR shall assume full responsibility to assure that, during construction, its employees and its subcontractor's employees follow the Health and Safety Plan.
- B. The CONTRACTOR shall hold mandatory weekly safety meetings on the site. The CONTRACTOR shall notify the CONSTRUCTION MANAGER of the time and place of all meetings and allow the CONSTRUCTION MANAGER, CQA CONSULTANT, and/or OWNER to participate. Meetings should reiterate safety measures to be taken and discuss any violations committed and preventive measures to avoid future violations.
- C. The CONTRACTOR shall require all personnel on the site to wear the appropriate personal protective equipment (PPE) such as steel-toed boots, hard hats, high-visibility safety vests, safety belts and lanyards, safety glasses, and others.
- D. The CONTRACTOR shall provide appropriate fall protection (i.e., harness and shock absorbing lanyard) that must be worn and secured to a stationary object when working within a distance of 10 feet of an excavation greater than 8 inches in diameter or deeper than 4 feet.
- E. No smoking or consumption of alcohol or any drug which could impair sight, balance, or judgment shall be permitted on the Project site.

TRENCHING SAFETY

- A. The CONTRACTOR shall make every reasonable effort to complete each excavated trench prior to the end of the working day. A trench shall be considered complete if it has been completely backfilled. For trenches that cannot be reasonably completed the same day they are excavated (e.g., geosynthetic anchor

- trenches), appropriate safety measures shall be taken to prevent accidental entry into the trenches (e.g., place covers over the open trenches, cordon off the open trenches using appropriate safety devices and signage, etc.).
- B. Any time excavations and trenching exceed 4 feet in depth, appropriate shoring, bracing, or sloping of the side walls is required prior to entry. If sloping is the method used, side walls of the trench shall be sloped at an inclination no steeper than 1.5H:1V (horizontal:vertical).
 - C. Welding is to be avoided within the barricaded area. If HDPE pipe welding is performed in the trench, continuous methane monitoring shall be performed.
 - D. Solvent cleaning, gluing, or bonding of pipe shall be done, to the extent practicable, outside the trench.
 - E. All trenches shall be backfilled as soon as practical after excavation, and under no circumstances shall a trench remain open after the crew has left the vicinity of the trench unless appropriate safety measures have been taken. All exposed refuse must be covered at the end of each day using cover soil or a tarp.
 - F. Electric motors shall not be used in trenches. Pneumatic operated tools shall be used in trenches.

VIOLATIONS

- A. Should any health and safety violations be called to the CONTRACTOR'S attention by anyone, the CONTRACTOR shall immediately correct the violations.
- B. If the CONTRACTOR violates any health and safety rule or regulation, the OWNER may issue an order to stop all work until the violation(s) are remedied. The CONTRACTOR shall not be entitled to any extension of the time or any claim for damage or to any compensation for either the directive or the work suspension order. A decision by the OWNER not to order discontinuance of any or all of the CONTRACTOR'S operations shall not relieve the CONTRACTOR of responsibility for safety.

END OF SECTION

SECTION 02075

DISPOSAL OF REFUSE

GENERAL

SUMMARY

- A. This Section covers the disposal of construction waste, including construction debris and refuse.
- B. All refuse and spoils generated during construction shall be disposed of in a legal manner subject to approval by the OWNER.
- C. Refuse excavated during the course of construction (if encountered) shall be disposed of in the areas on-site designated by the OWNER. The designated disposal areas shall be within the permitted limits of the Toland Road Landfill.

REGULATORY COMPLIANCE

- A. The CONTRACTOR shall comply with all CalRecycle, Ventura County APCD, and RWQCB requirements for disposal of waste materials.

PRODUCTS

MATERIALS

- A. Clean cover soil necessary to provide daily cover of deposited refuse shall be supplied and placed by the OWNER.

EXECUTION

NORMAL WASTE DISPOSAL

- A. Refuse material shall be disposed of in the designated disposal areas approved by the OWNER.
- B. The CONTRACTOR shall ensure that no waste material extends above the sides or rear of the truck or trailer during transport. The CONTRACTOR shall cover the waste during transport. Any waste material dropped during transport shall be immediately picked up.
- C. The CONTRACTOR shall keep the landfill surface and all haul roads free of waste materials including excess soil.
- D. Any refuse uncovered by the CONTRACTOR shall be deposited at one of the designated disposal areas no later than the end of the working day on which it was uncovered. All remaining exposed refuse in the work areas that is acceptable to leave in-place shall be completely covered with clean soil or other OWNER-approved material no later than the end of the working day on which it was exposed.

END OF SECTION

SECTION 02100

EROSION CONTROL

GENERAL

DESCRIPTION

- A. This Section describes the general requirements for temporary erosion control measures associated with the performance of the Work.
- B. Temporary erosion control measures shall be proposed and implemented by the CONTRACTOR through the preparation of and compliance with Toland Road Landfill's Industrial General Permit Stormwater Pollution Prevention Plan ("Site SWPPP").

RELATED SECTION

(Not Used)

SUBMITTALS

(Not Used)

DELIVERY, STORAGE, AND HANDLING

- A. Straw Wattles
 - 1. Wattle labeling, shipment, and storage shall follow the manufacturer's written storage and handling procedures. Product labels shall clearly show the manufacturer or supplier name, wattle diameter, and wattle length.
 - 2. During storage, wattles shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation (including sunlight), chemicals that are strong acids or strong bases, flames (including welding sparks), excess temperatures, and any other environmental conditions that may damage the physical properties of the wattles.

PRODUCTS

STRAW WATTLES

- A. Straw wattles shall be 9 inches in diameter and shall be manufactured from certified 100% weed-free rice straw that is wrapped in a tubular plastic netting. Straw wattles shall be as manufactured by Earth Saver® or an OWNER-approved equivalent.

EXECUTION

GENERAL

- A. The CONTRACTOR shall comply with the provisions of the Site's SWPPP for temporary erosion control measures during execution of the Work.
- B. The CONTRACTOR shall be responsible for maintaining the temporary erosion control measures throughout the entire duration of the Project.
- C. The CONTRACTOR shall be responsible for controlling/managing stormwater run-off from Work areas that may cause eroded materials to be deposited at locations outside the limits of the Work.
- D. The CONTRACTOR shall take all measures necessary to ensure that the OWNER'S operations are not impacted by stormwater or eroded sediments from the Work areas.
- E. Any sediment releases that result in damage or permit violations that are a direct or indirect result of the CONTRACTOR'S activities or lack thereof shall be the responsibility of the CONTRACTOR.
- F. The CONTRACTOR shall leave the site clean and free of debris and excess sediment upon completion of the Work.

STRAW WATTLE INSTALLATION

- A. Straw wattles shall be installed after the surrounding ground surface has been graded to the design elevations shown on the Drawings.
- B. Straw wattles shall be in-place prior to any hydroseeding operations.
- C. The CONTRACTOR shall install the straw wattles in accordance with the manufacturer's recommendations.

END OF SECTION

SECTION 02110

SITE CLEARING, GRUBBING, AND STRIPPING

GENERAL

DESCRIPTION

- A. This Section describes the general requirements for site clearing, grubbing, and stripping associated with the performance of the Work.
- B. Site clearing, grubbing, and stripping shall be performed to remove all unsuitable materials from the Work areas.

RELATED SECTION

- A. Section 02200 – Earthworks.

PRODUCTS

MATERIALS

- A. Unsuitable materials include, but are not limited to, the following: organic matter and vegetative growth; refuse; construction debris; over-sized materials (as defined in these Specifications); soft, loose, weak, or saturated soils; slide masses; non-engineered fills or other deposits that are deemed unsuitable by the CQA CONSULTANT; and any other deleterious materials.

EXECUTION

PROTECTION

- A. Locate, identify, flag, and protect any existing utilities that shall remain.
- B. Protect existing groundwater monitoring wells, piezometers, perimeter landfill gas monitoring probes, and survey benchmarks from any damage or displacement.
- C. Remove and salvage any existing fencing, to the extent possible, or as directed by the CONSTRUCTION MANAGER.

CLEARING, GRUBBING, AND STRIPPING

- A. Clear areas required for access to the site and execution of the Work.
- B. The CONTRACTOR shall remove all unsuitable materials from subgrade surfaces, including stockpile subgrades. Small shrubs shall be removed by hand and disposed of at a location identified by the CONSTRUCTION MANAGER. Vegetative growth greater than 1 inch in maximum dimension shall be removed below the subgrade surface.
- C. The CONTRACTOR shall consider that clearing, grubbing, and stripping may necessitate the use of manual labor to remove all unsuitable materials from the subgrade surfaces.

- D. The CONTRACTOR shall remove soft, loose, weak, or saturated soils as approved by the CQA CONSULTANT. These materials shall be removed until a firm and unyielding subgrade that is approved by the CQA CONSULTANT is exposed. These removals may result in over-excavation in some areas as described in Section 02200 of these Specifications.
- E. All removed unsuitable materials shall be disposed of on-site in an area(s) designated by the CONSTRUCTION MANAGER. No accumulation of flammable material shall remain on or adjacent to the Work areas.

END OF SECTION

SECTION 02200**EARTHWORKS****GENERAL****SUMMARY**

- A. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary to perform all excavation, backfilling, compaction, and grading required to complete the Work shown on the Drawings and specified herein. The Work shall include, but not necessarily be limited to, survey and staking, mass excavation, excavation for trenches/channels and pipes, excavation for liner overlapping existing waste, all backfilling and compaction, grading, disposal of refuse and surplus materials, stockpiling of excess soil, and all related work such as shoring, bracing, and de-watering.
- B. The CONTRACTOR shall comply with the safety procedures given in Section 01800 of these Specifications.
- C. Work related to the compacted clay liner is discussed in Section 02220 of these Specifications.
- D. Work related to the operations layer is discussed in Section 02228 of these Specifications.

REFERENCE STANDARDS AND DOCUMENTS

- A. ASTM International (ASTM) standards, latest editions:
 - 1. ASTM D1556 – Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
 - 2. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort.
 - 3. ASTM D2216 – Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
 - 4. ASTM D2419 – Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
 - 5. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
 - 6. ASTM D2937 – Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method.
 - 7. ASTM D4643 – Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating.
 - 8. ASTM D6913 – Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis.
 - 9. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
 - 10. ASTM D8167 – Standard Test Method for In-Place Bulk Density of Soil and Soil-Aggregate by a Low-Activity Nuclear Method (Shallow Depth)

- B. Standard Specifications for Public Works Construction (SSPWC), latest edition.

QUALITY ASSURANCE AND QUALITY CONTROL

- A. The CONTRACTOR shall adhere to the requirements of Section 01400 of these Specifications.
- B. Compaction testing of engineered fill and backfill shall be performed by the CQA CONSULTANT. Testing shall be performed at locations to be determined by the CQA CONSULTANT, in order to determine if the soils meet the compaction requirements. Costs for testing to verify compaction and soil moisture content shall be assumed by the OWNER. The cost of retesting, should corrections to construction be required, shall be the responsibility of the CONTRACTOR.
- C. The OWNER shall have complete authority to order immediate stoppage of work due to use of improper construction procedures, or for any reason that in its sole opinion, may result in a defective work.

DEFINITIONS

- A. Excavation: Consists of the removal of material encountered to subgrade elevations and the reuse, stockpiling, or disposal of materials removed.
- B. Subgrade: The uppermost surface of an excavation, the top surface of a fill, and/or the surface upon which geosynthetics or cast-in-place concrete is placed.
- C. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the CONSTRUCTION MANAGER. Unauthorized excavation, as well as remedial work directed by the CONSTRUCTION MANAGER, shall be at the CONTRACTOR'S sole expense.
- D. Utilities include on-site above ground and underground pipes, conduits, ducts, and cables, as well as underground services.

RELATED SECTIONS

- A. Section 01300 – Submittals.
- B. Section 01400 – Construction Quality Control and Quality Assurance.
- C. Section 01800 – Safety Procedures.
- D. Section 02110 – Site Clearing, Grubbing, and Stripping.
- E. Section 02220 – Compacted Clay Liner.
- F. Section 02228 – Operations Layer.
- G. Section 02756 – Geosynthetic Clay Liner.

SUBMITTALS

- A. The CONTRACTOR shall provide 75-pound samples and conformance test results of any import soils and drainage aggregate. The submittals shall be prepared in accordance with Section 01300 of these Specifications.

PRODUCTS

MATERIALS

A. General

1. Any and all soils testing information, such as reports and analytical testing data associated with imported material, shall be submitted to and approved by the CQA CONSULTANT prior to delivery of materials to the site.
2. The OWNER reserves the right to rescind import material authorization immediately under any one of the following conditions:
 - a. If the import material is considered to be toxic or contaminated, or does not meet the above-listed requirements. Such rejected materials shall be removed immediately by the CONTRACTOR or the OWNER shall remove such materials and the CONTRACTOR shall be billed for such work. Additionally, fines and citations may be imposed by regulatory agencies.
 - b. If drivers are speeding or driving recklessly.
 - c. If fill is no longer required.
3. The OWNER may reduce, without penalty, the number of daily loads if, in the opinion of the OWNER, deliveries cause dangerous traffic conditions, disrupt normal business within the area, or if significant complaints are received from nearby businesses.

B. LCRS Drainage Aggregate (i.e., LCRS Gravel):

1. LCRS drainage aggregate shall be placed over the composite liner system on the floor as shown on the Drawings.
2. LCRS drainage aggregate shall consist of rounded or sub-rounded gravel or crushed rock, clean, hard, durable, non-carbonate particles which are free of any metals, roots, trees, stumps, concrete, construction debris, or any other organic matter or deleterious material.
3. LCRS drainage aggregate shall conform to the following gradation requirements:

Sieve Size	Percent Passing (by weight)
1 inch	100
No. 4	0 to 5

4. The hydraulic conductivity of the LCRS drainage aggregate shall be no less than 0.1 cm/sec as measured in accordance with ASTM D2434.

C. Engineered Fill

1. Engineered fill material shall be obtained from the on-site Phase 4C mass excavation. Material shall be free from roots, wood, organic matter, refuse, or other deleterious matter; shall contain no rocks or lumps over 6 inches in greatest dimension; and shall contain no protuberances greater than 1 inch in areas to be lined with geosynthetics. Engineered fill material shall be sufficiently well-graded to prevent the formation of subsurface voids in the fill mass. Cobbles up to 12 inches may be used in fills that are greater than 2 feet below the bottom of the liner system provided they are placed such that they are surrounded by compacted fill material; no nesting of cobbles shall be permitted.
2. Engineered fill material placed within 1 foot of geosynthetics in anchor trenches shall have a maximum particle size of 1 inch.
3. Suitable materials resulting from excavations should be stockpiled for future use. All unsatisfactory and surplus satisfactory excavated material shall be disposed at the designated disposal area by the CONTRACTOR.

D. Bedding Material

1. Bedding material for use around buried pipes shall be sand or pea-gravel material having a maximum particle size of 3/8 inch and no more than 15% passing the US No. 200 sieve. Pipe bedding material shall be free from roots, wood, organic matter, refuse, or other deleterious matter.

E. Class 2 Aggregate Base

1. Class 2 aggregate base material shall be imported from an approved borrow source and shall conform to the requirements of Caltrans Standard Specifications Section 26 for Class 2 aggregate base (3/4-inch maximum).
2. Aggregate may include material processed from reclaimed asphalt, Portland cement concrete, lean concrete base, cement treated base, or a combination of any of these materials.
3. Aggregate shall not contain glass.

F. Construction Water

1. Construction water shall be potable water or reclaimed water approved for use by OWNER.
2. The CONTRACTOR shall be responsible for the supply of water for dust control and soil preparation. Water is available on-site. CONTRACTOR shall be responsible for piping water to the project area.

EXECUTION

GENERAL

- A. The CONTRACTOR shall be solely responsible for the satisfactory completion of all earthworks in accordance with the Drawings and these Specifications.
- B. Equipment used in the excavation, transport, placement and compaction of all materials used in construction shall be standard of practice grading machinery of known specifications suitable for

performing the required work in a timely and efficient manner. All equipment used shall meet Ventura County Air Pollution Control District (VCAPCD) Air Quality Management Plan (AQMP) and California Air Resources Control Board (CARB) Tier 4 Emissions Standards.

- C. All material considered by the CQA CONSULTANT to be unsuitable for use in the construction of engineered fill shall be removed. All materials incorporated as part of engineered fill must be inspected and placement must be observed by the CQA CONSULTANT. Unsuitable material shall be disposed of in the designated area.
- D. Where work is interrupted by heavy rains, engineered fill operations shall not be resumed until observations and field tests by the CQA CONSULTANT indicate the moisture content and density of the in-place fills and/or materials intended for placement are within the previously specified requirements.
- E. If any unanticipated earth conditions of an adverse or potentially adverse nature are encountered during grading, the CONTRACTOR shall immediately notify the CQA CONSULTANT. The CQA CONSULTANT and DESIGN ENGINEER shall investigate, analyze, and make recommendations to mitigate these conditions.
- F. Throughout construction, all excavated and/or fill areas shall be graded to provide positive drainage and prevent ponding of water. Surface water shall be controlled to avoid damage to adjoining properties or to finished work on the site.
- G. No heavy equipment shall be permitted to operate within 5 feet of existing wellheads or piping. Compaction of material within these limits shall be completed with hand equipment.
- H. The CONTRACTOR shall apply water to any exposed earthen areas during construction to minimize airborne dust. This shall include active and inactive excavation areas, haul roads, and any non-vegetated stockpiles. The CONTRACTOR shall be responsible for complying with all state and local regulations regarding dust and/or air quality.

CONTROL OF WATER

- A. The CONTRACTOR shall excavate and backfill in a manner and sequence that shall provide proper drainage at all times. The CONTRACTOR shall remove all water, including runoff and run-on collected from rainwater encountered during excavation, to a location approved by the CONSTRUCTION MANAGER, by pumps, drains, and other approved methods.
- B. The CONTRACTOR shall take all necessary precautions to preclude the accidental discharge of fuel, oil, etc. and to prevent such accidents that may endanger the environment. The CONTRACTOR shall be responsible for the cost of remediating the results of any such discharges or accidents.

EXCAVATION

- A. All excavation shall be performed regardless of the type, nature, or condition of the material encountered. The CONTRACTOR shall make its own estimate of the kind and extent of the various materials to be excavated in order to accomplish the work. The CONTRACTOR shall stockpile excess materials at the on-site locations designated on the Drawings and as indicated by the OWNER.
- B. Excavation shall include the removal of all water and materials of any nature which interfere with the construction work. Stockpiles of removed materials shall be placed a minimum horizontal distance from the edges of trenches equal to the depth of the adjacent trench, unless approved otherwise by the

- CONSTRUCTION MANAGER. Excavated materials shall be stockpiled on-site as shown on the Drawings and as indicated by the OWNER.
- C. The method of excavation used is optional; however, no equipment shall be operated within 5 feet of existing structures or newly completed construction. Excavation by machine that may endanger the present or new structures shall not be permitted. Excavation in such areas shall be performed with hand tools.
 - D. Soil subgrade areas beneath clay liner, not comprised of native bedrock, shall be over-excavated and recompacted as engineered fill for a depth of 5 feet. If clay liner subgrade is underlain by bedrock materials no over-excavation is required. Bedrock areas should be graded to obtain profile shown on plans.
 - E. The CONTRACTOR shall perform excavations to the depths and widths as shown on the Drawings as well as to allow for forms, working space, pipe bedding materials, and the like, as required. Once a given reach of trench has been excavated, the CONTRACTOR shall check for alignment and grade. All trenches shall have a grade check every 50 feet, or less if so specified by the CONSTRUCTION MANAGER, and at all angle points and corners.
 - F. Subgrade areas on natural slopes steeper than 5H:1V that will receive fill shall be benched. The typical height and width of the benches shall be 4 feet and the benches shall extend completely into either native materials or engineered fill. Benching shall not be required when the subgrade is underlain by refuse or for material stockpile subgrades.
 - G. The CONTRACTOR shall expose the edges of the existing Phase 4B liner system to allow the Phase 4C liner system to be tied into the existing Phase 4B liner system as shown on the Drawings. Exposing the edges of the existing liner systems will require removal of existing soils and other materials overlying and surrounding the edges of the liner systems.
 - H. Ripping and Blasting
 - 1. Excavation methods shall be consistent with the soil and rock types encountered. Non-rippable material is not anticipated in the excavations and, therefore, blasting of the soil or rock materials shall not be allowed for excavation purposes. If non-rippable material is encountered in a portion of the excavation, the CONTRACTOR shall immediately cease work in that area and notify the OWNER of the location and extents of the non-rippable material.
 - I. Stockpiles
 - 1. The CONTRACTOR shall stockpile excavated materials as shown on the Drawings or as directed by the CONSTRUCTION MANAGER and/or OWNER.
 - 2. The CONTRACTOR shall implement erosion control measures for the stockpiles in accordance with Section 02110 of these Specifications.
 - 3. Stockpiles shall be graded to provide positive drainage at all times.
 - 4. Side-slopes shall be no steeper than 2H:1V and the benches shall maintain a minimum 5 percent grade inward in traverse directions and 2 percent grade in longitudinal directions. The CONTRACTOR shall include a minimum 15-foot-wide drainage bench every 50 vertical feet or as shown on the Drawings or approved by the OWNER.
 - J. Excavation Cut Slopes

1. All excavation cut slopes made in native materials shall be periodically examined by a certified engineering geologist or geotechnical engineer during the excavation. Any adverse conditions such as unstable rock blocks or unfavorably oriented discontinuities observed on the cut slopes shall be brought to the immediate attention of the OWNER and DESIGN ENGINEER.

PLACEMENT OF ENGINEERED FILL

- A. Prior to placing engineered fill, the CONTRACTOR shall remove uncertified existing fills, disturbed soils, soft/saturated sediments, and unsuitable materials from the fill areas to the satisfaction of the CQA CONSULTANT.
- B. The ground surface to receive fill shall be scarified to a depth of 6 inches. The scarified ground surface shall then be brought to within 3 percent of its optimum moisture content, mixed as required, and compacted to at least 90 percent of its maximum dry density as determined by ASTM D1557. If the scarified zone is greater than 12 inches in depth, the excess shall be removed and placed as engineered fill in loose lifts not to exceed 8 inches in thickness. Prior to fill placement, the ground surface to receive fill shall be approved by the CQA CONSULTANT.
- C. Engineered fill shall be placed in loose lifts not to exceed 8-inches thick, brought to a uniform moisture content within 3 percent of optimum, and compacted to at least 90 percent of its maximum dry density as determined by ASTM D1557.
- D. Where tests indicate the moisture content or density of any layer of fill or portion thereof is below the requirements of these Specifications, that particular layer or portion thereof shall be reworked until the required moisture or density has been attained. No additional fill shall be placed over an area until the prior fill lift has been tested and meets the requirements of these Specifications to the satisfaction of the CQA CONSULTANT.
- E. In the event of rain or another reason, if the moisture content of previously placed fill material or processed soils intended for placement is more than 6 percent above its optimum as determined by ASTM D1557, the fill material shall be aerated by blading, discing, or another satisfactory method until the moisture content is within 3 percent of its optimum moisture content as determined by ASTM D1557. Any previously compacted materials which are disturbed (aerated, bladed, etc.) to reduce or increase the moisture content must be recompacted in accordance with these Specifications and to the satisfaction of the CQA CONSULTANT once specified moisture contents are attained.

SURFACE PREPARATION

- A. All slope subgrade surfaces to be overlain by geosynthetic clay liner shall be rolled with a smooth drum roller.
- B. All soil subgrade surfaces to be overlain by geosynthetic clay liner shall be smooth, uniform, firm, and free of protrusions or depressions. The CQA CONSULTANT and Geosynthetics INSTALLER shall make the determination of whether geosynthetic subgrade surfaces are acceptable, to confirm that warranty conditions are met prior to deployment of any geosynthetic materials coming in direct contact with the subgrade. The CONTRACTOR shall consider that manual removal/repair of unacceptable areas may be required and shall be considered inherent to the Work described herein.
- C. Finished surface of liner subgrade shall be hand trimmed to (if required) provide a smooth and uniform surface for placement of liner.
- D. The CONTRACTOR shall be responsible for protecting liner subgrade from desiccation or erosion until it is accepted, in segments, by geosynthetic CONTRACTOR.

- E. Any soft or loose areas shall be over-excavated and backfilled with engineered fill to the satisfaction of the CQA CONSULTANT. The upper 8 inches of the subgrade shall be compacted to at least 90 percent of its maximum dry density as determined by ASTM D1557.

TRENCH EXCAVATION AND BACKFILL

- A. All trenches, including anchor trenches for geosynthetics, shall be excavated to the lines, grades, and dimensions indicated on the Drawings. All trench excavation, backfill, and compaction shall be in accordance with the pertinent provisions of this Section.
- B. All pipe work placed inside trenches shall have a minimum clearance of 12 inches from any protrusions from the trench side walls or bottom, unless shown otherwise on the Drawings.
- C. The CONTRACTOR shall backfill excavated trenches as promptly as progress of the work permits and immediately after the pipe has been laid, joined, and tested.
- D. The trench bottom shall be compacted to provide a uniform bed for the pipe. Bedding sand or pea gravel shall be placed around buried pipes as shown on the Drawing.
- E. The CONTRACTOR shall compact the engineered fill for trench backfill to at least 90 percent of its maximum dry density and within 4 percent of its optimum moisture content as determined by ASTM D1557.
- F. Trench backfill shall be placed as shown on the Drawings. The backfill shall not be placed at ambient temperatures below 32°F nor above 110°F unless otherwise specified. The fill shall be placed in a manner that does not cause movement or excessive wrinkling of, or induce excessive wrinkling of the geosynthetics. Fill placement shall not damage any pipes in trenches. The CONTRACTOR shall not operate equipment directly on any geosynthetics.
- G. Geosynthetic anchor trenches shall be backfilled with engineered fill. In the geosynthetic anchor trenches, the initial lift of engineered fill shall be placed to a loose thickness of 12 to 14 inches on the bottom of the anchor trench to provide protection for the underlying geosynthetics.

PLACEMENT OF DRAINAGE AGGREGATE

- A. Grading for spreading LCRS drainage aggregate materials shall be with a low ground pressure dozer or tracked vehicle (exerting less than 6 psi ground pressure) operating on a minimum of 9 inches of aggregate above the geosynthetic layers. Delivery equipment of LCRS drainage aggregate material shall not travel over bottom floor liner that is not protected by a minimum of 3 feet of cover (e.g., 12 inches of LCRS rock plus 24 inches of operations layer).
- B. The CONTRACTOR shall protect all piping and geosynthetics from damage during placement of the drainage aggregate.
- C. The CONTRACTOR shall take the appropriate steps to minimize wrinkle generation in the geosynthetic materials during placement of the drainage aggregate. These measures may include placing material in the early morning hours when the geosynthetic materials are cool and monitoring and walking out wrinkles in the geosynthetic materials that appear at the face of the placement operations. Wrinkles which may fold and/or crease shall be removed and repaired in accordance with these Specifications.

PLACEMENT OF CLASS 2 AGGREGATE BASE

- A. Prior to placing Class 2 aggregate base, the CONTRACTOR shall remove uncertified existing fills, disturbed soils, soft/saturated sediments, and unsuitable materials from the fill areas to the satisfaction of the CQA CONSULTANT.
- B. The ground surface to receive Class 2 aggregate base shall be scarified to a depth of 6 inches. The scarified ground surface shall then be brought to within 4 percent of its optimum moisture content, mixed as required, and compacted to at least 95 percent of its maximum dry density as determined by ASTM D1557. Prior to Class 2 aggregate base placement, the subgrade to receive aggregate base shall be approved by the CQA CONSULTANT.
- C. Class 2 aggregate base shall be placed in maximum 8-inch-thick loose lifts, brought to a uniform moisture content within 3 percent of optimum, and compacted to at least 95 percent of its maximum dry density as determined by ASTM D1557.
- D. Where tests indicate the moisture content or density of any layer of aggregate base or portion thereof is below the requirements of these Specifications, that particular layer or portion thereof shall be reworked until the required moisture or density has been attained. No additional aggregate base shall be placed over an area until the prior aggregate base lift has been tested and meets the requirements of these Specifications to the satisfaction of the CQA CONSULTANT.
- E. In the event of rain or another reason, if the moisture content of previously placed aggregate base material is more than 6 percent above its optimum as determined by ASTM D1557, the material shall be aerated by blading, discing, or another satisfactory method until the moisture content is within 3 percent of its optimum moisture content as determined by ASTM D1557. Any previously compacted materials which are disturbed (aerated, bladed, etc.) to reduce or increase the moisture content must be recompacted in accordance with these Specifications and to the satisfaction of the CQA CONSULTANT once specified moisture contents are attained.
- F. The CONTRACTOR shall take the proper precautions when placing Class 2 aggregate base over woven geotextile such that the woven geotextile is not damaged. A minimum of 6 inches of aggregate base shall be maintained between the woven geotextile and construction equipment. Under no circumstance shall construction equipment be allowed to drive directly on the woven geotextile.

TOLERANCES

- A. The final surface of the subgrade shall be finished to the grades indicated on the Drawings within ± 0.1 foot of the specified elevation.

IMPORTED MATERIAL DELIVERY

- A. Prior to delivery, a delivery plan and schedule shall be developed by the CONTRACTOR and presented to the CONSTRUCTION MANAGER to determine quantities to be delivered, daily hours, days for deliveries, locations of deliveries, and stockpile sites (if applicable) to be used.
- B. Delivery may be made in semi-end dump trucks, 10-wheelers, bobtails, and bottom dumps, or other vehicles as approved by the CONSTRUCTION MANAGER. Occasionally, conditions and operating area may preclude use of bottom dumps.

EXCAVATION BELOW GRADE

- A. All excavation shall be performed within the limits of the work to the lines, grades, and elevations indicated and specified herein. The CONTRACTOR shall not excavate or remove materials beyond indicated subgrade elevations or dimensions unless shown otherwise on the Drawings or without the approval of the CONSTRUCTION MANAGER. The CONTRACTOR shall backfill and compact any unauthorized excavation to the satisfaction of the CONSTRUCTION MANAGER at no additional cost to the OWNER.

END OF SECTION

SECTION 02220

COMPACTED CLAY LAYER

GENERAL

SUMMARY

- A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to perform all excavation, hauling, stockpiling, grain size processing, moisture conditioning, compaction and grading required to complete the work for the compacted clay liner as shown on the Drawings and specified herein. The compacted clay liner shall have a minimum thickness of 2 feet. The Work shall include, but not necessarily be limited to, survey and staking, mass excavation, all backfilling and compaction, grading, stockpiling of excess clay material, and all related work such as dewatering.

RELATED SECTIONS

- A. Section 02110 – Site Clearing, Grubbing, and Stripping
- B. Section 02200 – Earthworks
- C. Section 02751 – HDPE Geomembranes

REFERENCE STANDARDS AND DOCUMENTS

- A. ASTM International (ASTM), latest editions:
1. ASTM D1556 - Test Method for Density of Soil In-Place by the Sand Cone Method.
 2. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb. Rammer and 18-inch Drop.
 3. ASTM D2216 - Moisture Content (direct oven drying).
 4. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
 5. ASTM D2937 - Drive Cylinder Test for Density of Soil.
 6. ASTM D4318 - Atterberg Limits Standard Test Method for determining plasticity index for soils.
 7. ASTM D4643 - Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating.
 8. ASTM D5084 - Shelby Tube Permeability for determining falling head permeability on fine grained soils.
 9. ASTM D5321 - Standard Test Method for Determining Interface Shear Strength.

10. ASTM D6913 – Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis.
11. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
12. ASTM D8167 – Standard Test Method for In-Place Bulk Density of Soil and Soil-Aggregate by a Low-Activity Nuclear Method (Shallow Depth)

SUBMITTALS

(Not Used)

QUALITY ASSURANCE/CONTROL

- A. The CONTRACTOR shall adhere to the requirements of Section 01400 of these Specifications.
- B. Compaction testing of the Compacted Clay Liner shall be performed by the CQA CONSULTANT. Testing shall be performed at locations to be determined by the CQA CONSULTANT, in order to determine if the clay liner meets the compaction requirements. Costs for testing to verify compaction and soil moisture content will be assumed by the OWNER. The cost of retesting, should corrections to construction be required, shall be the responsibility of the CONTRACTOR.
- C. Hydraulic conductivity performed on relatively undisturbed Shelby tube samples shall be performed by the CQA CONSULTANT. Testing shall be performed in the geotechnical testing laboratory under the direction of the CQA CONSULTANT. Allow 3 business days minimum for preliminary hydraulic conductivity test results. Depending on the soil characteristics, the final results may not be available for up to 7 business days. Costs for hydraulic conductivity testing will be assumed by the OWNER. The cost of re-work and retesting due to failing hydraulic conductivity testing shall be the responsibility of the CONTRACTOR.
- D. The OWNER shall have complete authority to order immediate stoppage of work due to use of improper construction procedures or for any reason that in its sole opinion may result in a defective work.

PRODUCTS

MATERIALS

- A. General
 1. Clay liner material shall be either the existing native or stockpiled clay from Phase 4C or claystone beds designated by the OWNER. Material shall be observed by field staff of the CQA CONSULTANT that report directly to the CQA OFFICER.
 2. Alternate clay sources that meet the requirements of these Specifications may only be used if approved by the OWNER, ENGINEER, and the Regional Water Quality Control Board (RWQCB).
- B. Delivery, Storage, and Handling
 1. CONTRACTOR shall segregate liner quality clay during the excavation phase of the Project. Clay liner material shall be hauled to the designated processing area, processed and moisture conditioned, and temporarily stockpiled prior to use in Phase 4C. Excess clay borrow soil

excavated from the Phase 4C area shall be stockpiled for future use in the clay stockpile shown on the Drawings.

2. Clay liner material shall be free from organic and deleterious material and debris.
3. Clay liner material shall be classified as SC, CL, or CH by the Unified Soil Classification System (ASTM D2487).
4. The compacted clay liner shall have a saturated hydraulic conductivity less than or equal to 1×10^{-7} cm/sec under a confining pressure of 45 psi when processed, placed, and compacted in accordance with these Specifications.

EXECUTION

GENERAL

- A. The soil subgrade shall be approved by the CQA CONSULTANT prior to placement of the compacted clay liner.
- B. The CONTRACTOR shall perform an as-built survey of the completed soil subgrade prior to compacted clay liner placement.

CLAY BORROW EXCAVATION

- A. The CONTRACTOR shall utilize methodologies to extract clay material from the excavation area such that at least 90 percent of the available clay volume is extracted and considered acceptable for the compacted clay liner by the CQA CONSULTANT.
- B. The CQA CONSULTANT shall decide which loads of excavated clay material are acceptable for use as clay liner material. The CQA CONSULTANT may require clay loads to be removed from the processing area if excessive fouling with other unsuitable soils (i.e. sands) occurs.
- C. the CONTRACTOR's clay mining operator(s) shall be deliberate and focused on extracting acceptable clay borrow material without excessive contamination of other soils. Soil contamination in excess of 20 percent shall be considered unacceptable.

PROCESSING

- A. On-site material used for compacted soil liner shall be moisture conditioned in a stockpile by placing maximum 12-inch-thick loose lifts of soil, applying water from a water truck, and then mixing the soil and water together with an agricultural disc or equivalent equipment approved by the Engineer. Moisture conditioning shall be continued until a uniform moisture content of 3% to 6% above optimum is achieved. The moisture conditioned stockpile shall be cured for a minimum period of 24 hours prior to transporting and placing material as clay liner. This procedure does not apply to approved off-site clay liner materials, which may be moisture conditioned and compacted in place on the cell floor.

PLACEMENT

- A. Install compacted clay liner to the lines, grades, and thicknesses shown on the Drawings.
- B. Place clay liner material parallel to subgrade such that loose lift thickness is not greater than 8 inches.

- C. Compact each clay lift using a minimum of 5 one-way passes of a CAT 825 or Rex 350 pad foot compactor, or other Engineer-approved pad foot compaction equipment that is capable of consistently compacting the clay liner to meet the requirements of these Specifications.
- D. Scarify, blend, and compact individual lifts together as needed to prevent smooth zones and to provide adequate bonding between lifts.
- E. The clay liner material shall be compacted to a minimum dry density of 90 percent of its ASTM D1557 maximum dry density at a moisture content that is a minimum 4.0 percent above its ASTM D1557 optimum moisture content. Moisture content and dry density shall be used as an indicator, but the primary requirement for the clay liner is a maximum permeability of 1×10^{-7} cm/sec.
- F. Finish and seal the final surface of the clay liner with a minimum of 2 passes of a smooth drum roller.
- G. Grading tolerances for the final lift of clay shall be within 0 to 0.2 feet of the specified minimum thickness of 2 feet.
- H. Finished surface must not have abrupt edges higher than 0.5 inch, exposed rock, desiccation cracks, clods, or holes greater than 1 inch in depth or 0.5 inch in width or diameter. The surface should provide for continuous, intimate contact with the overlying geomembrane.
- I. Compacted clay liner must have a hydraulic conductivity less than or equal to 1×10^{-7} cm/sec as determined by laboratory testing (ASTM D5084) on Shelby tube (or equivalent) samples taken from the installed clay liner. If the laboratory permeability value exceeds 1×10^{-7} cm/sec, then two (2) additional tests of the same type shall be taken by the OWNER or CQA CONSULTANT in the immediate vicinity of the original sample. If either of the additional tests fails to meet the minimum requirements, the area represented by the test shall be considered inadequate and shall be removed or reprocessed and recompacted by the CONTRACTOR at its expense.
- J. The Phase 4C compacted clay liner shall be tied into the existing Phase 4B compacted clay liner as shown on the Drawings. The edge of the existing Phase 4B clay liner shall be prepared by excavating a clean edge into existing competent clay as shown on the Drawings. The exposed edge of the existing clay shall be maintained in accordance with this Specification to prevent it from drying out and desiccation cracking. The exposed edge of the Phase 4B clay shall be lightly scarified to a depth of approximately 1 to 2 inches prior to placement of the Phase 4C clay liner against it. The Phase 4C clay liner shall be placed and compacted such that it forms a continuous barrier with the Phase 4B clay liner that is free of preferential paths of flow.

MAINTENANCE

- A. Maintain compacted clay liner moisture content within the specified moisture limits until covered by geomembrane.
- B. Do not allow the clay surface to desiccate.

END SECTION

SECTION 02228

OPERATIONS LAYER

GENERAL

DESCRIPTION

- A. This Section describes the requirements for placement of operations layer material associated with the performance of the Work.

SUBMITTALS

- A. An operations layer placement work plan and schedule shall be submitted to the OWNER for review and acceptance prior to the commencement of operations layer placement.

QUALITY ASSURANCE

- A. The CONTRACTOR shall make allowances for sampling and testing by the CQA CONSULTANT in both its production operations and schedule.

TOLERANCES

- A. The final surface of the finished operations layer shall be within +0.0 feet to +0.2 feet of the design thickness. The CONTRACTOR shall not be reimbursed for material that exceeds +0.2 feet.

PRODUCTS

OPERATIONS LAYER MATERIAL

- A. The maximum particle size for the operations layer material shall be as follows:
- Material to be placed on or within 1 foot of the geosynthetic liner system: 1 inch in largest dimension.
 - Material to be placed at a distance greater than 1 foot from the geosynthetic liner system: 3 inches in largest dimension.
- B. Material shall form a firm and stable base when placed.

EXECUTION

PLACEMENT OF OPERATIONS LAYER

- A. Operations layer shall be placed over the geotextile separator across the floor areas and lower portions of the slope areas to the extents and thicknesses shown on the Drawings. On the slopes, operations layer shall be placed up the slopes a maximum of 15 vertical feet ahead of the rising waste mass. The final elevation of the operations layer shall be approximately 2 feet above the permitted waste level.

- B. Prior to placement of operations layer material, final inspection of the geotextile separator by the CQA CONSULTANT shall be made to verify its integrity.
- C. Hauling and placing equipment shall operate on a minimum of 2 feet of operations layer material over the geotextile separator on the floor and bench areas and on a minimum of 3 feet of operations layer material over the geotextile on the slope benches. Equipment with a maximum ground pressure of 6 psi may operate on a minimum of 1 foot of operations layer material. Equipment with a ground pressure of 20 psi or more may not operate on any lined areas with less than 3 feet of operations layer in place.
- D. The CONTRACTOR shall take steps to minimize wrinkle generation in the geosynthetic materials during placement of the operations layer. These measures may include placing material in the early morning hours when the geosynthetic materials are cool and monitoring and walking out wrinkles in the geosynthetic materials that appear at the face of the placement operation. Wrinkles which may fold and/or crease shall be removed and repaired in accordance with these Specifications.
- E. When placing operations layer material up the slopes, appropriate measures shall be taken to minimize tensile forces in the geosynthetics.
- F. Before operations layer is placed up a portion of a slope, the anchor trench above that portion of slope shall be completely backfilled with engineered fill.
- G. There is no compaction requirement for operations layer placement.

END OF SECTION

SECTION 02711

HDPE PIPE AND FITTINGS (DRAINAGE)

GENERAL

DESCRIPTION

- A. This Section applies to the installation of high density polyethylene (HDPE) pipes and fittings for the installation of gravity-flow surface drainage applications.

SUBMITTALS

- A. CONTRACTOR shall provide product data including Manufacturer's technical data (resin), test data (strength), and specifications sufficient to allow evaluation by the CQA CONSULTANT and OWNER.
- B. CONTRACTOR shall submit to the OWNER the Manufacturer's written certification of compliance with these Specifications, including written warranties against defects in materials and workmanship in accordance with AASHTO M294 for corrugated HDPE pipe.

REFERENCES

- A. ASTM International (ASTM) standards, latest editions:
1. ASTM D1056 – Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber.
 2. ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 3. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.
 4. ASTM F477 – Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
 5. ASTM F2306 – Standard Specification for 12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications.
- B. American Association of State Highway and Transportation Officials (AASHTO):
1. AASHTO M252 – Standard Specification for Corrugated Polyethylene Drainage Pipe.
 2. AASHTO M294 – Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter.
- C. Standard Specifications for Public Works Construction (the "Greenbook"):

RELATED SECTIONS

- A. Section 02200 – Earthworks.

PRODUCTS

HDPE MATERIALS

Virgin material for pipe and fitting production shall be high density polyethylene conforming with the minimum requirements of cell classification 424420C through 435400C, as defined and described in ASTM D3350, except that the carbon black content shall not exceed 5%. The virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Section 9.5 and 5.1 of AASHTO M294 and ASTM F2306, respectively.

HDPE PIPE AND PIPE FITTINGS

- A. Corrugated HDPE pipe with corrugated interior shall be Advanced Drainage Systems (ADS) single-wall or OWNER-approved equivalent.
- B. Corrugated and HDPE pipe with smooth interior shall be ADS N-12 or OWNER-approved equivalent.
- C. HDPE pipe shall be homogeneous throughout and free of visible defects and foreign inclusions. HDPE pipe shall also be uniform in color, capacity, density, and other physical properties.
- D. Pipe fittings shall be manufactured from the same class of material as the pipe and shall be fully compatible with the pipe. Pipe and fittings of the same type shall be the products of a single manufacturer.
- E. CONTRACTOR shall provide fabricated fittings with pressure ratings matching the pipe.
- F. Bar guards for drop inlets shall be yellow.

EXECUTION

INSTALLATION

- A. The CONTRACTOR shall install the pipe according to the Manufacturer's recommendations. Pipe shall be installed to the lines and grades shown on the Plans such that inverts are smooth and even.
- B. The CONTRACTOR shall take all precautions necessary to not damage the pipe during placement. The CONTRACTOR may periodically be requested by the CQA CONSULTANT to verify that the covered pipe has not been crushed. Costs associated with proving the pipes have not been crushed shall be borne by the CONTRACTOR.
- C. Piping shall be placed to the lines and elevations shown on the Plans, with no sags or humps, as approved by the CQA CONSULTANT.
- D. For downdrain pipes located on the surface of a slope, install pipe anchors as shown on the Plans.

PIPE CONNECTIONS

- A. Pipe shall be joined using a bell and spigot joint meeting AASHTO M252, AASHTO M294, or ASTM F2306. All joints shall be water-tight and gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the Manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant supplied by the Manufacturer shall be used on the gasket and bell during assembly.

- B. Pipe shall be joined in accordance with the Manufacturer's recommendations. The HDPE pipe temperature should be within 5 degrees of the surrounding soil's temperature before cutting to length for placement of tees, elbows, or fittings between flanges.

BACKFILL

- A. Horizontal Installations: When HDPE pipe is to be buried, the pipe shall be bedded on a minimum of 4 inches of bedding material (or final cover soil if within the final cover limit) that is loosely placed on the pipe subgrade foundation. The backfill around the pipe shall meet the requirements of and be placed in accordance with: (i) Section 02200 of these Specifications, and (ii) the Standard Specifications for Public Works Construction (the "Greenbook"). All backfill for pipes within the final cover limit shall meet the requirements of final cover soil and shall be compacted to the same requirements as final cover soil as stipulated in Section 02200.
- B. Vertical Installations: Backfill shall extend a minimum of 1-foot completely around the vertical structure unless the Manufacturer recommends otherwise. Backfill material recommendations are identical to those for a horizontal installation; compaction levels and maximum lift requirements must be strictly adhered to.
- C. Backfilling shall be performed in such a way that does not damage the pipe. Any pipe damaged during backfilling shall be replaced by the CONTRACTOR at no cost to the OWNER, as determined by the CQA CONSULTANT.
- D. Care shall be given to machinery travelling over buried pipe. Any buried pipe damaged by machinery travelling over it during construction shall be replaced by the CONTRACTOR at no cost to the OWNER, as determined by the CQA CONSULTANT.

END OF SECTION

SECTION 02725

SOLID AND PERFORATED HDPE PIPES (LCRS)

GENERAL

DESCRIPTION

- B. This Section applies to the installation of high density polyethylene (HDPE) solid and perforated pipes and fittings for the leachate collection and removal system (LCRS).

SUBMITTALS

- C. Prior to the delivery of any HDPE pipe to the site, the CONTRACTOR shall submit to the CQA CONSULTANT for review and approval complete, detailed shop drawings of all HDPE pipe and fittings, a list of materials to be furnished, the name(s) of the pipe manufacturer(s), and the manufacturer's recommendations for handling, storage, and installation.
- D. The CONTRACTOR shall also submit the pipe manufacturer's certification of compliance with these Specifications, including certification that stress regression testing has been performed, in accordance with ASTM D2837, for all HDPE pipe materials delivered to the site.

REFERENCES

- D. ASTM International (ASTM) standards, latest editions:
3. ASTM D1603 – Standard Test Method for Carbon Black in Olefin Plastics
 4. ASTM D2657 – Standard Practice for Heat-Joining for Polyolefin Pipe and Fittings
 5. ASTM D2837 – Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
 6. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
 7. ASTM F714 – Standard Specification for Polyethylene (PE) Plastics Pipe (SDR-PR) Based on Outside Diameter

RELATED SECTIONS

- B. Section 02200 – Earthworks.

PRODUCTS

HDPE MATERIALS

- A. The HDPE pipe shall consist of solid and perforated pipe of the diameter and SDR 11 rating or as shown on the Drawings. The perforation size, spacing, and orientation shall be as shown on the Drawings.

- B. The HDPE pipe shall have a material designation PE 3408 with a cell classification 345464C according to ASTM-D3350. Dimensions and workmanship shall be as specified by ASTM F714. Fittings shall be molded from or manufactured using a polyethylene compound having a cell classification equal to or exceeding the compound used in the pipe specified herein. To ensure compatibility of polyethylene resins, all fittings shall be of the same manufacture as the pipe being supplied.
- C. The polyethylene compound shall contain a minimum of 2 percent carbon black to withstand outdoor exposure without loss of properties.

HDPE PIPE AND PIPE FITTINGS

- G. CONTRACTOR shall provide HDPE pipe having the nominal diameters and SDR 11 rating, or as shown on the Drawings.
- H. HDPE pipe and fittings shall have a minimum hydrostatic design basis (HDB) of 1,600 pounds per square inch (psi) when determined in accordance with ASTM D2837 unless otherwise indicated herein or on the Drawings.
- I. HDPE pipe shall be supplied in standard laying lengths not exceeding 50 feet.
- J. HDPE pipes and fittings shall be homogeneous throughout and free of visible cracks, holes (other than intentional manufactured perforations), foreign inclusions, or other deleterious effects and shall be uniform in color, density, melt index, and other physical properties.
- K. Fittings at each end of pipes shall consist of HDPE end caps unless indicated otherwise herein or on the Drawings.

LABELING

- A. The following shall be continuously indent-printed on the HDPE pipe, or spaced at intervals not exceeding 5 feet:
 - name and/or trademark of the pipe manufacturer;
 - nominal pipe size;
 - pipe stiffness;
 - the letters PE followed by the polyethylene grade, and by the Hydrostatic Design Basis in 100's of psi (e.g., PE 3408);
 - test method references; and
 - a production code from which the date and place of manufacture can be determined.

EXECUTION

GENERAL

- E. Transportation of HDPE pipe and fittings shall be the responsibility of CONTRACTOR. CONTRACTOR shall be liable for all damage incurred prior to and during transportation to the site.
- F. Handling, storage, and care of the HDPE pipe and fittings prior to and following installation at the site are the responsibility of CONTRACTOR. CONTRACTOR shall be liable for all damage to the material incurred prior to final acceptance of the project by OWNER.

- G. CONTRACTOR shall be responsible for storage of HDPE pipe and fittings at the site. Pipe and fittings shall be stored on clean level ground, preferably turf or sand, free of sharp objects which could damage the pipe. Stacking shall be limited to a height that will not cause excessive deformation of the bottom layers of pipe under anticipated temperature conditions. Where necessary, due to ground conditions, the pipe shall be stored on wooden sleepers, suitably spaced and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports. The pipe shall be stored out of direct sunlight (i.e., to minimize pipe bowing). CONTRACTOR shall also comply with the pipe manufacturer's recommendations for handling, storage, and installation of HDPE pipe and fittings.
- H. CONTRACTOR shall exercise care when transporting, handling and placing HDPE pipe and fittings such that they will not be cut, kinked, twisted, or otherwise damaged. Ropes, fabric, or rubber-protected slings and straps shall be used when handling pipe. Slings, straps, etc., shall not be positioned at butt-fused joints. Chains, cables, or hooks shall not be inserted into the pipe ends as a means of handling pipe. Pipe or fittings shall not be dropped onto rocky or unprepared ground. Under no circumstances shall pipe or fittings be dropped into trenches or dragged over sharp objects.
- I. CONTRACTOR shall carefully examine all pipe and fittings for cracks, damage, or defects before installation. Defective or damaged materials shall be immediately removed from the site and replaced at no additional cost to OWNER.
- J. The maximum allowable depth of cuts, gouges or scratches on the exterior surface of pipe or fittings is 10 percent of the wall thickness. The interior of the pipe and fittings shall be free of cuts, gouges and scratches. CQA CONSULTANT shall inspect pipes. Sections of pipe with excessive cuts, gouges, or scratches shall be rejected and CONTRACTOR shall be required to remove and replace the rejected pipe, at no additional cost to OWNER.
- K. Whenever pipe laying is not actively in progress, the open end of pipe that has been placed shall be closed using a watertight cap.
- L. The interiors of all pipe and fittings shall be inspected and any foreign material shall be completely removed from the pipe interior before it is moved into final position.
- M. Field-cutting of pipes, when required, shall be made with a machine specifically designed for cutting pipe. Cuts shall be carefully made, without damage to pipe or lining, so as to leave a smooth end at right angles to the axis of pipe. Cutter ends shall be tapered and sharp edges filed off smooth. Flame cutting shall not be allowed.
- N. No pipe shall be laid until CQA CONSULTANT has observed the condition of the pipe.
- O. No pipe shall be brought into position until the preceding length has been bedded and secured in its final position.
- P. Blocking under piping shall not be permitted unless specifically accepted by the CONSTRUCTION MANAGER for special conditions or as indicated on the Drawings.
- Q. Pipe shall be inspected in the field before and after placement. If, upon inspection, pipe is found not to be in compliance with the Specifications, it shall be subject to rejection. Any corrective work shall be approved by CQA CONSULTANT. The costs for the corrective work shall be at CONTRACTOR'S sole expense. Pipe shall be laid to the lines and grades shown on the Drawings, with uniform bearing under the full length of the barrel of the pipe. Any pipe which is not in true alignment or shows any undue settlement after laying shall be taken up and re-laid at CONTRACTOR'S sole expense. The joining of the pipe shall be in accordance with the manufacturer's written instructions and these Specifications, as approved by the CONSTRUCTION MANAGER.

- R. All placed pipes shall be surveyed along the top of the pipe to complete the record drawings prior to backfilling. All start points, angle joints, junctions, connections, and end points of the pipe shall be surveyed. All survey work shall conform to the quality and practice required by CQA CONSULTANT, specified herein, and in the CQA Plan.
- S. Both during the construction period and immediately prior to acceptance of the Work by OWNER, CONTRACTOR shall keep the pipe free-draining and free of rocks, soil, and debris.
- T. CONTRACTOR shall provide all necessary adapters and/or pipe connection pieces required when connecting different types and sizes of pipe or when connecting pipe made by different manufacturers.
- U. HDPE pipe shall be joined with butt fusion joints. All joints shall be made in strict compliance with the pipe manufacturer's recommendations. Use of adhesives or solvents in the joints shall not be allowed.

END OF SECTION

SECTION 02751

HDPE GEOMEMBRANES

GENERAL

SUMMARY

- A. This Section describes the requirements for the manufacture, supply, installation, and quality assurance/quality control (QA/QC) of high density polyethylene (HDPE) geomembranes for the construction of the Phase 4C Disposal Area.
- B. The following two types of HDPE geomembranes shall be used for the Project:
 - 1. 80-mil double-sided textured (DST) HDPE geomembrane shall be used in the base liner system, as shown on the Drawings.
 - 2. 80-mil single-sided textured (SST) HDPE geomembrane shall be used in the slope liner system, as shown on the Drawings.

RELATED SECTIONS

- A. Section 01300 - Submittals.
- B. Section 02200 - Earthworks.
- C. Section 02752 - Geotextiles.

REFERENCES

- A. "Construction Quality Assurance (CQA) Plan for the Phase 4C Disposal Area, Toland Landfill, Ventura County, California," prepared by Dragomir Design-Build, Inc., dated February 2024.
- B. Latest version of the following ASTM International (ASTM) standards:
 - 1. ASTM D792 – Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
 - 2. ASTM D1004 – Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.
 - 3. ASTM D1238 – Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.
 - 4. ASTM D1505 – Standard Test Method for Density of Plastics by the Density-Gradient Technique.
 - 5. ASTM D1603 – Standard Test Method for Carbon Black Content in Olefin Plastics.

6. ASTM D4218 – Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique.
7. ASTM D4833 – Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.
8. ASTM D5321 – Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method.
9. ASTM D5397 – Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load Test.
10. ASTM D5596 – Standard Test Method for Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics.
11. ASTM D5994 – Standard Test Method for Measuring Core Thickness of Textured Geomembrane.
12. ASTM D6392 – Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-Fusion Methods.
13. ASTM D6693 – Standard Test Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes.
14. ASTM D7466 – Standard Test Method for Measuring the Asperity Height of Textured Geomembrane.

PRE-QUALIFICATION

- A. The Geosynthetics INSTALLER shall pre-qualify for geomembrane installation by providing the following documentation:
 1. The Geosynthetics INSTALLER shall have a minimum of 10,000,000 square feet (sf) of polyethylene geomembrane cumulative installation experience.
 2. The Geosynthetics INSTALLER shall provide at least three references from prior geomembrane installation projects in excess of 500,000 sf including the following information:
 - a. Client's name, address, phone number, and contact/representative's name.
 - b. Project site name, location, and description.
 - c. Geomembrane type and quantity installed.

SUBMITTALS

- A. Submittals shall be provided in general accordance with Section 01300 of these Specifications.
- B. HDPE Resin: Furnish the following in writing to the CQA CONSULTANT a minimum of 7 calendar days prior to geomembrane shipment to the site:
 1. Statement of production dates and origin of resin used to manufacture the geomembrane for the Project.

2. Copies of the quality control certificates issued by the manufacturer and resin supplier indicating that the resin used to manufacture the geomembrane meets the requirements of these Specifications. These certifications shall contain manufacturing quality control test results, including specific gravity (ASTM D792 or D1505) and melt index (ASTM D1238, Condition E).
- C. Manufacturing Quality Control (QC): Prior to delivery, the following shall be submitted to the CQA CONSULTANT for review:
1. Copies of quality control certificates issued by the Manufacturer. Tests shall be performed at a minimum to satisfy the frequencies listed in Table 02751-1. The quality control certificates shall include:
 - a. Roll numbers, lot numbers, and identification;
 - b. Sampling procedures; and
 - c. Results of quality control tests, including descriptions of the test methods used.
 2. The results of the manufacturing quality control tests shall meet or exceed the property values listed in Table 02751-2.
 3. Geomembrane delivery, storage, handling, and installation instructions.
 4. Extrudate Beads and/or Rod:
 - a. Statement of production dates.
 - b. Certification stating all extrudate is from one Manufacturer, is the same resin type, and was obtained from the same resin supplier as the resin used to manufacture the geomembrane rolls.
 - c. Copies of quality control certificates issued by the Manufacturer including test results for specific gravity (ASTM D792 or D1505) and melt index (ASTM D1238, Condition E).
- D. Geomembrane Installer: Prior to mobilization of the Geosynthetics INSTALLER to the site, the following information shall be submitted:
1. Shop drawings indicating panel layout and field seams at least 14 calendar days prior to installation of geomembrane.
 2. Installation schedule.
 3. Copy of Geosynthetics INSTALLER'S letter of approval or license by the geomembrane Manufacturer.
 4. Installation capabilities, including:
 - a. Information on equipment proposed for the Project;
 - b. Average daily production anticipated for the Project; and

- c. Quality control procedures.
- 5. Copy of the Geosynthetics INSTALLER'S quality control program.
- 6. Resume of the Field Superintendent to be assigned to the Project, including dates and duration of employment.
- 7. Resumes of all personnel who will perform seaming operations on the Project, including dates and duration of employment.
- 8. The geomembrane installation crew shall have the following experience:
 - a. The Field Superintendent shall have supervised the installation of a minimum of 5,000,000 sf of polyethylene geomembrane.
 - b. The Master Seamer shall have seamed a minimum of 2,000,000 sf of polyethylene geomembrane using the same type of seaming apparatus to be used for the Project.
 - c. All other seaming personnel shall have seamed at least 100,000 sf of polyethylene geomembrane using the same type of seaming apparatus to be used for the Project. Personnel who have seamed less than 100,000 sf of polyethylene geomembrane shall be allowed to seam only under the direct supervision of the Master Seamer or Field Superintendent.
- E. During the installation, the Geosynthetics INSTALLER shall be responsible for the timely submission to the CQA CONSULTANT of subgrade acceptance certificates, signed by the Geosynthetics INSTALLER, for each area covered by geomembrane.
- F. The Geosynthetics INSTALLER shall furnish the OWNER upon completion of the Project:
 - 1. A warranty provided by the Manufacturer against defects in material. Warranty conditions concerning limits of liability shall be evaluated and must be acceptable to the OWNER.
 - 2. A 1-year warranty provided by the Geosynthetics INSTALLER against defects in workmanship. Warranty conditions concerning limits of liability shall be evaluated and must be acceptable to the OWNER.
 - 3. As-built panel drawings in compliance with Section 01300 of these Specifications.
- G. Certificate of calibration shall be submitted prior to installation for all field tensiometers to be used for the Project.

QUALITY ASSURANCE

- A. Perform work in accordance with Section 01400, the Geosynthetics INSTALLER'S QC program, and the Project's CQA Plan.

PRODUCTS

MATERIALS

- A. The geomembranes shall be comprised of high-density polyethylene (HDPE) material as indicated on the Drawings, manufactured of new, first-quality products designed and manufactured specifically for the purpose of liquid containment in hydraulic structures.
- B. The geomembranes shall be produced free of holes, blisters, undispersed raw materials, or any sign of contamination by foreign matter. Any such defect shall be repaired in accordance with the repair procedures in this Section.
- C. The geomembrane shall be manufactured with a minimum 15.0-foot seamless width. There shall be no factory seams.
- D. The geomembrane shall be either HDPE 80-mil thick and textured on both sides (floor liner) or HDPE 80-mil thick and textured on one side (slope liner), as indicated on the Drawings.
- E. The geomembrane shall be supplied in rolls. Folds shall not be permitted.
- F. Requirements for the HDPE geomembrane properties are presented in Table 02751-1.
- G. Resin:
 - 1. Shall be HDPE, new, first-quality, compounded and manufactured specifically for producing HDPE geomembrane.
 - 2. Do not intermix resin types.
 - 3. Shall meet the following additional requirements:

Property	Test Method	Minimum Test Frequency	Required Value
Specific Gravity ⁽¹⁾	ASTM D792, Method B or ASTM D1505	1 per resin batch	≥ 0.932
Melt Index	ASTM D1238, Condition E	1 per resin batch	≤ 1.0 g per 10 minutes

Note:

⁽¹⁾ Resin without carbon black

- H. Extrudate Rod or Bead:
 - 1. Shall be made from the same resin as the geomembrane.
 - 2. Additives shall be thoroughly dispersed.
 - 3. Shall be free of contamination by moisture or foreign matter.
 - 4. Shall meet the following requirements:

Property	Test Method	Minimum Test Frequency	Required Value
Specific Gravity	ASTM D792, Method B or ASTM D1505	1 per resin batch	≥ 0.940
Carbon Black Content	ASTM D1603	1 per resin batch	2.0 - 3.0%
Melt Index	ASTM D1238, Condition E	1 per resin batch	≤ 1.0 g per 10 minutes

DELIVERY, STORAGE, AND HANDLING

- A. Handling, storage, and care of the geomembrane following transportation to the site shall be the responsibility of the Geosynthetics INSTALLER. The Geosynthetics INSTALLER shall be liable for all damage to the materials incurred prior to final acceptance of the liner system by the CQA CONSULTANT and OWNER.
- B. Conform to the Manufacturer's requirements to prevent damage to the geomembrane.
- C. Delivery:
 - 1. Deliver materials to the site only after the CQA CONSULTANT and the OWNER approve all of the required submittals.
 - 2. All rolls of geomembrane delivered to the site shall be identified at the factory with the following:
 - a. Manufacturer's name.
 - b. Product identification and thickness.
 - c. Lot number.
 - d. Roll number.
 - e. Roll dimensions and weight.
 - 1. Separate damaged rolls from undamaged rolls and store at locations designated by the OWNER until proper disposition of material is determined by the OWNER and CQA CONSULTANT.
 - 2. The OWNER shall be the final authority regarding damage.
 - 3. Separate rolls without proper documentation and store until CQA CONSULTANT and OWNER approval is received.
- D. On-Site Storage:
 - 1. Store in space allocated by the OWNER.
 - 2. Protect from puncture, dirt, grease, water, moisture, mud, mechanical abrasions, excessive heat, and any other damage.
 - 3. Store on a level prepared surface (not on wooden pallets).

4. Stack per Manufacturer's recommendations but no more than three rolls high.

E. On-Site Handling:

1. Use appropriate handling equipment to load, move, or deploy geomembrane rolls. Appropriate handling equipment includes cloth chokers and spreader bar for loading and spreader and roll bars for deployment. Dragging panels on the ground surface shall not be permitted.
2. Do not fold geomembrane material; folded material shall be rejected.
3. The Geosynthetics INSTALLER is responsible for storage and transporting material from the storage area to the work area.

F. Damaged Geomembrane:

1. Geomembrane damage shall be documented by the CQA CONSULTANT.
2. Damaged geomembrane shall be repaired, if possible, in accordance with this Section or shall be replaced at no additional cost to the OWNER.

EQUIPMENT

A. Welding equipment and accessories shall meet the following requirements:

1. Equipped with gauges showing temperatures both in apparatus and at nozzle (extrusion welders) or at wedge (fusion welders).
2. Maintain adequate number of welding machines to avoid delaying the Work.
3. Use power source(s) capable of providing constant voltage under combined-line load.
4. Provide secondary containment to catch spilled fuel under electric generators, if located on geomembrane.

B. Provide calibrated tensiometer(s) capable of quantitatively measuring geomembrane seam strength:

1. Equipped with gauge accurate to ± 2 lbs per inch of geomembrane width and capable of pulling at 2 inches per minute and 20 inches per minute.
2. Provide one-inch-wide die for cutting test specimens.
3. Provide a certificate of calibration for each tensiometer.

EXECUTION

EXAMINATION

- A. The Geosynthetics INSTALLER shall document in writing that the surface upon which the geomembrane is installed is acceptable. In so doing, the Geosynthetics INSTALLER shall assume full liability for the accepted surface.

- B. The beginning of geomembrane installation means acceptance of existing conditions. The Geosynthetics INSTALLER shall be responsible for maintenance of the geomembrane-covered subgrade once installation of geomembrane begins.

PREPARATION

- A. Maintain the surface suitability and integrity until the lining installation is completed and accepted.
- B. Repair rough areas and any damage to the subgrade caused by installation of the lining and fill any ruts in subgrade caused by equipment prior to geomembrane deployment.
- C. To avoid sharp bends in the geomembrane, bevel the leading edges of the anchor trenches.
- D. Subgrade shall be smooth, uniform, firm, and free of rocks or other debris. For deployment over soil subgrade, the subgrade shall not contain any protrusions that are greater than 0.5 inches in height from the finished subgrade surface.

DEPLOYMENT

- A. Geomembrane shall not be deployed:
 - 1. During precipitation.
 - 2. In the presence of excessive moisture.
 - 3. In areas of ponded water.
 - 4. In the presence of excessive winds (i.e., greater than 25 mph).
 - 5. In excessive heat (i.e., ambient air temperature greater than 104°F) or cold (i.e., ambient air temperature less than 40°F), unless the Geosynthetics INSTALLER is able to demonstrate (i.e., through trial seams) to the satisfaction of the CQA CONSULTANT that acceptable welds can be made in these temperatures. See additional information in this Section for cold weather and hot weather seaming procedures, respectively.
- B. Each panel shall be marked with an "identification code" (number and/or letter) consistent with the layout plan. The identification code shall be simple and logical. The number of panels deployed in one day shall be limited by the number of panels which can be seamed on that same day. All deployed panels shall be seamed to adjacent panels by the end of each day.
- C. The 80-mil single-sided textured HDPE geomembrane shall be deployed on the Phase 4C slopes with its textured side facing down (i.e., against the GCL) and its smooth side facing up (i.e., against the geotextile) to the limits shown on the Drawings. The 80-mil double-sided textured HDPE geomembrane shall be deployed on the Phase 4C floor to the limits shown on the Drawings.
- D. The following is the acceptable method of deployment:
 - 1. Use equipment which will not damage geomembrane by handling, trafficking, leakage of hydrocarbons, or any other means.
 - 2. Do not allow personnel working on geomembrane to wear damaging shoes or engage in activities that could damage geomembrane.

3. Smoking on the geomembrane is prohibited.
 4. Round sharp corners of clamps and other metal tools used in the work area.
 5. Do not allow clamps and other metal tools to be tossed or thrown.
 6. Unroll panels using a method that protects geomembrane from scratches and crimps and protects the soil surface and the underlying GCL from damage.
 7. Use a method to minimize geomembrane wrinkles, especially differential wrinkles between adjacent panels.
 8. Place adequate hold-downs to prevent uplift by wind.
 9. Use hold-downs that will not damage the geomembrane (such as sandbags).
 10. Use continuous hold-downs along leading edges to minimize risk of wind flow under panels.
 11. Panels shall be deployed perpendicular to slope elevation contours and the number of seams shall be minimized.
 12. Protect geomembrane in heavy traffic areas by geotextile, extra geomembrane, or other suitable materials.
 13. Vehicular traffic shall not be allowed on the geomembrane.
 14. Panels deployed on grades steeper than 15% shall extend a minimum of 5 feet beyond the crest or toe of that grade.
 15. Rub sheets used during installation shall be removed prior to placement of subsequent panels.
- E. Visually inspect sheet surface during unrolling of geomembrane and mark faulty or suspect areas for repair or testing. Replace faulty (requires more than one patch per 200 square feet) geomembrane stock at no additional cost to the OWNER.

FIELD SEAMING

- A. Orient seams perpendicular to slope elevation contours, i.e., orient down (not across) slopes and use seam numbering system compatible with panel number system.
- B. Minimize the number of field seams, especially in corners, odd-shaped geometric locations, sumps, and outside corners.
- C. Overlap panels by a minimum of 3 inches for extrusion welding and 4 inches for fusion welding. Use procedures to temporarily bond adjacent panels together that do not damage the geomembrane and that are not detrimental to the material to be seamed.
- D. Do not use solvents or adhesives unless product is approved in writing by the OWNER.
- E. No horizontal seams shall be allowed on grades steeper than 15% or within 5 feet of the crest or toe of slopes. A horizontal seam is defined as more than half of the panel width.

- F. Clean geomembrane surface of grease, moisture, dust, dirt, debris, or other foreign material prior to welding.
- G. Prior to any extrusion welding, the geomembrane seam or repair shall be prepared as follows:
1. Clean surface of oxidation by disc grinder or equivalent not more than ½ hour before seaming; use number 80 grit sandpaper for the disc grinder. Bevel edges of geomembrane before bonding and provide continuous tacking in repair areas.
 2. Repair area where excessive grinding substantially reduces sheet thickness by more than 4 mils beyond extent of weld.
 3. Clean grinding dust around weld area after grinding.
 4. The following procedure shall be followed for wrinkles and fishmouths:
 - a. Cut along the ridge of the wrinkle or fishmouth.
 - b. Overlap a minimum of 3 inches and weld.
 - c. Any portion where the overlap is less than 3 inches shall be patched with an oval or round patch of geomembrane that extends a minimum of 6 inches beyond the cut in all directions.
 5. If required, a firm, dry substrate (piece of geomembrane or other material) may be placed directly under the seam overlap to achieve proper support.
 6. Keep water from intercepting the weld during and immediately after welding the seam.
 7. For existing welds, or welds that are over 3 minutes old, grind the existing weld two inches back from point of termination and restart welding on ground weld.
- H. At least one spare operable seaming apparatus shall be maintained for every three seaming teams. Place protective fabric or piece of geomembrane beneath hot welding apparatus when resting it on geomembrane and use an electric generator capable of providing constant voltage under combined line load. The electric generator shall generally be located outside of the lined area. Provide protective lining and secondary containment large enough to catch spilled fuel under electric generators when located on the geomembrane. The welding apparatus shall be equipped with gauges giving temperatures in apparatus and at nozzle/wedge.
- I. For extrusion welding, purge welding apparatus of heat-degraded extrudate before welding if extruder is stopped for longer than one minute. All purged extrudate shall be disposed of off the geomembrane. Each extruder shoe shall be inspected daily for wear to assure that its offset is the same as the geomembrane thickness. Repair or replace worn shoes, damaged or misaligned armature brushes, nozzle contamination, or other worn or damaged parts. Avoid stop-start welding. Remove extrudate rod from welder when not using welder for long periods (over two hours). No welding may commence on the liner until the field trial seam sample made by that equipment and seamer passes destructive testing.
- J. Test and set "hot air system" using scrap material at least each day prior to commencing seaming and adjust hot air velocity to preclude wind effects. Adjust contact pressure rollers to prevent surface ripples in sheet. No equipment shall be used for welding the geomembrane until a field trial seam sample made by that equipment and seamer has passed destructive testing.

- K. In performing hot wedge welding, the welding machines shall be dual-tracked automated vehicular mounted devices equipped with gauges giving applicable temperatures and pressures. The edge of cross seams shall be ground to a smooth incline (top and bottom) prior to welding. A smooth insulating plate or fabric shall be placed beneath the hot welding apparatus after usage. Protect against moisture buildup between sheets. If continually welding across cross seams, conduct field trial seams at least every two hours.
- L. Field trial seams shall be performed, per seaming apparatus and per seamer, on pieces of geomembrane to verify adequate seaming conditions at the following frequency:
1. At the beginning of each seaming period.
 2. At least once every 5 hours.
 3. At the discretion of the CQA CONSULTANT.
- M. Make the trial seams at the work area and in contact with the soil subgrade or the geosynthetic component that the geomembrane will be deployed over (i.e., the same condition as the geomembrane to be seamed). The trial seam sample shall be at least 42-inches long and 12-inches wide with the seam centered lengthwise. A one-foot length of each trial seam sample shall be submitted to the CQA CONSULTANT for archive. Cut 1-inch wide specimens and test at least three for peel adhesion and two for bonded seam strength (shear). Specimens that will be subjected to peel and shear tests shall be selected alternately from the trial weld sample. Each fusion wedge welded seam specimen shall be tested for peel on both sides of the weld. A specimen passes when:
1. The break is film-tear bond (FTB), as defined in publication EPA/600/2-88/052 (“Lining of Waste Containment and Other Impoundment Facilities”), Appendix N.
 2. The break is ductile.
- N. The strength of breaks for the trial seam testing shall conform to the values listed in Table 02751-1, included at the end of this Section.
- O. A trial seam sample passes when all specimens have passing results in peel and shear tests. If a specimen fails (one of the specimens fails in either peel or shear mode), the trial seam procedure shall be repeated in its entirety. If the repeated trial seam fails, the seaming apparatus or operator may not weld until the deficiencies or conditions are corrected and two consecutive passing field trial seams are achieved.
- P. The following procedures shall be adhered to during cold weather conditions:
1. Geomembrane surface temperatures shall be determined by the CQA CONSULTANT at intervals of at least once per 100 feet of seam length to determine if preheating is required. For extrusion welding, preheating is required if the surface temperature of the geomembrane is below 32°F.
 2. For fusion welding, preheating may be waived by the OWNER based upon a recommendation by the CQA CONSULTANT, if the Geosynthetics INSTALLER demonstrates to the CQA CONSULTANT’S satisfaction that welds of equivalent quality may be obtained without preheating at the expected temperature of installation.
 3. If preheating is required, the CQA CONSULTANT shall observe all areas of geomembrane that have been preheated by a hot air device prior to seaming to ensure that they have not been overheated.

4. Care shall be taken to confirm that the surface temperatures are not lowered below the minimum surface temperatures specified for welding due to winds or other adverse conditions. It may be necessary to provide wind protection for the seam area.
5. All preheating devices shall receive approval by the CQA CONSULTANT prior to use.
6. Additional destructive tests shall be taken at an interval between 250 and 500 feet of seam length, at the discretion of the CQA CONSULTANT.
7. Sheet grinding may be performed before preheating, if applicable.
8. Trial seaming shall be conducted under the same ambient temperature and preheating conditions as the production seams. Under cold weather conditions, new trial seams shall be conducted if the ambient temperature drops by more than 10°F from the initial trial seam test conditions. Such new trial seams shall be conducted upon completion of seams in progress during the temperature drop.

Q. The following procedures shall be followed during hot weather conditions.

1. At ambient temperatures above 104°F, no seaming of the geomembrane shall be permitted unless the Geosynthetics INSTALLER can demonstrate to the satisfaction of the CQA CONSULTANT that the geomembrane seam quality is not compromised. Trial seaming shall be conducted under the same ambient temperature conditions as the production seams. At the option of the CQA CONSULTANT, additional destructive testing may be required for any suspect areas.

FIELD QUALITY CONTROL

A. The Geosynthetics INSTALLER shall designate a full-time Quality Control (QC) Technician who shall be responsible for supervising and/or conducting the field quality control program. The QC Technician shall not be replaced without written authorization by the OWNER.

B. Non-Destructive Seam Testing

1. The Geosynthetics INSTALLER shall non-destructively test field welds for continuity over their full length. The non-destructive testing shall be performed concurrently with seaming work progress, not at the completion of all seaming. Any defects located in the seam shall be repaired in accordance with this Section. The following non-destructive testing procedures shall be used to test the field seams for continuity.

- a. Vacuum box
- b. Air pressure testing

2. Vacuum Box Testing

- a. The vacuum box testing equipment shall consist of the following:
 - i. Rigid housing; transparent viewing window; a soft rubber gasket attached to the bottom of the housing; porthole or valve assembly; and a vacuum gauge.
 - ii. A vacuum pump capable of applying 5 psi gage pressure of vacuum to the box.

- iii. A bucket of soapy solution and applicator.
- b. The procedure for vacuum testing shall be as follows:
 - i. Clean window, gasket surfaces, and check box assembly for leaks.
 - ii. Energize vacuum pump and reduce tank pressure to approximately 5 psi.
 - iii. Wet a strip of geomembrane seam approximately 12 inches by 30 inches (length of box) with soapy solution.
 - iv. Place box over wetted area and compress.
 - v. Close bleed valve and open vacuum valve.
 - vi. Ensure that a leak-tight seal is created.
 - vii. Examine length of weld through viewing window for presence of soap bubbles for a period of not less than 10 seconds.
 - viii. If no bubbles appear after 10 seconds, close vacuum valve and open bleed valve, move box over next adjoining area with minimum three inches overlap from the previous tested area and repeat process.
 - ix. Areas where soap bubbles appear shall be marked by the CQA CONSULTANT with a defect code. The Geosynthetics INSTALLER shall then repair these areas in accordance with this Section and then retest the repaired area.

3. Air Pressure Testing

- a. The air pressure testing equipment shall consist of the following:
 - i. An air pump, equipped with pressure gauge having an accuracy of 1 psi, capable of generating and sustaining a pressure of 30 psi, and mounted on a cushion to protect the geomembrane.
 - ii. Rubber hose with fittings and connections.
 - iii. Sharp hollow needle or other pressure feed device approved by the OWNER.
- b. To perform the test:
 - i. Seal both ends of the seam to be tested.
 - ii. Insert a needle or other approved pressure feed device into air channel created by dual-wedge seaming and insert a protective cushion between air pump and underlying geomembrane.
 - iii. Energize air pump to 28 to 32 psi, close valve, and sustain pressure for a minimum of 5 minutes.

- iv. If loss of air pressure in the channel exceeds 2 psi over 5 minutes or if this pressure does not stabilize, locate the faulty seam area and repair in accordance with Item 3.06 of this Section.
- v. Release pressure at opposite end of seam from gauge (i.e., by cutting the seam) to verify that the seam is not blocked.
- vi. Remove approved pressure feed device and seal penetration holes by extrusion welding.

C. Destructive Seam Testing

1. For destructive seam testing, the CQA CONSULTANT shall be provided with a minimum of one sample per 500 feet of seam length. This is the average testing frequency for the entire installation. The location shall be selected by the CQA CONSULTANT; the Geosynthetics INSTALLER shall not be informed of the destructive sample location in advance. The Geosynthetics INSTALLER shall visually observe, mark, and repair suspect welds before release of a section to the CQA CONSULTANT for destructive sample marking. Cut destructive samples as seaming and non-destructive testing progresses, prior to completion of geomembrane installation. The CQA CONSULTANT shall mark destructive samples with consecutive numbering, location, apparatus I.D., technician I.D., and apparatus settings and date. Record, in written form, weld and test date, time, location, seam number, ambient temperatures, machine settings, technician I.D., apparatus I.D., and pass or fail description. The Geosynthetics INSTALLER shall immediately repair holes in geomembrane resulting from obtaining destructive samples and shall vacuum test the resulting patches. The size of destructive samples shall be 12 inches wide by 44 inches long with the seam centered lengthwise.
2. Two 1-inch wide specimens shall be taken, one at each end of the sample, and tested by the Geosynthetics INSTALLER for peel and shear in the field prior to CQA destructive testing. If any of these specimens fail, the Geosynthetics INSTALLER shall track the failure immediately. The remaining sample shall be cut into three 14-inch long by 12-inch wide pieces and distributed as follows:
 - a. To the CQA CONSULTANT for destructive testing.
 - b. To the CQA CONSULTANT for archiving.
 - c. To the Geosynthetics INSTALLER for its use.
3. Five 1-inch-wide specimens shall be taken from one piece. Three specimens shall be tested for peel and two for shear in accordance with the CQA Plan. Specimens that will be subjected to peel and shear tests shall be selected alternately from the sample. Each fusion wedge welded seam specimen shall be tested for peel on both sides of the weld. A destructive sample shall be considered passing when all 5 specimens meet the following criteria:
 - a. The break is FTB.
 - b. The break is ductile.
 - c. The strength of breaks for the seam testing shall conform to the values listed in Table 02751-1, included at the end of this Section.
4. In the event of sample failure, the procedures for failed seam tracking are:

- a. Retrace welding path a minimum of 10 feet in both directions from the failed test location and remove (at these locations) a one inch wide specimen for testing. Repeat tracking procedures until the Geosynthetics INSTALLER is confident of seam quality.
 - b. Obtain destructive samples from each side of the welding path and give samples to the CQA CONSULTANT for destructive testing.
 - c. Repeat process if additional tests fail.
 - d. Reconstruct seam between passing test locations to the satisfaction of the CQA CONSULTANT.
 - e. Reconstruction may be one of the following:
 - i. Cut out old seam, reposition panel and re-seam.
 - ii. Add cap strip.
 - f. Cut additional destructive samples from reconstruction at discretion of CQA CONSULTANT.
 - g. If additional destructive sample results are not acceptable, repeat process until reconstructed seam is judged satisfactory by the CQA CONSULTANT.
- D. For final seaming inspection, check the seams and surface of geomembrane for defects, holes, blisters, undispersed raw materials, or signs of contamination by foreign matter. Brush, blow, or wash geomembrane surface if dirt inhibits inspection. The CQA CONSULTANT shall decide if cleaning of geomembrane surface and welds is needed to facilitate inspection. Distinctively mark repair areas and indicate required type of repair.

REPAIR PROCEDURES

- A. The geomembrane shall be inspected before and after seaming for evidence of defects, holes, blisters, undispersed raw materials, and any sign of contamination by foreign matter. The surface of the geomembrane shall be clean at the time of inspection. The geomembrane surface shall be swept or washed by the Geosynthetics INSTALLER if surface contamination inhibits inspection. The Geosynthetics INSTALLER shall ensure that an inspection of the geomembrane precedes any seaming of that section.
- B. Remove damaged geomembrane and replace with acceptable geomembrane materials if damage cannot be satisfactorily repaired.
- C. Repair, removal, and replacement shall be at the Geosynthetics INSTALLER'S expense.
- D. Repair any portion of the geomembrane exhibiting a flaw or failing a destructive or non-destructive test. The Geosynthetics INSTALLER shall be responsible for repair of damaged or defective areas. Agreement upon the appropriate repair method shall be decided between the CQA CONSULTANT and the Geosynthetics INSTALLER. Procedures available include:
 1. Patching: Used to repair holes (over ¼-inch diameter), tears (over ¼-inch long), undispersed raw materials, and contamination by foreign matter.
 2. Grinding and welding: Used to repair pinholes, blemishes, and over-grinding.

3. Capping: Used to repair large lengths of failed seams.
4. Removing the seam and replacing with a strip of new material.

E. In addition, the following procedures shall be observed:

1. Geomembrane surfaces to be repaired shall be abraded (extrusion welds only) no more than ½ hour prior to the repair.
2. All geomembrane surfaces shall be clean and dry at the time of repair.
3. The repair procedures, materials, and techniques shall be approved in advance of the specific repair by the CQA CONSULTANT.
4. Extend patches or caps at least 6 inches beyond the edge of the defect, i.e., be a minimum of 12 inches in diameter, and round all corners of material to be patched.
5. Bevel the edge of the patch and do not cut patch with repair sheet in contact with geomembrane. Temporarily bond the patch to the geomembrane with an approved method, extrusion weld the patch, and then vacuum test the repair.

F. Repair Verification:

1. The CQA CONSULTANT shall number and log each repair.
2. Non-destructively test each repair using methods specified in this Section.
3. Provide daily documentation of non-destructive and destructive testing to the CQA CONSULTANT. The documentation shall identify seams that initially failed testing and include any evidence that these seams were repaired and retested successfully.

ACCEPTANCE

A. The Geosynthetics INSTALLER shall retain Ownership and responsibility for the geomembrane until acceptance by the OWNER.

B. Acceptance Criteria: The following shall be completed:

1. Verification of adequacy of field seams, repairs, and testing by the CQA CONSULTANT.
2. All submittals.
3. “As-built” drawings approved and final drawings submitted.
4. Construction area cleaned.
5. Final field inspection.
6. Warranty signed over to the OWNER.

C. Field Inspections: Inspect the completed work with the OWNER; defects, wrinkles, suspicious looking welds shall be noted and marked; document, correct, and arrange further field inspections until no further corrective action is necessary.

**TABLE 02751-1
Q.C. HIGH DENSITY POLYETHYLENE (HDPE)
GEOMEMBRANE CONFORMANCE TESTING FREQUENCIES**

Properties	Test Method	Test Frequency⁽¹⁾
Sheet Density	ASTM D792 or ASTM D1505	1 per 100,000 sf
Carbon Black Content	ASTM D1603 ⁽³⁾	1 per 100,000 sf
Carbon Black Dispersion	ASTM D5596	1 per 100,000 sf
Thickness	ASTM D5994	1 per 100,000 sf
Tensile Properties ⁽²⁾ - Yield strength - Break strength - Yield elongation - Break elongation	ASTM D6693	1 per 100,000 sf
Stress Crack Resistance	ASTM D5397	1 per lot

Notes:

- ⁽¹⁾ At least one sample shall be tested from each lot
- ⁽²⁾ Machine direction (MD) and cross machine direction (XMD) average values should be based on 5 test specimens in each direction:
 - Yield elongation is calculated using a gage length of 1.3 inches
 - Break elongation is calculated using a gage length of 2.0 inches
- ⁽³⁾ Other methods such as ASTM D4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to ASTM D1603 (tube furnace) can be established

**TABLE 02751-2
REQUIRED PHYSICAL PROPERTIES OF HDPE GEOMEMBRANE**

Property	Qualifier	Unit	Required Value(s)	Test Method
Asperity Height	Min.	mil.	29	ASTM D7466
Puncture Resistance	Min.	lb.	144	ASTM D4833
Sheet Density	Min.	g/cc	0.940	ASTM D792 or ASTM D1505
Carbon Black Content	Range	%	2.0-3.0	ASTM D1603
Carbon Black Dispersion	Rating	n/a	Categories 1,2,3	ASTM D5596
Thickness	Min. Avg.	mils	80	ASTM D5994
Thickness	Min. Reading	mils	72	ASTM D5994
Tensile Properties (Each Direction) - Yield strength - Break strength - Yield elongation - Break elongation	Min. Min. Min. Min.	lb/in width lb/in % %	173 120 13 150	ASTM D6693
Tear Strength	Min.	lb.	56	ASTM D1004
Stress Crack Resistance	Min.	Hr.	500	ASTM D5397
Melt Index (resin)	Max.	g/10 min.	1.0	ASTM D1238
Seam Strength - Shear - Peel (Fusion) - Peel (Extrusion)	Min. Min. Min.	lb/in lb/in lb/in	160 120 104	ASTM D6392
Interface Shear Testing -2,000 psf -5,000 psf -10,000 psf -15,000 psf -20,000 psf	Min.	Deg.	18	ASTM D5321

END OF SECTION

SECTION 02752

GEOTEXTILES

GENERAL

DESCRIPTION

- A. This section describes the general requirements for the manufacture, supply, installation, and quality control (QC) of geotextiles. The OWNER shall supply the geotextiles which shall be installed by Geosynthetics INSTALLER or the CONTRACTOR.

RELATED SECTIONS

- A. Section 02200 – Earthworks.
- B. Section 02751 – HDPE Geomembranes.

REFERENCES

- A. Latest version of the following ASTM International (ASTM) standards:
 - 1. ASTM D3786. Standard Test Method for Bursting Strength of Geotextiles
 - 2. ASTM D4533. Standard Test Method for Trapezoidal Tearing Strength of Geotextiles
 - 3. ASTM D4632. Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
 - 4. ASTM D4751. Standard Test Method for Determining Apparent Opening Size of a Geotextile
 - 5. ASTM D4873. Standard Test Method for Determining Apparent Opening Size of a Geotextile
 - 6. ASTM D5261. Standard Test Method for Measuring Mass Per Unit Area of Geotextiles
 - 7. ASTM D6241. Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

SUBMITTALS

- A. Quality Control (QC) submittals:
 - 1. Manufacturing QC certificates for each production run. The certificates shall identify the origin and the manufacturer of the resin. The certificates shall be signed by responsible parties employed by the Manufacturer (such as the production manager). Tests shall be performed at a minimum to satisfy the frequencies listed in Table 02752-1.
 - 2. The QC certificates shall include roll numbers and identification, sampling procedures, and results of QC tests verifying that each of the properties listed in Table 02752-2 is met. Samples shall be tested at a minimum frequency per the CQA Plan or Manufacturer's QC Plan,

whichever is stricter. The Manufacturer's QC tests to be performed include the tests specified in this Section.

QUALITY ASSURANCE

- A. Perform Work in accordance with the Project's CQA Plan.

QUALIFICATIONS

- A. Geotextile shall be supplied by a geotextile Manufacturer(s) meeting the following qualification requirements:
 - 1. The geotextile Manufacturer(s) shall be responsible for the production and delivery of geotextile rolls and shall be a well-established firm with more than two years' experience in the manufacture of geotextiles. The geotextile Manufacturer(s) shall submit a statement to the CQA CONSULTANT listing:
 - a. Certified minimum average roll property values of the proposed geotextiles and the test methods used to determine those properties.
 - b. Projected delivery date of the geotextile material.
- B. The Geosynthetics INSTALLER shall meet the requirements of the Project's CQA Plan.

PRODUCTS

MATERIALS

- A. Nonwoven geotextiles shall be needle-punched polyester or polypropylene fabric free from needles or other foreign material and shall, at a minimum, match the properties listed in Table 02752-2:
- B. Woven geotextile shall be woven from high-tenacity polypropylene yarns with a weave pattern to maximize strength, water flow, soil interaction, and soil retention. The yarns shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other. Woven geotextile shall have the following properties:

DELIVERY, STORAGE, AND HANDLING

- A. Handling, storage, and care of the geotextile following transportation to the site shall be the responsibility of the CONTRACTOR. The CONTRACTOR shall be liable for all damage to the material incurred prior to final acceptance of the liner system by the CQA CONSULTANT.
- B. The CONTRACTOR shall be responsible for storage of the geotextile at the site after the material is delivered. The geotextile shall be stored off the ground and out of direct sunlight, and shall be protected from mud, dirt, dust, and any additional storage procedures required by the geotextile manufacturer.
 - 1. All rolls of geotextile shall be identified at the factory with the following:
 - 2. Manufacturer's name.
 - 3. Product identification.

4. Lot Number.
 5. Roll number.
 6. Roll dimensions.
- C. Geotextiles shall be handled in such a manner as to ensure they are not damaged in any way.
 - D. Precautions shall be taken to prevent damage to underlying materials during placement of the geotextile.
 - E. After unwrapping the geotextile from its cover, the geotextile shall not be left exposed for a period in excess of 30 days.

EXECUTION

INSTALLATION

- A. Separator nonwoven geotextile seams for the LCRS shall be overlapped a minimum of 12 inches and continuously heat bonded. Separator nonwoven geotextile seams for riprap shall be overlapped a minimum of 2 feet. Cushion nonwoven geotextile seams shall be continuously sewn. Woven geotextile seams shall be overlapped a minimum of 12 inches. No horizontal seams shall be allowed on slopes steeper than 15%.
- B. Polymeric thread, with chemical resistance properties equal to or exceeding those of the geotextile, shall be used for all sewing. The seams shall be sewn using Stitch Type 401. The seam type shall be Federal Standard Type SSa-1.
- C. The CONTRACTOR shall examine the entire geotextile surface after installation to ensure that no potentially harmful foreign objects are present. Such foreign objects shall be removed and damaged geotextile shall be repaired or replaced at no cost to OWNER.
- D. Use care not to damage underlying materials during installation.
- E. Prevent the geotextile from accumulating excessive dust.
- F. The CONTRACTOR and Geosynthetics INSTALLER shall be responsible for field handling, storing, deploying, seaming or connecting, temporary restraining (against wind), anchoring, and other aspects of geotextile installation. Specifically, the guidelines in ASTM D4873 shall be followed regarding the placement, handling, and storage of geotextiles.
- G. The CONTRACTOR and Geosynthetics INSTALLER shall accept and retain full responsibility for all materials and installation and shall be held responsible for any defects in the completed system.
- H. No equipment shall operate directly on the geotextiles.
- I. Use sandbags or other acceptable anchorage to prevent wind uplift.

REPAIRS

- A. Any holes or tears in the geotextile shall be repaired using a geotextile patch consisting of the same geotextile.

1. On slopes inclined steeper than 15%, patches shall be heat bonded with a minimum 24-inch overlap in all directions.
2. On slopes inclined at 15% or less, patches shall be heat-bonded with a 12-inch overlap in all directions.

Table 02752-1
Q.C. GEOTEXTILE CONFORMANCE TESTING FREQUENCIES

Properties	Test Method	Test Frequency⁽¹⁾
Mass per Unit Area	ASTM D5261	1 per 100,000 sf
Grab Strength	ASTM D4632	1 per 100,000 sf
Trapezoidal Tear Strength	ASTM D4533	1 per 100,000 sf
CBR Puncture Strength	ASTM D6241	1 per 100,000 sf
Bursting Strength	ASTM D3786	1 per 100,000 sf

Notes:

⁽¹⁾ At least one sample shall be tested from each lot

Table 02752-2
NONWOVEN GEOTEXTILE PROPERTIES

Property	Qualifier	Unit	Required Value(s)	Test Method
Mass per Unit Area	min.	oz/yd ²	16	ASTM D5261
Grab Strength	min.	lb	390	ASTM D4632
Trapezoidal Tear Strength	min.	lb	150	ASTM D4533
CBR Puncture Strength	min.	lb	240	ASTM D6241
Bursting Strength	min.	psi	800	ASTM D3786
Apparent Opening Size (AOS)	max.	US Sieve	100	ASTM D4751

END OF SECTION

SECTION 02756

GEOSYNTHETIC CLAY LINER

GENERAL

DESCRIPTION

- A. This Section describes the requirements for the manufacture, supply, installation, and quality control of geosynthetic clay liner (GCL).

RELATED SECTIONS

- A. Section 02200 – Earthworks.
- B. Section 02751 – HDPE Geomembranes.
- C. Section 02752 – Geotextiles.

REFERENCES

- A. Latest version of the following ASTM International (ASTM) standards:
 - 1. ASTM D5887 – Standard Test Method for Measurement of Index Flux Through Saturated Geosynthetic Clay Liner Specimens using a Flexible Wall Permeameter.
 - 2. ASTM D5888 - Standard Guide for Storage and Handling of Geosynthetic Clay Liners.
 - 3. ASTM D5889 - Standard Practice for Quality Control of Geosynthetic Clay Liners.
 - 4. ASTM D5890 – Standard Test Method for Swell Index of Clay Mineral Component of Geosynthetic Clay Liners.
 - 5. ASTM D5891 – Standard Test Method for Fluid Loss of Clay Component of Geosynthetic Clay Liners.
 - 6. ASTM D5993 – Standard Test Method for Measuring Mass per Unit Area of Geosynthetic Clay Liners.
 - 7. ASTM D6496 – Standard Test Method for Determining Average Bonding Peel Strength Between the Top and Bottom Layers of Needle-Punched Geosynthetic Clay Liners.
 - 8. ASTM D6768 – Standard Test Method for Tensile Strength of Geosynthetic Clay Liners.
- B. Latest version of the Geosynthetic Research Institute (GRI) standards:
 - 1. GRI-GCL3 - Test Methods, Required Properties, and Testing Frequencies of Geosynthetic Clay Liners (GCLs).

SUBMITTALS

- A. Quality Control (QC) Submittals:
 - 1. A copy of the Manufacturer's QC Plan.
 - 2. QC certificates containing the Manufacturer's QC testing results. At a minimum, QC certifications shall include the requirements listed in Part 2 of this Section. QC certificates shall be submitted at the frequency indicated in Table 02756-1 or the manufacturer's QC Plan for GCL, whichever is stricter, continuously produced and supplied to the project and at least one per lot and consistent with ASTM D5889.
- B. Submittals shall be provided in accordance with Section 01300 of these Specifications.

QUALITY ASSURANCE

- A. Perform Work in accordance with the Project's CQA Plan.

QUALIFICATIONS

- A. The Geosynthetics INSTALLER shall be experienced in the installation of GCLs. In the event the Geosynthetics INSTALLER is not experienced, a representative of the GCL manufacturer shall be on-site to train the Geosynthetics INSTALLER, at no additional cost to the OWNER.
- B. The GCL Manufacturer shall meet the following
 - 1. The GCL Manufacturer shall be responsible for the production and delivery of rolls of GCL.
 - 2. The GCL Manufacturer shall be a well-established firm with more than two years of experience in the manufacturing of GCL.
 - 3. The GCL Manufacturer shall submit a statement to the CONSTRUCTION MANAGER listing:
 - a. Certified minimum average roll property values of the proposed GCL and the tests used to determine those properties.
 - b. Production capacity available and projected GCL delivery date(s).

PRODUCTS

GEOSYNTHETIC CLAY LAYER (GCL)

- A. The GCL shall meet or exceed the following specifications:
 - 1. The GCL shall be reinforced and consist of granular bentonite encapsulated by non-woven geotextiles. The geotextiles shall be needle-punched or lock-stitched together through the bentonite layer to form a stable composite that prevents the bentonite from becoming dislodged when transported, handled, and installed in the manner prescribed by the GCL manufacturer. Adhesives may be used in addition to, but not in lieu of, needle-punching or lock-stitching.
 - 2. The geotextile backing shall be needle-punched non-woven on both sides.

3. The GCL shall be continuously inspected for the presence of needles during its manufacturing. The GCL manufacturer shall provide written certification that the GCL is needle-free.
- B. Specifications for the GCL properties are presented in Table 02756-2.

DELIVERY, STORAGE, AND HANDLING

- A. Handling, storage, and care of the GCL prior to and following installation are the responsibility of the Geosynthetics INSTALLER until final acceptance of the liner system is given by the OWNER.
- B. Store and protect the GCL material consistent with ASTM D5888. The GCL shall be protected from ultraviolet light exposure, moisture, puncture, cutting, or other damaging or deleterious conditions. Any additional storage procedures required by the manufacturer shall be the Geosynthetics INSTALLER'S responsibility.
- C. In order to prevent damage to the GCL prior to installation, the following procedures shall be followed:
1. Store the material in a covered work area protected from rain and moisture at all times.
 2. Store the material off the ground, on pallets or other equivalent devices to keep the material from contacting the ground.
- D. All rolls of GCL shall be identified at the factory with the following:
1. Manufacturer's name.
 2. Product identification.
 3. Lot number.
 4. Roll number.
 5. Roll dimensions.
- E. GCL rolls shall be shipped and stored in relatively opaque and watertight wrappings.

EXECUTION

SUBGRADE PREPARATION

- A. The Geosynthetics INSTALLER shall provide certification in writing that the soil subgrade surface upon which the GCL will be installed is acceptable. This certification of acceptance shall be given to the CQA CONSULTANT prior to commencement of GCL installation in the area under consideration.
- B. No GCL shall be placed onto an area that has been softened by precipitation or that has cracked due to desiccation.
- C. Maintain the surface suitability and integrity until the lining installation is completed and accepted.
- D. Repair rough areas and any damage to the soil subgrade prior to GCL deployment.
- E. To avoid sharp bends in the GCL, bevel the leading edges of the anchor trench.

- F. GCL soil subgrades shall be smooth, uniform, firm, and free of rocks or other debris that may puncture or damage the GCL.

INSTALLATION AND SEAMING

- A. Install the GCL so that panel seams are parallel to the dip of the slope (if the slope exceeds 15%) and so that there is no tension or stress in the GCL upon completion of the installation. Pull GCL tight to smooth out creases or irregularities in the panels.
- B. Do not install the GCL over wet subgrade, in standing water, or during precipitation events. Geomembrane shall not be placed on a GCL that is hydrated. All hydrated GCL shall be removed and replaced by the Geosynthetics INSTALLER at no additional cost to the OWNER.
- C. GCL seams shall be overlapped such that the upslope GCL is shingled over the downslope GCL for both longitudinal and horizontal (butt) seams.
- D. All GCL shall be overlapped in accordance with the Manufacturer's recommended procedures, or as specified below, whichever is stricter:
 - 1. Edge seams shall overlap a minimum of 24 inches
 - 2. Roll end seams shall overlap a minimum of 24 inches
- E. Granular bentonite of the same type as the bentonite used for the GCL shall be placed along the entire overlap width at a minimum rate of 0.4 lbs/linear foot or as recommended by the GCL manufacturer (some GCL types do not require granular bentonite along longitudinal seams).
- F. Place only as much GCL each day as can be covered with HDPE geomembrane. The GCL shall be completely covered by HDPE geomembrane at the end of each working day, unless approved otherwise by the CONSTRUCTION MANAGER.
- G. Do not drag textured geomembranes across previously installed GCL. Use a smooth rub sheet between GCL and textured geomembrane, or other OWNER-approved methods, to prevent damage. Remove rub sheet when geomembrane is in position.

REPAIR

- A. Repair cuts, tears, or holes in the GCL by covering with a GCL patch. On slopes greater than 15%, the patch shall overlap the edges of the defect by a minimum of 2 feet in all directions. On slopes of 15% or flatter, the patch shall overlap the edges of the defect by a minimum of 1 foot in all directions.
- B. Attach patch to panel using either non-hazardous, non-toxic adhesive as recommended by the GCL manufacturer or by heat bonding with a hot air apparatus ("Leistering"). Attachment method shall be approved by the OWNER (based on the recommendations of the CQA CONSULTANT) prior to use.
- C. All repairs shall be made at no additional cost to the OWNER.

TABLE 02756-1

Q.C. GEOSYNTHETIC CLAY LINER CONFORMANCE TESTING FREQUENCIES

Properties	Test Method	Test Frequency⁽¹⁾
Bentonite Mass per Unit Area	ASTM D5993	1 per 40,000 sf
Hydraulic Conductivity	ASTM D5887	1 per 40,000 sf
Peel Strength	ASTM D6496	1 per 40,000 sf
Tensile Strength	ASTM D6768	1 per 40,000 sf
Moisture Content	ASTM D5993	1 per 40,000 sf

Notes:

⁽¹⁾ At least one sample shall be tested from each lot

TABLE 02756-2

REQUIRED PHYSICAL PROPERTIES OF GEOSYNTHETIC CLAY LINER

Property	Qualifier	Unit	Required Value(s)	Test Method
Bentonite Mass per Unit Area	Min.	lb/ft ²	0.75	ASTM D5993
Moisture Content	Max.	%	35	ASTM D5993
Bentonite Swell Index	Min.	ml/g	24	ASTM D5890
Bentonite Fluid Loss	Max.	ml	18	ASTM D5891
Hydraulic Conductivity	Max.	cm/sec	5×10^{-9}	ASTM D5887
Peel Strength	Min.	lb/in	2.1	ASTM D6496
Tensile Strength	Min.	lb/in	23	ASTM D6768

END OF SECTION

SECTION 02779

UV PROTECTION LAYER AND LINER BALAST SYSTEM

GENERAL

SUMMARY

- A. This Section describes the requirements for the UV protection layer and liner ballast system that will be placed over the portions of the slope liner system that will not be covered with operations layer during the Phase 4C construction (i.e., slope liner more than 15 vertical feet above the top of the operations layer on the floor areas).

RELATED SECTIONS

- A. Section 01300 - Submittals.
- B. Section 02200 - Earthworks.

REFERENCES

- A. "Construction Quality Assurance (CQA) Plan for the Phase 4C Disposal Area, Toland Landfill, Ventura County, California," prepared by Dragomir Design-Build, Inc., dated February 2024.

SUBMITTALS

- A. Submittals shall be provided in general accordance with Section 01300 of these Specifications.
- B. Manufacturer's certified properties for the proposed UV protection layer, sandbag, and rope materials.

QUALITY ASSURANCE

- A. Perform work in accordance with Section 01400 of these Specifications and the Project's CQA Plan.
- B. CQA conformance testing is not required for the UV protection layer geomembrane.

PRODUCTS

MATERIALS

- A. The UV protection layer shall be a 12-mil scrim-reinforced polyethylene geomembrane (Raven Industries Dura-Skrim 12BV or Engineer-approved equivalent). The UV protection layer geomembrane shall meet the material requirements listed in Table 02779-1 or the requirements of GRI-GM22, whichever are stricter.
- B. The liner ballast system shall consist of the following components:
 - 1. Sandbags – heavy duty sandbags constructed of woven reinforced polypropylene fabric (minimum mass per unit area of 7 oz/sy) or Engineer-approved equivalent. Sandbags shall

contain UV inhibitors and shall be suitable for outdoor applications for exposure up to 72 months. Sandbags shall be of sufficient size to contain 30 to 40 lbs of sand and shall be closed using a polypropylene strap-tie.

2. Rope – minimum 3/4-inch diameter UV stable polypropylene rope with a minimum strength of 5,800 pounds, or Engineer-approved equivalent.
- C. An alternative liner ballast system such as Wind Defender® may be used with the approval of the DESIGN ENGINEER and CONSTRUCTION MANAGER.

EXECUTION

DEPLOYMENT

- A. Only deploy UV protection layer geomembrane over those areas of geotextile that have been approved by the CQA CONSULTANT. Deployment of the UV protection layer shall in no way compromise the integrity of the underlying geotextile.
- B. The liner ballast system shall consist of 30- to 40-lb sandbags installed on a grid pattern over the UV protection layer geomembrane. The horizontal and vertical spacing of the sandbags shall be a maximum of 10 feet. The sandbags shall be securely connected by rope. Placement of the liner ballast system shall in no way compromise the integrity of the underlying geosynthetic layers.
- C. The following is the acceptable method of deployment of the UV protection layer geomembrane and liner ballast system:
 1. Use equipment which will not damage the UV protection layer by handling, trafficking, leakage of hydrocarbons, or any other means.
 2. Do not allow personnel working on the UV protection layer to wear damaging shoes or engage in activities that could damage the UV protection layer geomembrane.
 3. Smoking on the UV protection layer geomembrane is prohibited.
 4. Round sharp corners of clamps and other metal tools used in the work area.
 5. Do not allow clamps and other metal tools to be tossed or thrown.
 6. Deploy panels using a method that protects geomembrane from scratches and crimps and protects the underlying geosynthetics from damage.
 7. Place adequate hold-downs to prevent uplift by wind.
 8. Use hold-downs that will not damage the geomembrane (such as sandbags).
 9. Use continuous hold-downs along leading edges to minimize risk of wind flow under panels.
 10. Vehicular traffic shall not be allowed on the geomembrane.
 11. UV protection layer geomembrane shall extend 2 feet below the top of the operations layer on the slopes, as shown on the Drawings. UV protection layer geomembrane shall extend into top-of-slope anchor trenches as shown on the Drawings.

12. The liner ballast system shall be securely anchored in the anchor trenches using an Engineer-approved method.

D. Visually inspect geomembrane surface and mark faulty or suspect areas for repair.

FIELD SEAMING

A. UV protection layer geomembrane field seams shall be continuously sewn, unless approved otherwise by the Engineer.

REPAIR PROCEDURES

A. The UV protection layer geomembrane shall be inspected before and after seaming for evidence of defects, holes, blisters, undispersed raw materials, and any sign of contamination by foreign matter. The surface of the geomembrane shall be clean at the time of inspection. The geomembrane surface shall be swept or washed by the Geosynthetics INSTALLER if surface contamination inhibits inspection.

B. Remove damaged geomembrane and replace with acceptable geomembrane materials if damage cannot be satisfactorily repaired.

C. Repair, removal, and replacement shall be at the Geosynthetics INSTALLER’S expense.

D. Repair any portion of the geomembrane exhibiting a flaw. The Geosynthetics INSTALLER shall be responsible for repair of damaged or defective areas. Repair procedures include:

1. Patching: Used to repair holes, tears, undispersed raw materials, and contamination by foreign matter.
2. Removal and replacement: replace damaged geomembrane panels that cannot be adequately repaired.

E. In addition, the following repair procedures shall be observed:

1. All geomembrane surfaces shall be clean and dry at the time of repair.
2. The repair procedures, materials, and techniques shall be approved in advance of the specific repair by the CQA CONSULTANT.
3. Extend patches at least 12 inches beyond the edge of the defect in all directions.

TABLE 02779-1

REQUIRED PHYSICAL PROPERTIES OF UV PROTECTIVE LAYER

Property	Qualifier	Unit	Required Value(s)	Test Method
Thickness	Nominal	mil	12	-
Weight	Min.	lbs/MSF	53	-
Tensile Strength	Min.	lbs/in	52	ASTM D7003
Grab Tensile Strength	Min.	lbs	80	ASTM D7004

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE AND SHOTCRETE

GENERAL

SUMMARY

- A. This section covers all cast-in-place concrete and shotcrete, including reinforcing steel, finishing, curing, and other appurtenant work.
- B. The CONTRACTOR shall furnish all labor, equipment, materials and incidentals necessary to complete all concrete work as shown on the Drawings and specified herein.
- C. All concrete designs shall be based on 3,500 psi concrete. The minimum allowable concrete compressive strength at 28 days shall be 3,500 psi.

REFERENCE STANDARDS AND DOCUMENTS

- A. Except as otherwise indicated on the Drawings or stated in these Specifications, materials, equipment, details, and construction methods shall comply with the applicable provisions of the Standard Specifications for Public Works Construction (SSPWC).
- B. All concrete work shall be in conformance with the recommended practices of American Concrete Institute (ACI-301). All concrete design and details shall conform to requirements of latest publication of ACI-318. All steel reinforcements shall comply with the Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practices."

SUBMITTALS

(Not Used)

QUALITY ASSURANCE/CONTROL

- A. The CONTRACTOR shall adhere to Section 01400 of these Specifications.
- B. The CQA CONSULTANT shall monitor the placement of the reinforcing steel and concrete. For concrete used for permanent structures, three (3) test cylinders shall be prepared for every 50 cubic yards of concrete delivered to the site. One (1) test cylinder shall be tested at 7 days and two (2) test cylinders shall be tested at 28 days, in accordance with ASTM C39. The average of the 28-day results shall not be less than the specified compressive strength.

MATERIALS

MATERIAL REQUIREMENTS

- A. Portland Cement - ASTM C150, Type II/V.
- B. Fine Aggregate - Natural washed sand, ASTM C33.

- C. Coarse Aggregate - Crushed rock, washed gravel, or other inert granular material conforming to ASTM C33.
- D. Water - Potable, clean and free from deleterious substances, ASTM C94.
- E. Reinforcing Steel - ASTM A615, deformed, Grade 60 bars. Welded wire fabric shall conform to ASTM A1064.
- F. Membrane Curing Compound - Federal Specification TT-C-800, Type I, Class 1; minimum 18 percent solids; non-yellowing; unit moisture loss 0.039 gm/cm² mas; Gifford-Hill "Sealco 800," ProSoCo "Kure and Seal," Protex "Acrychlor," or Sonneborn "Kure-N-Seal."
- G. Polyethylene Film - PS17; 6 mil.
- H. Fly Ash – ASTM C618, Type F.
- I. Water Reducing Admixture: ASTM C494, Type A.
- J. Tie Wire: Minimum 16-gauge, annealed type.

MIX DESIGN

- A. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability, as approved by Construction Manager.
- B. Unless otherwise specified, concrete mix shall be controlled within the following limiting requirements:
 - 1. Cement Content - Not less than 550 pounds per cubic yard.
 - 2. Water to Cement Ratio – Not to exceed 0.55.
 - 3. Consistency - Workable, without segregation, with slump not more than 5 inches when concrete is placed.
 - 4. Mixing - Thoroughly in a batch mixer for not less than 4 minutes at high speed.
 - 5. Compressive Strength – 3,500 psi at 28 days in accordance with ASTM C39.
 - 6. Maximum Aggregate Size – 1-inch.

CONCRETE FORMS

- A. Forms shall be designed to produce hardened concrete having the shape, lines, and dimensions indicated on the drawings. Forms shall be substantial and sufficiently tight to prevent leakage and shall be maintained in proper position and accurate alignment. Forms shall be thoroughly cleaned and oiled before concrete is placed and shall not be removed until the concrete has hardened sufficiently to support all loads without damage.
- B. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.

- C. Use plywood complying with U. S. Product Standard PS-1 "B-B Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.
- D. Forms for Unexposed Finish Concrete: Plywood, lumber, metal, or other acceptable material. Provide lumber dressed on at least two edges and one side for tight fit.
- E. Form Release Agent: Provide commercial formulation form release agent with a maximum of 350 mg/l volatile organic compounds (VOCs) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

EXECUTION

FORMS

- A. Construct forms to sizes, shapes, lines, and dimensions shown and to obtain accurate alignment, location, grades, level, and plumb work in finished structures.
- B. Fabricate forms for easy removal without hammering or prying against concrete surfaces.
- C. Chamfer exposed corners and edges as indicated, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- D. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before placing concrete. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

PLACING REINFORCEMENT

- A. General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as approved by Construction Manager.
- D. Place reinforcement to maintain minimum coverage as indicated for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

PLACEMENT OF CONCRETE

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- B. General: Comply with ACI 304, "Guide for Measuring, Mixing, Transporting, and Placing Concrete", and as specified.
- C. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened sufficiently to cause seams or planes of weakness.

- D. Concrete shall be conveyed to the point of final deposit and placed by methods which will prevent the separation or loss of the ingredients.
- E. Re-tempering of concrete or mortar which shows evidence of initial set shall not be permitted. Such concrete or mortar materials are unacceptable and shall be disposed away from the work site or as directed by the DESIGN ENGINEER.
- F. Appropriate mechanical vibration shall be used in order to thoroughly work concrete around reinforcement and embedded fixtures and into corners of the forms during placing operations.
- G. Unless otherwise authorized, compaction shall use immersion-type vibrators. Compaction shall result in concrete free of voids. Exercise care to compact concrete vigorously and thoroughly to obtain maximum density. Concrete shall be consolidated within 15 minutes after its placement in the forms.
- H. Where depositing concrete by chute, provide equipment of such size and design as to ensure a continuous flow in the chute. Provide the discharge end of the chute with a baffle plate to prevent segregation. Position the chute so that the concrete will not need to flow more than 5 feet horizontally.
- I. Do not drop concrete from the end of a chute a distance greater than 3 times the horizontal thickness of the layer being deposited, with a maximum distance of 5 feet. Where the distance from the end of the chute to the surface of the concrete exceeds these distances, use a spout (tremie) and maintain the lower end as near to the surface of deposits as practical. When the operation is intermittent, discharge the chute into a hopper.
- J. Concrete shall be discharged at the job within 1.5 hours after the cement has been added to the water or the aggregates, except when the air temperature exceeds 85°F, the time shall be reduced to 45 minutes.
- K. Immediately after completion of trowel finish, surfaces shall be slightly roughened by brushing with a fiber-bristle brush in the directing of drainage.
- L. Immediately following completion of finishing operations and after concrete has taken initial set, the floor shall be covered to prevent evaporation of water from the concrete, curing shall be accomplished by the following methods.
- M. "Curing Compound" - When ponding or wetting method is not possible because of essential construction operations, the use of a colorless curing compound conforming to ASTM C309 will be acceptable. Application shall be in accordance with the manufacturer's instructions.
- N. All footings shall be placed in undisturbed native soil or approved compacted fill.

FINISHING

- A. Fins and other surface projections shall be removed from all formed surfaces except surfaces that will be in contact with earth backfill. Surface voids and recesses resulting from removal of form ties shall be filled with mortar. Forms shall not damage the concrete when removed.

CURING

- A. Concrete shall be maintained in a moist condition and protected from loss of moisture for at least seven days by polyethylene film or membrane curing compound. Membrane curing compound shall be applied as recommended by the manufacturer. Concrete shall not be permitted to freeze for at least seven days following placement.

JOINTS

- A. Construction Joints: Locate and install construction joints so they do not impair strength or appearance of the structure, as acceptable to Construction Manager.
- B. Place construction joints perpendicular to main reinforcement.

INSTALLING EMBEDDED ITEMS

- A. General: Set and build into formwork anchorage devices and other embedded items required for other work that is attached to or supported by cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.
- B. Forms for Slabs: Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

END OF SECTION

GENERAL PROVISIONS
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GENERAL PROVISIONS

ARTICLE 1: DEFINITIONS

- a. As shown, as indicated, as detailed shall be understood to be followed by the words "on the Drawings."
- b. Contract Documents shall mean all documents as specified in Section 5 of the Contract between the District and Contractor.
- c. Days and Working Days shall be understood to mean calendar days, unless otherwise specifically stated.
- d. District and Contractor are those mentioned as such in the Contract. They are treated throughout the Contract Documents as if they are of singular number.
- e. District Inspector shall mean any person(s) employed or authorized by the District to exercise on-site control or supervision on behalf of the District in all matters pertaining to the work on the project that are subject to District approval, including supervision or inspection necessary to ensure that performance of the work is in strict accordance with the plans, drawings and specifications. The District Inspector's authority shall be subordinate to that of the Project Manager and General Manager, respectively, as defined herein.
- f. Extra Work shall mean such additional labor, materials, equipment and other incidentals as are required to complete the work for the purpose for which it was intended but was not shown on the plans or called for in the specifications, or is desired by the District in addition to that work called for in the plans and specifications.
- g. General Manager shall mean District's General Manager.
- h. Project Manager shall mean a properly authorized employee of District, or an independent contractor retained by District for the project, acting within the scope of their particular delegated duties. The Project Manager may also sometimes hereinafter be referred to as "District's Engineer."
- i. Provide shall mean "provide complete in place," that is, "furnish and install."
- j. Subcontractor as used herein includes those having a direct contract with Contractor who furnish material worked to a special design according to Drawings and Specifications of this work, but does not include those who merely furnish material not so worked.
- k. Standard Specifications shall be the most recent edition of Standard Specifications for Public Works Construction (also known as Green Book or SSPWC) published by Building News, Inc., Los Angeles. Whenever in these General or Special provisions references are made to published specifications, standards or other requirements, it shall be understood that the latest specifications, standards or requirements of the respective issuing agencies, which have been published as of the date the work is advertised for bids, shall apply, except as otherwise specified herein, and except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances or governing codes. No requirements set forth in these specifications or shown on the drawings shall be waived because of any provision of, or omission from, said standards or requirements.

1. Surety is the person, firm or corporation that executes as surety the Contractor's Performance and Labor and Material Bonds.

m. Work shall include all material, labor and tools, and all appliances, machinery, transportation and appurtenances necessary to perform and complete the Contract, and such additional items not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated and as required by good practice to provide a complete and satisfactory system, structure or service.

n. District Representatives. District Inspector, General Manager and Project Manager, all as defined herein, shall hereinafter sometimes be collectively referred to as "District representatives."

ARTICLE 2: DRAWINGS AND SPECIFICATIONS

a. Contract Documents. Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which when applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.

b. Interpretations. Figured dimensions on Drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large-scale details shall take precedence over smaller scale drawings. Specifications shall govern as to materials, workmanship and installation procedures. Should these General Provisions conflict with the Special Provisions of these Contract Documents, the Special Provisions shall govern.

c. Specifications and Drawings. Contractor shall keep at work a copy of the specifications and drawings and shall at all times provide District representatives with access thereto. Drawings and Specifications are intended to be fully complementary and consistent; however, Contractor shall check all dimensions and quantities on the drawings and schedules herein contained or given to it, and shall notify the District of all errors therein which may be discovered by examining and checking the drawings. The Contractor shall not take advantage of any error or omission in these specifications, or in the drawings or schedules, but, should such error or omission be discovered, the Contractor shall obtain instructions from the District and the Contractor shall carry out such instructions as if originally specified. Any necessary changes shall be adjusted as provided in the Contract for changes in work.

ARTICLE 3: TIME FOR COMPLETION AND LIQUIDATED DAMAGES

a. Time For Completion. Work shall commence on the date stated in District's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract and Special Provisions. Before work shall commence, all schedules and other documents required herein to be delivered prior to work shall be delivered to District.

b. Time of Essence. All time limits stated in the Contract are of the essence.

c. Liquidated Damages. [California Government Code §53069.85] Work shall commence on the date stated in District's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract and the Special Provisions. Should Contractor fail to complete the work, or any part thereof, in the time agreed upon in the Contract, or within such extra time as may have been allowed for delays by extensions granted as provided herein, Contractor shall pay District for the additional expense

and damages incurred by District for each calendar day, Sundays and legal holidays included, that the Contract remains uncompleted after the Contract completion date. Such damages are, and will continue to be, impracticable and extremely difficult to ascertain; however, it is agreed that the minimum amount of such additional expense and damage incurred by District by reason of Contractor's failure to complete the work in the allotted time is the rate stipulated in the Contract. It is expressly understood and agreed that this amount is not to be considered in the nature of a penalty, but as liquidated damages which have accrued against Contractor. District shall have the right to deduct such damages from any amount due, or to become due, to Contractor, or the amount of such damages shall be due and collectible from Contractor or its Surety.

d. Extension of Time.

(1) It is further agreed, that in the event the work called for under the Contract is not finished and completed in all parts and/or all the requirements have not been met within the time specified, the District shall have the right to extend the time for completion of the Contract or not, as may seem best to serve the interest of the District, and if the District decides to extend the time limit for completion of the Contract, the District shall further have the right to charge to the Contractor, successors, assigns, or sureties and to deduct from the final payment of the work all or any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses during the period of such extension, except that the cost of final surveys and preparation of the final estimate will not be included in such charges.

(2) Contractor shall not be charged liquidated damages because of any delays in completion of work due to acts of God, public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes or unusually severe weather, or delays of subcontractors due to such causes. Within ten (10) days of the beginning of any such delay (unless District grants a further period of time prior to date of final settlement of the Contract), Contractor shall notify District in writing of the causes of delay. Thereupon District shall ascertain the facts and extent of delay and grant extension of time for completing work when, in District's judgment, the facts justify such an extension. Contractor shall bear the burden of proving that the District's judgment thereon is not justified by the facts. In case of a continuing cause of delay, only one claim is necessary.

ARTICLE 4: DOCUMENTATION OF DELAYS

When Contractor requests an extension of time for delay due to inability to obtain materials or equipment (attributable to the conditions specified in Article 3d above), its report shall include the following:

- a. Date District Inspector was notified of delay.
- b. Date the delay began.
- c. Exact description of material or equipment causing delay.
- d. Documentation showing when and from whom ordered.
- e. Documentation of promise to deliver.
- f. Documentation of actual delivery date.
- g. Description of how late delivery caused delay (include construction schedule).

- h. Documentation of diligent measures taken to get prompt delivery.
- i. Documentation of diligent attempts to get delivery from other sources.
- j. Description of steps taken in project scheduling to minimize effects of late delivery.
- k. Description of steps taken to get project back on schedule after actual delivery.
- l. Statement of actual time lost as a result of late delivery.

ARTICLE 5: SUSPENSION OF WORK

a. The Project Manager may at any time, by notice in writing to the Contractor, suspend any part or all of the work for such period of time as may be deemed necessary either to prevent improper execution of work on the project, to prevent interference with other District work, or to comply with the orders of another public agency having jurisdiction in the matter. Except as herein provided, the Contractor shall have no claim for damages or additional compensation, including the cost of equipment downtime, on account of any such suspension.

b. Upon receipt of notice of such suspension, the Contractor shall immediately discontinue all work so suspended, except for such operations necessary to prevent loss or damage to work already executed, as may be directed by the District Representative.

c. Work shall be resumed by the Contractor upon ten days' written notice from the Project Manager, and if the suspension has caused the need for additions to the work, Contractor will be paid for such additional work on the same basis as for extra work, as specified in Article 15 herein, and for all costs of work performed in accordance with orders of the District Representative during said suspension, provided that the Contractor shall not be paid as extra work for any work not suspended by said notice.

d. In the event of any suspension of the work in whole or in part, the Contractor will be entitled to an extension of time to complete the work to the extent that the suspension was not the fault of Contractor. If such suspension is due to failure on the part of Contractor to carry out orders given or to perform any provision of this Contract, the days on which the suspension order is in effect shall be considered working days.

ARTICLE 6: ACTS OF GOD

As provided in California Government Code Sections 4150-4151, Contractor shall not be responsible for the cost of repairing or restoring damaged portions of the work determined to have been proximately caused by an act of God in excess of five percent of the contract amount, provided that the work damaged was built in accordance with accepted and applicable building standards and the Specifications and Drawings. In the event of such occurrence, however, District in its sole discretion may without liability terminate this Contract upon ten days notice to Contractor, with payment to Contractor for work performed prior to such occurrence.

Contractor shall obtain insurance to indemnify District for any damage to the work caused by an act of God if the premium of said insurance coverage is called for as a separate bid item in the bidding schedule for the work. For purposes of this Article, the term "act of God" shall include only the following occurrences or conditions and effects: tidal waves and earthquakes of a magnitude in excess of 3.5 on the Richter Scale.

ARTICLE 7: DISTRICT'S RIGHT TO TERMINATE CONTRACT

a. If Contractor refuses or fails to execute the work or any separable part thereof with such diligence as will insure its completion within the time specified or any extension thereof; or if Contractor should be adjudged a bankrupt; or if it should make a general assignment for the benefit of its creditors; or if a receiver should be appointed on account of its insolvency; or if it should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the work in the time specified; or if it should fail to make prompt payment to subcontractors or for material or labor; or if it should persistently disregard laws, ordinances or instructions of District; or if it should otherwise be in default of or guilty of substantial violation of any provision of the Contract; or if it or its subcontractor(s) should violate any of the provisions of this Contract; then District may, without prejudice to any other right or remedy, serve written notice upon Contractor and its Surety of District's intention to terminate this Contract, such notice to contain the reasons for such intention to terminate, and unless within ten days after service of such notice such condition shall cease or such violation shall cease and satisfactory arrangements for the correction thereof be made, District may terminate the employment of Contractor and take over the work and prosecute same to completion by contract or by any other method it may deem advisable for the account and at the expense of Contractor, and Contractor and Surety shall be liable to District for any excess cost or other damages occasioned District thereby. If District takes over the work as provided herein, District may, without liability for so doing, take possession of and utilize in completing the work such materials, appliances, and other property belonging to Contractor as may be on the site of the work and necessary therefor. In lieu of take over by the District of the work, the surety may take over and perform the Contract if the surety begins work thereon within said ten-day period, subject to all of the requirements of the Contract.

b. Unless the surety takes over the work, the Contractor shall not be entitled to receive any payments after the date of such notice of termination; provided, that if, upon completion of the work, the total cost to the District in connection therewith from the date of said notice to the date of completion shall be less than the amount which the Contractor would have been paid if the work had been completed by it in accordance with the terms of the Contract, then said difference shall be paid to the Contractor in the same manner as the final payment under the Contract. On the other hand, if the expense incurred by the District on account of termination of the Contract and subsequent completion of the work by the District by whatever method the District may deem expedient shall exceed said amount which the Contractor would otherwise have been paid, the Contractor and its surety on the performance bond shall be liable to the District for the full amount of such excess cost and for any damages incurred by the District incidental thereto, and the District shall be entitled to deduct the amount of such costs from any subsequent payments otherwise due the Contractor.

c. Should District take over the work as provided herein, neither the Contractor nor any of its subcontractors shall remove from the vicinity of the work any equipment, materials, or other facilities except with the written permission of the District Representative.

d. In the event the District takes over part of the work, it shall have the right to use any and all equipment, materials, and other facilities not allocated to and required for use by the Contractor on the remainder of the work. In the event the District exercises its right to terminate the Contract, the District and its agents and employees shall have the right to use all the equipment, materials, and other facilities of the Contractor. In either event, all costs arising from and incidental to the use of such equipment, materials, and other facilities shall be considered as part of the cost incurred by the District in connection with such work.

e. In the event this Contract shall be terminated for any cause before completion of the work,

the Contractor, if notified to do so by the District, shall remove any part or all of its equipment and materials from the property of the District, and, if such equipment and materials be not removed within 30 days, the District shall have the right to remove and store such equipment and materials at the expense of the Contractor.

f. If a national emergency occurs and public work is stopped, directly or indirectly, as defined in California Government Code §4410, and as defined therein it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the District and Contractor may, by written agreement, terminate this Contract. Such an agreement shall contain the provisions required by California Government Code §4411.

ARTICLE 8: PAYMENTS, COMPLETION AND ACCEPTANCE

Unless otherwise specified in the Special Provisions, payments will be made as follows:

a. Partial Payments.

(1) Contractor shall within ten days of the date of the beginning of the work as set forth in the Notice to Proceed submit to the District a complete breakdown of the Contract amount, showing the value assigned to each part of the work. Upon approval of the breakdown of the Contract amount by the Project Manager, it shall form the basis for all requests for partial payments.

(2) On or about the last day of each calendar month, the Contractor may make an approximate measurement of all work under the Contract completed to that date and may prepare and submit to the District for verification and approval, a certified estimate for monthly progress payment based on the approximate measurements and the breakdown estimate unit prices, setting forth amounts due for work performed. The estimates shall be prepared in the form directed by or otherwise acceptable to the Project Manager and shall be delivered to the Project Manager no later than the fifth day of each calendar month.

(3) In addition to the amount of completed construction, estimates may include that portion of the costs of all acceptable materials for the Contract that have been delivered and suitably stored at the project site, provided that evidence is submitted to the District to establish the Contractor's title to such materials. The Project Manager will verify and, if found correct, will approve such estimates and, after designating appropriate deduction of all sums to be retained by the District under the provisions of the Contract, will transmit the approved estimate to the District's disbursing authority for monthly progress payment.

(4) No such estimate or payment shall be made or processed when, in the judgment of the Project Manager, the work is not proceeding in accordance with the provisions of the Contract.

(5) No such estimate or payment shall be construed to be an acceptance of any defective work or material.

(6) Work completed as estimated shall be an estimate and no inaccuracy or error in said estimate shall operate to release Contractor or any surety from damages arising from such work or from enforcing each provision of this Contract and District shall have the right subsequently to correct any error made in any estimate for payment.

(7) Prior to receipt of any payments from District, including final payment, Contractor shall provide to District releases of all mechanic's liens, materialmen's liens, and other liens applicable

to those portions of the Contract which have been completed and for which payments are being received.

(8) After verification and approval of estimates prepared and presented as set forth above, payments will be made to the Contractor as follows. Once each calendar month, following the specified processing of payment request, the District will make partial payment to the Contractor on the basis of the certified estimate of the work performed during the preceding calendar month by the Contractor, as verified and approved by the District Representative, provided that the District shall retain ten percent of the amount of each such estimate, or such amount as may be otherwise specified in the Contract documents, until the Contract work has been completed and accepted.

b. Final Estimate and Payment; Notice of Completion

(1) Whenever the Contractor shall deem all work under this Contract to have been completed in accordance therewith, Contractor shall so notify the Project Manager in writing and the Project Manager will ascertain whether such be the fact and, if not, will advise the Contractor in detail and in writing of any additional work required.

(2) Whenever in the opinion of the Project Manager the Contractor shall have completely performed the Contract on its part, in accordance with the plans and specifications, and the work is ready for acceptance, the Project Manager will so certify to the District Board of Directors in writing, which may accept the completed work. Completion of the work, as used herein, shall include Contractor showing evidence of having received an occupancy clearance from Building and Safety, or other permit-issuing agency, when a building, plumbing, electrical, grading, or other permit is required for the work.

(3) In his certification to the District Board of Directors, the Project Manager will give the date when the work was completed. Said completion date for the work will be the date when Contractor is relieved from responsibility to protect the work. This will also be the date to which liquidated damages will be computed.

(4) Upon receipt of the Project Manager's Certificate and all documents to be furnished by Contractor with regard to its final performance of the Contract (e.g. final invoices), the District Board of Directors will accept at its next regular meeting the completed work and shall within ten (10) days thereafter cause a Notice of Completion to be filed in the Office of the County Recorder. On the expiration of 35 days after the filing in the Office of the County Recorder of the Notice of Completion, the District will pay to Contractor the amount remaining, after deducting such sums as shall theretofore have been paid to Contractor under any of the provisions of the Contract, and also any sum or all sums of money which by the terms hereof the District is or may be authorized or required to reserve or retain. All prior certificates upon which partial payment may have been made, being merely estimates, shall be subject to correction in the final certificate, which final certificate may be made without notice thereof to the Contractor.

(5) District shall not be precluded or estopped by any measurement, estimate or certificate made either before or after the completion and acceptance of the work and payment therefor from showing the true amount and character of the work performed and materials furnished by Contractor, or from showing that any such measurement, estimate or certificate is untrue or is incorrectly made, or that the work or materials do not in fact conform to the Contract.

(6) District shall not be precluded or estopped, notwithstanding any such measurement, estimate or certificate and payment in accordance therewith, from recovering from Contractor or its Surety, or both, such damages as District may sustain by reason of Contractor's failure to comply with the terms of the Contract.

(7) A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

(8) Neither the final certificate of payment nor any provision in the Contract Documents, nor the partial or entire occupancy of the premises by District, shall constitute an acceptance of work not done in accordance with the Contract Documents or relieve Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.

ARTICLE 9: ACCEPTANCE OF PAYMENTS CONSTITUTES RELEASE OF DISTRICT

Acceptance by Contractor of undisputed contract payments shall release District from all claims and all liability to Contractor for all things done or furnished in connection with said work relating to such undisputed payments, and every act of District and others relating to or arising out of the work. Pursuant to California Public Contract Code §7100, District at its sole discretion may require payment of undisputed Contract amounts to Contractor to be contingent upon Contractor furnishing the District with a written release of all claims against the District arising by virtue of this Contract relating to such amounts, in such form as District shall determine. No payment, however, final or otherwise, shall operate to release Contractor or its sureties from obligations under this Contract and the Performance Bond, and other bonds and warranties, as herein provided.

ARTICLE 10: PAYMENT-IN-FULL AFFIDAVIT

After the completion of the work contemplated by this Contract, Contractor shall file with District its Payment-in-Full Affidavit, sworn to before a Notary Public, stating that all workmen and persons employed, all firms supplying the materials, and all subcontractors upon the project have been paid in full, and that there are no bills outstanding against the project for either labor or materials, except certain items, if any, to be set forth in such affidavit covering disputed claims, or items in connection with which notices to withhold have been filed under the provisions of the statutes of the State of California. The filing of such affidavit by Contractor shall be a prerequisite to the making by District of the final payment on the Contract.

ARTICLE 11: GUARANTEE; MAINTENANCE BOND

a. Besides guarantees required elsewhere, Contractor shall, and hereby does, guarantee all work for a period of one year after date of acceptance of work by District and shall repair or replace any or all such work, together with any other work that may be displaced in so doing, that may prove defective in workmanship and/or materials within a one-year period from date of acceptance without expense whatsoever to District, ordinary wear and tear, unusual abuse or neglect excepted. District will give notice of observed defects with reasonable promptness. Contractor shall notify District upon completion of repairs.

b. In the event of failure of Contractor to comply with the above-mentioned conditions within one week after being notified in writing, District is hereby authorized to proceed to have defects repaired and made good at the expense of Contractor, or its surety, who hereby agree to pay costs and charges therefor immediately on demand.

c. If, in the opinion of District, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to District or to prevent interruption of operations of District, District will attempt to give the notice required by this Article. If Contractor cannot be contacted or does not comply with District's request for correction within a reasonable time as

determined by District, District may, notwithstanding the provisions of this Article, proceed to make such correction or provide such attention and the costs of such correction or attention shall be charged against Contractor. Such action by District will not relieve Contractor of the guarantees provided in this Article, these General Provisions or the Contract Documents.

d. This Article does not in any way limit the guarantee on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish District all appropriate guarantee or warranty certificates upon completion of the project.

e. The guarantees and agreements set forth hereinabove shall be secured by a Maintenance Bond which shall be delivered by the Contractor at its expense to the District immediately after acceptance of the work by the District. Said bond shall be in an approved form and executed by a surety company or companies satisfactory to the District, in the amount of ten percent of the contract price or \$1,000, whichever is greater. Said bond shall remain in force for a period of one year after the date of said acceptance of the work by the District Board.

f. Instead of providing the bond described above, the Contractor may at its option and expense, provide for the Faithful Performance Bond furnished under the Contract to remain in force and effect for said amount until the expiration of said one-year period.

ARTICLE 12: DEPOSIT OF SECURITIES IN LIEU OF RETENTION

In accordance with California Public Contract Code §22300, substitution of securities for any monies withheld by the District to ensure performance under the Contract is permitted. [These provisions shall not apply in contracts where financing will be provided by the Farmers Home Administration of the United States Department of Agriculture pursuant to the Consolidated Farm and Rural Development Act (7 U.S.C. §1921 et. seq.), and where Federal regulations or policies, or both, do not allow the substitution of securities.] At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the District, or with a state or federally chartered bank as the escrow agent, who shall then pay such moneys to the Contractor. [See California Public Contract Code §22300 for form of escrow instructions.] Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor. Securities eligible for investment under this section shall include those listed in California Government Code §16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the District. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.

ARTICLE 13: PAYMENTS WITHHELD

In addition to those amounts which District may retain under Article 8, District may withhold a sufficient amount or amounts of any payment or payments otherwise due to Contractor, as District reasonably determines to be necessary to cover:

- a. Defective work not remedied in accordance with provisions of the Contract Documents;
- b. Claims or liens filed or reasonable evidence indicating probable filing of claims or liens;
- c. Failure of the Contractor to make payments properly for labor, services, materials, equipment, or other facilities or to subcontractors;

- d. A reasonable doubt that the work can be completed for the balance remaining;
- e. A reasonable doubt that the Contractor will complete the work within the agreed time limits;
- f. Costs to the District resulting from failure of the Contractor to complete the work within the stipulated time;
- g. Damage to other work and property;
- h. Failure to fulfill all the requirements of the Contract Documents; or
- i. Pending litigation against the District related to this Contract or reasonable anticipation thereof.

Whenever District shall, in accordance herewith, withhold any monies otherwise due to the Contractor, written notice of the amount withheld and the reasons therefor shall be given the Contractor, and, when the Contractor shall remove the grounds for such withholding, the District will pay to the Contractor, within 35 days, the amount so withheld. Alternatively, District may apply such withheld amount or amounts to payment of such claims or obligations at its discretion. In so doing, District shall be deemed the agent of Contractor and any payment so made by District shall be considered as a payment made under Contract by District to Contractor and District shall not be liable to Contractor for such payments made in good faith. Such payments may be made without prior judicial determination of claim or obligations. District will render Contractor a proper accounting of such funds disbursed on behalf of Contractor.

ARTICLE 14: STOP NOTICES/RETENTION BY DISTRICT

a. The District may at its option and at any time retain out of any amounts due or to become due the Contractor, sums sufficient to cover all claims filed pursuant to Chapter 4, Title 15, Division 3, of the California Civil Code, commencing at Section 3179. Sums retained by the District may also include an amount to provide for the estimated reasonable cost of any litigation concerning said claim or claims [California Civil Code §3186].

b. If any claim should remain unsatisfied after final payment to the Contractor, the Contractor shall refund to the District any money that the latter may be compelled to pay to discharge such claim, including all costs and reasonable attorney's fees.

ARTICLE 15: CHANGE ORDERS AND EXTRA WORK

a. When construction conditions are such that it becomes necessary or desirable to modify the Contract Documents to cover unforeseen circumstances encountered during the progress of work, the District may by written order alter, add to or subtract from the work on the project, the contract sum being adjusted accordingly. No such change order shall be effective until approved in writing by the General Manager.

b. The Contractor shall perform each item of extra work so ordered, furnishing all labor, materials, tools, equipment, supplies, transportation, utilities, and other facilities necessary for the proper execution and completion of such extra work, in the same manner as if such extra work were originally set forth in the Contract Documents.

c. The value of such extra work, alteration or deduction shall be determined based upon consultation between District and Contractor. If District and Contractor cannot agree on the value of

such extra work, alteration, or deduction, District nonetheless may issue such change order subject to this Contractor's right to protest under Article 47 herein.

d. The Contractor shall desist or refrain from executing any item of work on the project or part thereof when so directed by written change order given as a result of unforeseen conditions. The District will determine the fair and reasonable value thereof, and such amount shall be deducted from the payments the Contractor would otherwise have received if such change order had not been effected.

e. If Contractor should claim that any instruction, request, drawing, specification, action, condition, omission, default or other situation obligates District to pay additional compensation to Contractor or to grant an extension of time for the completion of the Contract, or constitutes a waiver of any provision in the Contract, it shall notify District, in writing, of such claim within ten days from the date it has actual or consecutive notice of the factual basis supporting the claim. Contractor's failure to notify District within such ten-day period shall be deemed a waiver and relinquishment of the claim against District. If such notice is given within the specified time, the procedure for its consideration shall be as stated in Article 47 herein.

ARTICLE 16: BONDS

a. Contractor shall at its expense furnish Performance and Labor & Material (Payment) Bonds, each in an amount equal to 100 percent of the contract price, as security for faithful performance of this Contract and payment of costs incurred. The bonds shall be in the form attached to the Contract Documents or in a form otherwise sufficient and acceptable to District. The standard printed bonding form of such acceptable bonding surety may be used in lieu of the approved sample forms attached to the Contract Documents, as long as the security stipulations protecting the District are not in any way reduced by the use of such standard form. All costs in connection with surety bonds shall be borne by Contractor. These bonds shall be delivered by Contractor to District within 15 days after award of the Contract, as specified in the Instructions to Bidders. If any surety becomes insolvent or its right to do business in California is terminated, within five days thereafter Contractor shall substitute another bond and surety. Surety(ies) shall be "admitted" (licensed to do business within the State of California) and acceptable to District.

b. Contractor at its expense shall provide a Maintenance Bond or extension of its Performance Bond at the completion of work as specified in Article 11 herein.

ARTICLE 17: INSURANCE

Contractor shall procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

a. Minimum Scope of Insurance. Coverage shall be at least as broad as:

(1) Insurance Services Office Form No. GL 0002 (Ed. 1/73 or later) covering Comprehensive General Liability and Insurance Services Office Form No. GL 0404 covering Broad Form Comprehensive General Liability; or Insurance Services Office Commercial General Liability coverage (Occurrence Form No. CG 0001).

(2) Insurance Services Office Form No. CA 0001 (Ed. 1/78 or later) covering Automobile Liability, Code 1, any auto.

(3) Should the form numbers of the policies described in subsections 1 and 2 above be updated or revised from time-to-time, Contractor may use such updated or revised forms so long as the coverage evidenced thereby is equal to or broader than the coverage indicated by the above forms.

(4) Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

b. Minimum Limits of Insurance. Contractor shall maintain limits no less than:

(1) General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

(2) Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.

(3) Employer's Liability: \$1,000,000 per accident for bodily injury or disease.

c. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to and approved by the District. At the option of the District, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its officers, officials, employees and volunteers, or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

d. Other Insurance Provisions. The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

(1) The District, its officers, officials, employees and volunteers are to be covered as insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the District, its officers, officials, employees or volunteers.

(2) For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the District, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the District, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

(3) Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the District, its officers, officials, employees or volunteers.

(4) The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

(5) Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after 30 days prior written notice by certified mail, return receipt requested, has been given to the District.

e. Acceptability of Insurers. Insurance is to be placed with insurers licensed to do business within the State of California and acceptable to District.

f. Subcontractors. Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

ARTICLE 18: PROOF OF COVERAGE

Contractor shall furnish the District with original endorsements effecting coverage required by this clause. The endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms acceptable to the District. All endorsements are to be received and approved by the District before work commences.

ARTICLE 19: SUBCONTRACTOR INSURANCE

Contractor shall require all subcontractors engaged by it on the work to maintain such insurance as will protect such subcontractors from claims under workers' compensation acts.

ARTICLE 20: SUBCONTRACTING

a. Contractor agrees to bind every subcontractor by terms of the Contract as far as such terms are applicable to subcontractor's work. If Contractor shall subcontract any part of this Contract, Contractor shall be as fully responsible to District for acts and omissions of its subcontractor and of persons either directly or indirectly employed by its subcontractor as it is for acts and omissions of persons directly employed by itself. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and District.

b. District consent to or approval of any subcontractor under this Contract shall not in any way relieve Contractor of its obligations under this Contract and no such consent or approval shall be deemed to waive any provision of this Contract.

c. Substitution or addition of subcontractors shall be permitted only as authorized by California Public Contract Code Section 4100 et. seq.

ARTICLE 21: INDEMNITY

To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless District and its agents, employees, directors and officers from and against all liabilities, claims, damages, losses and expenses, including expert witness, consultant and attorney fees, relating to or arising out of or resulting from the performance of Contractor's work, provided that any such claim, damage, loss or expense: (1) is attributable to bodily injury, sickness, disease or death, or to injury or to destruction of tangible property, including the loss of use resulting therefrom; and (2) is caused by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. Contractor shall also defend, indemnify and hold harmless District and its agents, employees, directors and officers from and against all liabilities, losses, expenses, damages, attorneys and consultant fees, and all other costs, including all costs of defense, which any of them may incur with regard to the failure, neglect or refusal of Contractor to faithfully perform the work and all of Contractor's obligations under this Contract.

ARTICLE 22: PERMITS AND LICENSES

a. Unless otherwise indicated in the Special Provisions, District shall obtain such permits as may be required by the ordinances and regulations of the public agencies having jurisdiction over areas in which the work is located. Contractor shall comply with the terms and conditions of all permits and licenses and with all lawful orders and regulations of each public agency relating to construction operations under the jurisdiction of such agency, and no additional compensation will be allowed therefor. District shall secure and pay for all required building permits.

b. Whenever federal, state, county, District, local utility, or any other public agency property is or may be affected by the work included in this Contract, District unless otherwise indicated in the Special Provisions shall bear the cost of any applicable inspection required by said agency during the time of performing the work affecting said property. Contractor shall bear all cost of traffic regulation required by said federal, state, county, or other agency during the time of performing the work affecting the property.

c. Where required under the terms of any permit applicable to the project, Contractor shall obtain liability insurance acceptable to and in an amount required by the public agency having jurisdiction. The policy shall insure said agency against all claims arising out of or in connection with the work to be performed and shall remain in full force and effect until the work is accepted by the District. The Contractor shall furnish to each such agency a certificate of protective liability insurance showing the protection afforded and the amount thereof.

d. Neither the terms hereof nor anything shown on the drawings in connection with any right-of-way provided by the District shall be construed to entitle the Contractor to conduct operations in said right-of-way in violation of any State, City or County Statute, ordinance or regulation. The Contractor shall take adequate precautions against obstructing water courses and storm water flow in any affected water course or channel, and shall not deposit excavated materials on or in an area where such deposits might interfere with or be subject to erosion from such flow.

ARTICLE 23: COMPLIANCE WITH LAWS AND ORDINANCES

a. Contractor in performance of its work shall at all times observe and comply with and shall cause all its agents, employees, and subcontractors to observe and comply with all applicable existing or future laws, ordinances, regulations, orders, decrees and all other lawful requirements of District, City, County, State, Federal and other public authorities or other agencies within their respective jurisdictions governing work on public property, streets and ways.

b. It shall be the Contractor's responsibility to defend, indemnify and hold District and its officers, directors, agents and employees harmless from and against any claim or liability arising from or based upon the violation of any law, ordinance, regulation, order, or decree affecting the conduct of the work, regardless of whether the violation is an act of the Contractor or act of any agent, employee or subcontractor.

c. The Contractor shall comply with all rules and regulations relating to the work and to the preservation of public health and safety, and except where otherwise provided in these specifications, the Contractor shall obtain and pay for all necessary permits and licenses, give all requisite notices, and pay all fees required by law.

d. Strict prohibition against committing any nuisance in or about the work shall be maintained.

e. If Contractor observes that the Drawings or Specifications are at variance with existing laws,

ordinances, regulations or orders of any kind, it shall promptly notify District and any necessary changes shall be completed as provided in the Contract for changes in work. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, it shall bear all liability and costs arising therefrom.

ARTICLE 24: REQUIREMENTS OF LAW

Contractor shall determine the contents of all applicable ordinances, laws, rules and regulations and strictly comply with their provisions throughout the performance of the Contract. These laws include, but are not limited to, the following:

a. Labor Discrimination and Unlawful Employment Practices. Attention is directed to Section 1735 of the California Labor Code, which states:

"No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the California Government Code, and every Contractor for public works violating this section is subject to all the penalties imposed for violation of this chapter."

Attention is also directed to California Government Code Section 12900 et. seq. which, although not specifically concerned with public works contracts, enumerates unlawful employment practices applicable to all employers within the State of California.

b. Hours of Labor. Eight hours' labor constitutes a legal day's work. Contractor shall forfeit, as penalty to District, \$25 for each worker employed in the execution of the Contract, by it or by any subcontractor under it, for each calendar day during which any worker is required or permitted to labor more than eight hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of California Labor Code Sections 1810-1815, inclusive. [California Labor Code §1813.]

c. Prevailing Wages. In accordance with California Labor Code §1775, Contractor shall, as a penalty to the District, forfeit not more than \$50 for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates for the work or craft in which the worker is employed on the project by the Contractor or any subcontractor(s).

d. Assignment of Claims. California Government Code Section 4551 requires that the following provision be included in public works contracts:

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. §15) or under the Cartwright Act [Chapter 2 (commencing with §16700) of Part 2 of Division 7 of the California Business & Professions Code], arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties."

ARTICLE 25: LABOR REQUIREMENTS

a. Pursuant to the provisions of Article 1, Chapter 1, Part 7, Division 2 (commencing with §1720) of the California Labor Code, not less than the general prevailing rate of per diem wages as determined by the California Department of Industrial Relations Director for work of a similar character in the locality in which the public work is performed, and not less than the general prevailing rate of per diem wages for legal holiday and overtime work for each craft, classification or type of workman needed to execute the work contemplated under this Contract, shall be paid by Contractor and any subcontractor(s) to all workmen employed on said work. Copies of the applicable prevailing wage rates are on file at District's office and shall be made available to any interested party upon request. Contractor shall post the prevailing wage schedule at the work site. If a craft or classification not shown on the prevailing wage schedule is used, Contractor may be required to pay the rate of the craft or classification most closely related to it.

b. The rates of per diem wages for each of the various classifications of work shall be the prevailing rates of hourly wages multiplied by eight. Eight hours shall constitute a day's work, it being understood that in the event that workmen are employed less than eight hours per day, the per diem wages shall be deemed to be that fraction of the per diem wages herein established that the number of hours of employment bears to eight hours.

(1) Where a single shift is worked, eight consecutive hours between 7:00 a.m. and 5:00 p.m. shall constitute a day's work at straight time for all workers.

(2) Forty hours between Monday, 7:00 a.m., and Friday, 5:00 p.m., shall constitute a week's work at straight time.

(3) All work performed in excess of eight hours per day or 40 hours per week, or on holidays or Sundays, shall be paid for at the overtime rate of the craft involved.

c. Contractor and any subcontractor(s) shall comply with all provisions of California Labor Code §1777.5 through 1777.7 regarding the employment of registered apprentices and shall be responsible for all apprenticeship occupations as referenced therein.

d. Contractor and any subcontractor(s) shall comply with the provisions of California Labor Code §1773.8 relating to payment of travel and subsistence payments to workmen, as defined therein.

e. Contractor and any subcontractor(s) shall comply with all provisions of California Labor Code §1776 regarding the keeping of payroll records and shall be responsible for all requirements as referenced therein.

ARTICLE 26: SAFETY

a. Contractor shall be solely and completely responsible for conditions of the job site and property, including the safety of all persons, including employees, District personnel and the public, during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to the Federal Occupational Safety & Health Act (OSHA); California Occupational Safety & Health Act (CalOSHA); all other applicable federal, state, county and local laws, ordinances, codes and guidelines; the requirements set forth below; and any regulations that may be detailed in other parts of these Contract Documents. Where any of these are in conflict, the more stringent requirement shall be followed. Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions shall not relieve it from compliance with the obligations and penalties set forth herein.

b. Contractor shall develop and maintain for the duration of this Contract a safety program that will effectively incorporate and implement all required safety provisions. Contractor shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

c. The duty of District to review Contractor's performance is not intended nor shall it be construed to include a review or approval of the adequacy of Contractor's safety supervisor, the safety program, or any safety measures taken in, on or near the site. Contractor is solely responsible for all safety measures and engineering on the project site.

d. Contractor and each subcontractor, as a part of its safety program, shall maintain at its office or other well-known place at the job site safety equipment applicable to the work as prescribed by the aforementioned authorities and all articles necessary for giving adequate emergency first aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of persons who may be injured on the job site. All first aid treatment, supplies and procedures shall be in compliance with California Labor Code §6708 and OSHA.

e. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to District. In addition, Contractor must promptly report in writing to District all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

f. If a claim is made by anyone against Contractor or any subcontractor on account of any accident, Contractor shall promptly report the facts in writing to District, giving full details of the claim.

g. Contractor shall defend, indemnify and hold District and its officers, directors, employees and agents harmless from all liability, damages or costs arising by reason of injury to person or property resulting from Contractor's performance of work, or in guarding same, or from any materials, implements or appliances used in its construction, or by or on account of any act or omission of Contractor or his agents, employees or subcontractor(s).

ARTICLE 27: CONTRACTORS' AND MANUFACTURERS' COMPLIANCE WITH STATE SAFETY, OSHA, AND OTHER CODE REQUIREMENTS

The completed work shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items required by the state and federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the work, including District-selected equipment, subject to such safety regulations shall be fabricated, furnished and installed in compliance with these requirements. Contractors and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. Contractors shall notify all equipment suppliers and subcontractors of the provisions of this Article.

ARTICLE 28: TRENCH EXCAVATIONS

a. If this contract involves an expenditure in excess of \$25,000 for the excavation of any trench or trenches five feet or more in depth, then pursuant to California Labor Code §6705 the following provision shall apply:

Prior to excavation of any trench or trenches five feet or more in depth Contractor shall submit to

the District or the District's Engineer, in advance of excavation of any trench or trenches, a detailed plan showing the design or 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. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer. Excavation on said trench or trenches may not be commenced until the District or the District's Engineer has approved of said plan in writing and notified the Contractor thereof.

b. If this contract involves digging trenches or other excavations that extend deeper than four feet below the surface, then pursuant to California Public Contract Code §7104 the following provisions shall apply:

(1)The Contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any:

(a) Material that the Contractor believes may be hazardous waste, as defined in Section 25117 of the California Health & 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 physical conditions at the site differing from those indicated.

(c)Unknown physical conditions at the site 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.

(2) The District shall promptly investigate the conditions and, if it finds 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 these General Provisions.

(3) If a dispute arises between the District 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 shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

ARTICLE 29: DISTRICT PERSONNEL

a. A District Inspector may be employed by District to inspect the work. All work shall be under the observation of said Inspector. District shall notify Contractor of the name and identity of the District Inspector. All work done without such observation or presence of the District Inspector, or without prior approval by District, shall be at Contractor's risk and subject to rejection.

b. A Project Manager may also be employed by the District and shall be the District Inspector's immediate supervisor. District shall notify Contractor of the name and identity of the Project Manager.

c. The District Inspector and Project Manager shall have free access to any or all parts of the work at any time. Inspection of work shall not relieve Contractor from any obligation to fulfill this

Contract. The Project Manager shall have authority to stop work whenever provisions of Contract Documents are not being complied with and Contractor shall instruct its employees accordingly. Contractor shall receive instructions only from the District Inspector or Project Manager. Contractor shall furnish the District Inspector and Project Manager with reasonable facilities for obtaining such information as may be necessary to keep them fully informed respecting progress and manner of work, character of materials, and whether the work is in accordance with the requirements and intentions of these specifications, even to the extent of uncovering or taking down portions of finished work which have been previously approved or authorized to be covered. Should such previously approved work thus exposed or examined prove satisfactory, the uncovering or taking down and the replacing of the covering or the making good of the parts removed, shall be included in the Contract estimates [Article 8 herein] and will be paid for at the Contract prices for the kind of work done, or as extra work, as determined by the District; but should the work exposed or examined prove unsatisfactory, the uncovering, taking down, replacing, and making good shall be at the expense of the Contractor and it shall be charged with the cost to the District of any materials furnished by the District for the unsatisfactory work and its replacement in excess of the requirements for satisfactory original construction.

ARTICLE 30: MATERIALS

a. Unless otherwise specifically provided for in the specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by the Contract shall be of the best grade of their respective kind for the purpose. Materials indicated on the drawings or required in the work and which are not covered by detailed requirements in the specifications, shall be of the highest grade to be found in markets of the Southern California trade area, shall be free from defects or imperfections of any type, shall be of recent manufacture, and shall be unused.

b. In all cases where any material, process, or article is indicated or specified by patent or proprietary names, by names of manufacturers, or by any combination of such names, the words "or a District approved equal," shall be deemed to have been used for the purpose of facilitating the description of the thing desired, and the Contractor may offer any material, process, or article which is equal or better in all respects to the thing so indicated or specified. Project Manager shall decide every question of equality, and all such materials or articles will require such approval. The Contractor shall furnish to the Project Manager for approval the name of the manufacturer of all machinery and mechanical and all other equipment which the Contractor contemplates incorporating in the work, together with a complete and clear description of the unit, its performance capacities, and other pertinent information. If material, process or article offered by Contractor is not, in the opinion of District, substantially equal or better in every respect to that specified, then Contractor shall furnish material, process or article specified. The burden of proof as to equality of any material, process or article shall rest with Contractor. Contractor shall submit the request together with substantiating data for substitution of an "or equal" item within ten days after award of contract. Provisions authorizing submission of "or equal" justification data shall not in any way authorize an extension of time for performance of this Contract.

c. In the event Contractor furnishes material, process or article more expensive than that specified, differences in cost of such material, process or article so furnished shall be borne by Contractor.

d. When required by the specification, or when so directed by the Project Manager, the Contractor at its cost shall submit for approval shop drawings, samples, and/or full information concerning materials or articles it contemplates incorporating in the work. No material shall be used until it has been approved by the Project Manager. Machinery, equipment, materials, and articles installed or used without such approval by the Project Manager shall be at the risk of subsequent rejection by the District, and the Contractor shall bear all costs related thereto. All tests of materials

furnished by the Contractor will be made in accordance with commonly recognized standards of national organizations, and such special methods of testing as are prescribed in these specifications. The costs of performing such tests shall be borne by the District.

e. All federal, state, and local laws and regulations now imposed by competent authority and relating to any equipment or materials required to be furnished under the Contract shall be deemed to be a part of the Contract, and are hereby made controlling.

f. All manufactured products for use on the work shall be delivered to the work in their original unopened packages, bearing thereon the manufacturer's name and the brand name of the product. Materials shall be furnished in ample quantities and at such times as to insure uninterrupted progress of work.

g. Wherever any product or material is selected to be used on the work, all such products or materials shall be of the same brand and manufacture throughout the work.

h. Contractor warrants that title to all material covered by any estimate for partial payment will pass to District, free and clear of all liens no later than the time of payment.

ARTICLE 31: DEFECTIVE WORK OR MATERIALS

a. Contractor shall at its expense within three days written notice from the Project Manager thereof remove all work condemned by the District as failing to conform to requirements of the Contract Documents and shall promptly replace and re-execute such work in accordance with the Contract requirements without additional cost to the District. The Contractor shall also bear all costs of making good any other work destroyed or damaged by such removal or replacement. If the Contractor does not remove such condemned work as specified, the District may remove such work and re-execute or repair the work at the expense of the Contractor.

b. Contractor shall at its expense within three days written notice from the Project Manager thereof remove from the project all materials condemned by the District as failing to conform to the Contract. If the Contractor does not remove such materials as specified the District may remove and store said materials at the expense of the Contractor. If the Contractor does not pay the expense of such removal and storage within ten days thereafter, the District may, upon ten days written notice, sell such materials at auction or at private sale. The District shall account for the net proceeds thereof after deducting all the costs and expense that should have been borne by the Contractor. Should the District reject any material as non-complying, District may secure an adequate quantity of material which does comply herewith, and it shall be the duty of Contractor to use the same. The expense thereof to District shall be deducted from any claim then due, or from any payment thereafter due, or if no such claim is due or becomes due, then said amount shall be paid by Contractor to District.

c. Re-examination of any work may be ordered by the Project Manager at any time prior to final acceptance, and, if so ordered, the work shall be uncovered by the Contractor. Payment for such re-examination shall be in accordance with the provisions of Article 29c herein.

d. No partial payment, inspection, taking possession of, or act of the District with respect to the work prior to the final completion and acceptance thereof shall affect or prejudice the right of the District to reject any defective work or materials or to require the complete fulfillment of all the provisions of the Contract.

e. If the District deems it to be neither expedient nor in the best interests of the District to

correct work injured or not done in accordance with the Contract, the defective work may be tentatively accepted subject to an equitable deduction from the Contract price which may be made therefor by the District upon certification from the District Representative.

ARTICLE 32: CONTRACTOR'S SUPERVISION

a. Unless personally present on the premises where work is being done, Contractor shall keep on the work, during its progress, a competent, full-time superintendent or foreman satisfactory to District. The superintendent shall not be changed except with consent of District unless the superintendent proves to be unsatisfactory to Contractor and ceases to be in Contractor's employ. The superintendent shall represent Contractor in Contractor's absence and all directions given to the superintendent by District shall be as binding as if given to Contractor.

b. Contractor shall give efficient supervision to work, using its best skill and attention. Contractor shall carefully study and compare all Drawings, Specifications and other instructions and shall at once report to District any error, inconsistency or omission which it may discover, but it shall not be liable to District for any damage resulting from any errors or deficiencies in Contract Documents.

c. Unless specifically prohibited by a notice in writing to District, District shall be entitled to rely on the oral statement of any of Contractor's employees or agents that said employee or agent, or any of them, has the authority to receive instructions or directions from the District on behalf of the Contractor.

d. Contractor shall provide the following information in writing and submit it at the time of and concurrently with the signed Contract. Failure to comply may result in delays in the issuance of the Notice to Proceed.

- (1) Name of authorized superintendent or foreman at the job site.
- (2) Address and telephone number where the above person can be reached.
- (3) Address of the nearest office of Contractor, if any, and the name and telephone number of a person at that office who is familiar with the project.
- (4) Address and telephone number of Contractor's main office and the name and telephone number of the person at that office familiar with the project.

ARTICLE 33: PROTECTION OF WORK AND PROPERTY

a. Contractor shall at all times store all materials and safely guard District's property from injury or loss in connection with this Contract. Contractor shall at all times safely guard and protect from damage its own work, and that of adjacent property. All devices and facilities for protection of the work and property, as required by state or local laws and regulations and local conditions, must be provided and maintained.

b. Contractor shall protect its work and materials from damage due to the nature of the work, the elements, carelessness of other Contractors, theft or vandalism, or from any cause whatever until the completion and acceptance of the work. All loss or damages arising out of the nature of the work to be done under these Contract Documents, or from any unforeseen obstruction or defects which may be encountered in the prosecution of the work, or from the action of the elements, or other causes, shall be sustained by Contractor.

c. Contractor's tools and equipment used on the work shall be furnished in sufficient quantity and of a capacity and type that will safely perform the work specified, and shall be maintained and used in a manner that will not create a hazard to persons or property, or cause a delay in the progress of the work. Contractor shall be at all times responsible for his own tools, equipment and supplies and shall protect the same from theft, vandalism and damage until final acceptance of completed work.

d. In case of an emergency that threatens loss or injury of property and/or safety of life, Contractor shall act, without previous instructions from District, as the situation may warrant. Contractor shall notify District thereof immediately thereafter. Any claim for compensation by Contractor, together with substantiating documents in regard to expense, shall be submitted to District and the amount of compensation shall be determined by agreement.

ARTICLE 34: CHARACTER OF WORKMEN

The Contractor shall not employ any unfit person or anyone unskilled in the work assigned to him or her and shall at all times enforce discipline and good order among its employees. The District may require the Contractor to remove from work any employee found to be incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the project is deemed by the District to be contrary to the public interest. Neither the District nor the Contractor shall employ or otherwise engage the services of any employee of the other party without the other's consent.

ARTICLE 35: ENFORCEMENT OF ORDER

The Contractor shall be responsible for maintaining good order where work is performed under this Contract and to that end shall employ such watchmen or other persons as may be required. Unauthorized persons shall be excluded from the site of the work. The Contractor shall not sell, nor shall it permit, or suffer the introduction or use of, intoxicating liquors, or controlled substance upon the works embraced in these specifications, nor upon any of the grounds occupied or controlled by it in connection with such works.

ARTICLE 36: CLEANING UP

a. Maintenance of Job Site. During construction, the Contractor shall keep the work site free from rubbish and debris resulting from its operations. The Contractor shall dispose of all rubbish and waste materials of any nature occurring at the work site, and shall establish regular intervals of collection and disposal of such materials and waste. Equipment and material storage shall be confined to the areas approved by the District Representative. Disposal of all rubbish and surplus materials shall be off the construction site, at the Contractor's own expense, and in accordance with all local codes and ordinances governing locations and methods of disposal.

b. Final Clean-Up. After completion of all other work on the project, and before making application for acceptance of the work, the Contractor shall clean the site of its operations, including all areas under control of the District that have been used by the Contractor in connection with the work on the project, and shall remove all debris, surplus materials and equipment, and all temporary construction or facilities of whatever nature, unless otherwise approved by the District. Final acceptance of the work by the District will be withheld until the Contractor has satisfactorily complied with the foregoing requirements for final clean-up of the project site.

ARTICLE 37: TRESPASS

The Contractor shall be responsible for all damage or injury which may be caused on any property

by trespass by the Contractor or its employees in the course of their employment whether the said trespass was committed with or without the consent or knowledge of the Contractor.

ARTICLE 38: USE OF PREMISES

Contractor shall confine its equipment, the storage of materials, and the operation of its workers to limits shown on the Drawings or indicated by law, ordinances, permits or directions of District, and shall not unreasonably encumber the premises with its materials.

Contractor shall not load or permit any part of the improvements to be loaded with a weight that will alter the structural integrity of the improvements.

ARTICLE 39: RIGHTS-OF-WAY/EASEMENTS

Rights-of-way or easements required for the prosecution of the work will be provided by the District. Unless otherwise provided, the Contractor shall not store materials nor park vehicles or equipment within public streets, ways, or parking facilities. Unless otherwise specifically provided, the Contractor shall be responsible for making its own arrangements for parking facilities, storage areas, and staging area. If Contractor desires additional working space, other than the rights-of-way provided, it is Contractor's obligation and responsibility to acquire additional rights-of-way or easements. Contractor shall obtain written permission from the Owner of the affected property for such use, and a copy of each such written permit shall be furnished to the District for its protection and records.

ARTICLE 40: UTILITIES

a. The Contractor shall ascertain the location of and protect all utilities and all other improvements from damage which might be incurred during construction operation. Contractor shall be responsible for complying with all applicable provisions of California Government Code §4216 et. seq., regarding protection of subsurface utilities installations. District shall assist Contractor and take all actions required of District pursuant to these provisions. Contractor shall defend, indemnify and hold District and its directors, employees and agents harmless from any liability or penalties caused by Contractor's negligent or willful failure to comply with these provisions.

b. The District shall assume responsibility, as between District and Contractor, for the timely removal, relocation or protection of existing main or trunk line utility facilities, if any, located in the work site, if such utilities are not identified in the plans and specifications. In such event, Contractor shall be paid additional compensation for the reasonable costs associated with locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. In such event, Contractor shall not be assessed liquidated damages for delay in project completion, when such delay was caused by the District or the owner of the utility to provide for removal or relocation of such utility facilities. If the Contractor while performing the Contract discovers utility facilities not identified by the District in the plans and specifications, he shall immediately notify the District and utility in writing. These provisions shall be construed pursuant to California Government Code §4215.

c. All utilities, including but not limited to electricity, gas and telephone, used on the work under this Contract shall be furnished and paid for by Contractor. Reasonable quantities of non-potable water for Contractor's purposes shall be provided by District to Contractor without charge at District's drop tank(s). Conveyance of the water to the project site shall be Contractor's responsibility.

ARTICLE 41: TAXES AND CHARGES

Contractor shall pay all state and local sales and use taxes on items, and in a manner as required by the laws and statutes of the State of California and its political subdivisions. Contractor shall withhold and pay any and all withholding taxes, whether state or federal, and pay all Social Security charges and also all State Unemployment Compensation charges, and pay or cause to be withheld, as the case may be, any and all taxes, charges or fees, or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws.

ARTICLE 42: PATENTS AND COPYRIGHTS

The Contractor shall defend, indemnify and hold the District and its officers, directors, agents, and employees, harmless from liability of any nature and kind, including costs and expenses, for or on account of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, manufactured, furnished, or used by Contractor in the performance of this Contract, including their use by the District, unless otherwise specifically stipulated in this Contract.

ARTICLE 43: NON-ASSIGNMENT

Contractor shall not assign, transfer, or convey this Contract or its right, title and interest in the same or any part thereof without prior written consent of District. In the event of such assignment, transfer or conveyance, this Contract at the option of District may be terminated, revoked and annulled, and District shall be relieved and discharged from any and all obligations to Contractor and its assignees or transferees. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or material supplied for performance of work called for under said Contract, in favor of all persons, firms or corporations rendering such services or supplying such materials, to the extent that claims are filed pursuant to the California Code of Civil Procedure and the California Government Code.

ARTICLE 44: OTHER CONTRACTS

a. District reserves the right to let other Contracts in connection with the work. Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate its work with theirs.

b. If any part of the work under this Contract depends on the prior acceptable completion of work by others under separate contract(s), Contractor shall inspect and promptly report to District any defects in such work that would adversely affect the satisfactory completion of the work under this Contract. Contractor's failure to so inspect and report shall constitute acceptance of the work by others as being suitable for the proper reception and completion of the work under this Contract, excluding, however, those defects in the work by others that occur after the satisfactory completion of the work specified hereunder.

ARTICLE 45: NO WAIVER OF RIGHTS OR REMEDIES

Neither the inspection by District, or any of its employees, nor any order by District for payment of money, nor any measurement or certificate issued by the Project Manager, nor any payment for, or acceptance of, the whole or any part of the work by District, nor any extension of time, nor any termination for cause pursuant to Article 7 herein, nor any possession taken by District or its employees, shall operate as a waiver of any provision of this Contract, or any power herein reserved to District, or any right to damages herein provided, or restrict the District's rights or remedies under law, nor shall any

waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

ARTICLE 46: LOSS OR DAMAGE

Except and unless otherwise provided in the specifications herein referred to, District shall not in any manner be answerable or accountable for any loss or damage that shall or may happen to said work, or any part or parts thereof, respectively, or for any of the material or other things used and employed in finishing and completing the same. District shall not in any way be answerable or accountable for any loss or costs by reason of the violation of any ordinance or law by Contractor, or anyone working through or under it, or because of any accident to any person on said work, or any accident caused by the carrying out of this Contract by Contractor, or anyone working through or under it.

ARTICLE 47: DISPUTES, CLAIMS AND PROTESTS

a. If the Contractor considers any work demanded of it to be outside the requirements of the Contract, or considers any instruction, ruling, or decision of the District Inspector to be unfair, Contractor shall within ten days after any such demand is made, or any such instruction, ruling, or decision is given, file a written protest with the Project Manager, stating clearly and in detail its objections, the reasons therefore, the nature of the costs involved and, to the extent possible, the amount of the claim. The notice must be given to District prior to the time that Contractor shall have performed the work giving rise to the potential claim for additional compensation, if based on an act or failure to act by District, or in all other cases within ten days after the happening of the event, thing or occurrence giving rise to the potential claim. Except for such protests and objections as are made of record in the manner and within the time above stated, the Contractor shall be deemed to have waived and does hereby waive all claims for any extra work, additional compensation, payment, damages, and extensions of time on account of such demands, instructions, rulings, and/or decisions of the District Inspector.

b. Upon receipt of any such protest from the Contractor, the Project Manager will within ten days review the demand, instruction, ruling, or decision objected to and will advise the Contractor, in writing, of the final decision, which shall be binding upon all parties unless, within ten days after the date of said final decision, the Contractor shall file with the General Manager a formal protest against the decision.

c. Upon receipt of any such protest, the General Manager will within ten days review the demand, instruction, ruling or decision objected to and will advise the Contractor, in writing, of the final decision, which shall be binding upon all parties unless, within ten days after the date of said final decision, the Contractor shall file with the District Board of Directors a formal protest against the decision.

d. Upon receipt of any such protest, the District Board of Directors will within 30 days after receipt of such protest review the protest and render a final decision. Refusal or failure by the Board of Directors to consider Contractor's protest within 30 days of receipt of such protest shall be deemed denial of such protest.

e. It is intended that Contractor shall exhaust its administrative remedies in the manner outlined herein and that no legal action may be commenced by Contractor against District unless and until Contractor's administrative remedies are fully exhausted. After the exhaustion of administrative remedies, Contractor's remedy shall be to bring a civil action in Municipal or Superior Court in the County of Ventura.

f. Notwithstanding any provision to the contrary herein, the parties agree to comply with all

procedures in effect at the time of any dispute as established in Article 1.5, Chapter 1, Part 3 of the California Public Contract Code.

ARTICLE 48: DRAWINGS AND INFORMATION TO BE FURNISHED BY CONTRACTOR

a. When requested by the Project Manager or required by the specifications, the Contractor shall submit to the Project Manager for approval two copies of shop drawings or manufacturer's drawings of all or part of any mechanical, electrical, structural or architectural item. Whenever the shop drawings contain any deviations from the design plans and specifications, the deviations shall be clearly identified and highlighted in the drawings or a transmittal letter accompanying such drawings.

b. Where applicable, performance curves are to be furnished for all pumps showing the characteristic efficiency and horsepower curves with the required operating points as guaranteed so marked.

c. Approval of shop and working drawings shall indicate only that such drawings generally express the intent of the Contract Documents and shall not be construed as a complete check and shall not relieve the Contractor of the responsibility of furnishing all materials and work required. Approval of shop drawings shall, in addition, not relieve the Contractor of the responsibility of accuracy of dimensions, provision of adequate connections and the proper fitting of the work in the completed construction.

d. Upon completion of the work and prior to final approval the Contractor at its expense shall file with the District two complete sets of drawings and instructions required for maintenance of all items of equipment furnished. These shall include instructions for lubrication, repair and servicing, parts lists and all other pertinent information available from the equipment manufacturers.

ARTICLE 49: "AS-BUILT" PLANS

The Contractor shall maintain a complete set of construction plans for record purposes throughout the construction period. These plans shall be carefully and accurately marked to show actual construction work as to horizontal and vertical locations, dimensions, routings, equipment, piping, wiring and other critical items, particularly buried and embedded work all for the purpose of serving as the basis for future "As-Built" plans. The updating of the "As-Built" plans shall be kept current and shall be made available to district representatives for inspection upon request. Upon completion of the work, an entire set of "As-Built" plans shall be delivered at Contractor's expense to the District. Contractor shall at its expense also furnish District with copies of all other pertinent documents relating to the project, including any and all drawings, specifications, addenda, written amendments, change orders, field orders and written interpretations and clarifications.

ARTICLE 50: CONSTRUCTION SCHEDULE

Contractor shall submit to the Project Manager a construction schedule concurrently with submission of the signed Contract, contract bonds, and proof of insurance coverage. The construction schedule shall be in the form of a bar graph showing the proposed cumulative percent work completed versus cumulative percent time elapsed, and shall be in sufficient detail to show the chronological relationship of all activities of the project including, but not limited to, estimated starting and completion dates of various activities, procurement of materials, and scheduling of equipment. The construction schedule shall recognize the requirements of Section 6-1 of the Standard Specifications. The construction schedule shall reflect obtaining all materials and completing all work under the Contract within the specified time and in accordance with these specifications. Work performed shall be in accordance with said schedule and

shall be subject to approval and/or modification by the District.

ARTICLE 51: AMENDMENTS TO CONTRACT

Pursuant to California Government Code §4154, the parties agree that this Contract may be amended or modified upon mutual agreement of the parties as to such amendment or modification and any change in compensation attributable thereto.

ARTICLE 52: SEVERABILITY

In the event that any of the General Provisions, or any provisions in the Contract Documents, are found to be void or unenforceable, those provisions shall be deemed severable and shall not affect the validity or enforceability of the remaining General Provisions and Contract Documents.

SECTION III: CONTRACT AWARD DOCUMENTS

**TOLAND ROAD LANDFILL
PHASE 4C LINER EXPANSION, DETENTION BASIN AND ROAD IMPROVEMENTS**

**DRAFT CONTRACT NO. 24-001
AGREEMENT FOR PHASE 4C LINER EXPANSION
VENTURA REGIONAL SANITATION DISTRICT
AND**

THIS AGREEMENT is made and entered into this ____ day of _____ 2024 by and between the VENTURA REGIONAL SANITATION DISTRICT, a public agency formed pursuant to California Health & Safety Code Section 4700, et seq., hereinafter "DISTRICT", and _____, [Pick one: an individual, a general partnership, a California corporation, a joint venture], hereinafter "CONTRACTOR".

RECITALS

- A. On _____, 2024, DISTRICT invited bids for the Phase 4C liner expansion improvement
- B. Pursuant to said invitation, CONTRACTOR submitted a bid which was accepted by DISTRICT for said project by DISTRICT Board action on _____, 2024.
- C. This Agreement is in accord with DISTRICT's Purchasing Resolution No. 89-13 adopted November 9, 1989.
- D. The parties enter into this Agreement to set forth their respective rights and obligations.

AGREEMENT

ARTICLE 1: TERM

The term of this Agreement shall be from the date this Agreement is made and entered into, as first above written, until satisfactory completion of all provisions of the Agreement.

ARTICLE 2: DISTRICT'S OBLIGATIONS

DISTRICT will pay in accordance with price, terms and conditions as shown in Exhibit 1.

ARTICLE 3: CONTRACTOR'S OBLIGATIONS

CONTRACTOR agrees to furnish DISTRICT the materials as ordered in accordance with specifications and requirements as shown in Exhibit II.

ARTICLE 4: INDEMNIFICATION AND HOLD HARMLESS

To the fullest extent permitted by law, CONTRACTOR shall defend, indemnify and hold harmless DISTRICT and its agents, employees, directors and officers from and against all liabilities, claims, damages, losses and expenses, including expert witness, consultant and attorney fees, relating to or arising out of or resulting from the performance of CONTRACTOR's work, provided that any such claim, damage, loss or expense: (1) is attributable to bodily injury, sickness, disease or death, or to injury or destruction of tangible property, including the loss of use resulting therefrom; and (2) is caused

by any act or omission of CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. CONTRACTOR shall also defend, indemnify and hold harmless DISTRICT and its agents, employees, directors and officers from and against all liabilities, losses, expenses, damages, attorney and consultant fees, and all other costs, including all costs of defense, which any of them may incur with regard to the failure, neglect or refusal of CONTRACTOR to faithfully perform the work and all of CONTRACTOR's obligations under this Contract.

ARTICLE 5: INSURANCE

CONTRACTOR shall provide and keep in effect during the term of this Agreement insurance as follows:

- A. Workers' Compensation and Employer's Liability in accordance with applicable laws.
- B. Comprehensive Commercial Liability policies with combined single-limit coverage of at least One Million Dollars (\$1,000,000) for any personal injury, death, or property damage.
- C. Comprehensive Automobile Liability policies with combined single limit coverage of at least One Million Dollars (\$1,000,000) for any personal injury, death, or property damage.

CONTRACTOR shall provide certificates of such insurance to DISTRICT prior to the start of work. Certificates shall be issued by an insurance company licensed to do business in California and acceptable to DISTRICT. Said certificates shall specifically provide that: (1) DISTRICT is an additional insured for the coverage in items B and C above; (2) any other insurance coverage applicable to the loss shall be deemed excess coverage and CONTRACTOR's insurance shall be primary; and (3) such insurance shall not be terminated or canceled without thirty (30) days' prior written notice having been given DISTRICT at its address set out in this Agreement, except that ten (10) days' written notice shall be acceptable in the case of cancellation for nonpayment.

Should CONTRACTOR use the services of a subcontractor, CONTRACTOR shall require that the subcontractor provide and keep in effect identical insurance to that which CONTRACTOR is required to provide pursuant to the terms of this ARTICLE 5, and shall require that the subcontractor provide a certificate of insurance to CONTRACTOR and DISTRICT prior to the time the subcontractor starts work, which certificate shall be in the same form as CONTRACTOR is required to provide to DISTRICT.

ARTICLE 6: CHANGES IN SCOPE OF PROJECT; AMENDMENT OF AGREEMENT

No change to the exhibits hereto, or to any other provision of this Agreement, may be made except by a written amendment signed by CONTRACTOR and DISTRICT. If conditions beyond the control of CONTRACTOR necessitate a change to either one or both exhibits, the parties agree to negotiate in good faith in an attempt to reach a reasonable amendment to this Agreement. DISTRICT General Manager is authorized to execute amendments on behalf of DISTRICT which do not cumulatively increase the maximum compensation payable to CONTRACTOR (including all Direct Salary and Direct Nonsalary costs) by more than ten percent (10%) of the amount stated in Exhibit I, or Ten Thousand Dollars (\$10,000), whichever is less; otherwise, any amendment must be authorized by DISTRICT's Board of Directors.

ARTICLE 7: SUSPENSION OR TERMINATION OF SERVICES

If CONTRACTOR refuses or fails to perform the work in a timely and/or otherwise acceptable manner, DISTRICT shall notify CONTRACTOR in writing of such deficiency. Should CONTRACTOR fail to correct such deficiency within thirty (30) calendar days, DISTRICT may immediately terminate this Agreement and notify CONTRACTOR in writing of such termination.

If any part or all of the work for which services have been authorized is postponed, suspended or abandoned, DISTRICT shall have the right to suspend where the work has been postponed or suspended, or terminate where the work has been abandoned, the rendition of services or that portion of the work so postponed, suspended or abandoned. In the event of such suspension or termination, CONTRACTOR shall have the right to expend additional time to assemble the work in progress for the particular section of work for the purpose of proper filing and closing the job. Such additional time shall not exceed ten percent (10%) of the total time expended on the section or sections of work suspended or abandoned at and to the date of the notice of suspension or termination, and shall not increase CONTRACTOR's total compensation beyond the maximum stated in Exhibit I.

In the event suspension of services exceeds twelve (12) months in duration, CONTRACTOR may, by not less than thirty (30) days' written notice, terminate the services as they apply to the suspended portion of the project.

ARTICLE 8: ASSIGNMENT/INDEPENDENT CONTRACTOR RELATIONSHIP

- A. It is expressly understood between the parties that no employee/employer relationship is intended, the relationship of CONTRACTOR to DISTRICT being that of an independent Contractor. DISTRICT shall not be required to make any payroll deductions or provide Workers' Compensation Insurance coverage or health benefits to CONTRACTOR.
- B. CONTRACTOR is solely responsible for selecting the means, methods and procedures for doing the work assigned, and for coordinating all portions of the work so the results will be satisfactory to DISTRICT. CONTRACTOR will supply all tools and instrumentalities required to perform its services under the Agreement.

ARTICLE 9: LIQUIDATED DAMAGES

DISTRICT and CONTRACTOR recognize that time is of the essence of this Contract and that DISTRICT will suffer financial loss if the work is not completed within the time specified in ARTICLE 1 of this Contract and the attached exhibits, plus any extensions thereof allowed herein. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by DISTRICT if the work is not completed on time. Accordingly, instead of requiring any such proof, DISTRICT and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty). CONTRACTOR shall pay DISTRICT the sum of \$10,000 for each calendar day that expires after the time specified in the SPECIAL PROVISIONS IN ARTICLE 2, of the Contract documents and attached exhibits, until the work is substantially complete. After substantial completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining work within the time specified within the Contract for completion and readiness for final payment of proper extensions thereof granted by DISTRICT, CONTRACTOR shall pay DISTRICT \$5,000 for each calendar day that expires after the time specified herein for completion and readiness for final payment.

ARTICLE 10: HAZARDOUS MATERIAL AND UNFORESEEN CONDITION

DISTRICT and CONTRACTOR recognize that this project involves the digging of trenches or other excavations that may extend deeper than four (4) feet below the surface, and therefore, pursuant to Section 7104 of the California Public Contracts Code, the parties agree that CONTRACTOR shall promptly, before any of the following conditions are disturbed, notify DISTRICT in writing of:

- A. Material that CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the California Health & Safety Code, as required to be removed to a Class I, Class II or Class III disposal site in accordance with the provisions of existing law.
- B. Subsurface or latent physical conditions at the site differing from those indicated.
- C. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent to work of the character provided for in the Contract.

Upon receipt of said writing from CONTRACTOR setting forth the above-mentioned conditions, DISTRICT shall promptly investigate the conditions and if it finds that the conditions do materially so differ or do involve hazardous waste, and cause an increase or decrease in CONTRACTOR’s cost of or the time required for performance of any part of the work shall issue a change order pursuant to the procedures set forth in this Contract. If a dispute arises between DISTRICT and CONTRACTOR, whether the materials differ or involve hazardous waste, or cause a decrease or increase in CONTRACTOR’s cost or time applied for performance of any part of this work, CONTRACTOR shall not be excused from any scheduled completion date provided for by CONTRACTOR, but shall proceed with all work to be performed under the Contract. CONTRACTOR shall retain any and all rights provided either by law or which pertain to the resolution of disputes and protests between the contracting parties.

ARTICLE 11: NO WAIVER

No failure or delay by DISTRICT in asserting any of DISTRICT’s rights and remedies as to any default of CONTRACTOR shall operate as a waiver of the default, of any subsequent or other default by CONTRACTOR, or of any of DISTRICT’s rights or remedies. No such delay shall deprive DISTRICT of its right to institute and maintain any action or proceeding which may be necessary to protect, assert or enforce any rights or remedies arising out of this Agreement or the performance of this Agreement.

ARTICLE 12: AUDIT

DISTRICT shall have the right to inspect and/or audit all records and other written materials used by CONTRACTOR in preparing its statements to DISTRICT as a condition precedent to any payment to CONTRACTOR.

ARTICLE 13: NOTICES

All notices or other official correspondence relating to contractual matters between the parties hereto shall be made by depositing same first-class, postage paid mail addressed as follows:

To CONTRACTOR: _____

To DISTRICT: Director of Operations
VENTURA REGIONAL SANITATION DISTRICT
4105 W Gonzales Rd
Oxnard, CA 93003-0704

or to such other address as either party may designate hereinafter in writing delivered to the other party. All notices shall be deemed to have been received three (3) days after mailing.

ARTICLE 14: AUTHORITY TO EXECUTE AGREEMENT

Both DISTRICT and CONTRACTOR do covenant that each individual executing this Agreement on behalf of each party is a person duly authorized and empowered to execute agreements for such party.

ARTICLE 15: TITLE

Title to all materials shall remain with CONTRACTOR until DISTRICT actually accepts the completed project.

ARTICLE 16: RIGHT OF INSPECTION

DISTRICT shall have the right to inspect the materials at the time and place of delivery/installation before accepting them.

ARTICLE 17: NON-INTERFERENCE

CONTRACTOR recognizes the main activity at the work site is DISTRICT's operation of a sanitary landfill. CONTRACTOR shall operate so all work under this contract is compatible with and does not interfere with DISTRICT's operations.

ARTICLE 18: COMPLIANCE WITH LAWS

This Agreement shall be governed by the Uniform Commercial Code of the State of California, as amended. CONTRACTOR shall be solely responsible for giving all notices and complying with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority relating to CONTRACTOR's work, the safety of the persons or property involved, and their protection from damage or injury. CONTRACTOR shall defend, indemnify and hold DISTRICT harmless from and against all claims, demands, payments, suits, actions, proceedings and judgments of every nature and description, including reasonable attorney fees and costs, brought or recovered against DISTRICT, for or on account of any liability under said laws, ordinances, rules, regulations and orders which may be incurred by reason of any work to be performed by CONTRACTOR with this Agreement.

ARTICLE 19: PARTIAL VALIDITY

If any term, covenant or provision of this Agreement is found by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions hereof shall remain in full force and effect, and shall in no way be affected, impaired or invalidated thereby.

ARTICLE 20: INCORPORATION OF RECITALS

The foregoing recitals are incorporated herein as though fully set forth.

ARTICLE 21: CHANGE ORDERS

DISTRICT General Manager or his designee shall be authorized to approve change orders to this Agreement in a manner consistent with the provisions of DISTRICT Resolution No. 89-13.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first set forth above.

APPROVED AS TO FORM:
NOSSAMAN, LLP

VENTURA REGIONAL SANITATION DISTRICT

By _____
ROBERT N. KWONG
Legal Counsel for DISTRICT

By _____
DAVID NEWMAN, Chairman
Board of Directors

APPROVED AS TO ADMINISTRATION:

By _____
CHRIS THIESEN, General Manager

ATTEST

By _____
MAYRA RODRIGUEZ
Clerk of the Board

CONTRACTOR

By _____
Title _____

Tax ID Number _____

EXHIBITS I AND II

TERMS & CONDITIONS
SPECIFICATIONS & REQUIREMENTS

PHASE 4C LINER EXPANSION
TOLAND ROAD LANDFILL

The Bid Form and all specifications and requirements of Ventura Regional Sanitation District Bid No. 24-001 are included herein as if set forth in full.

LABOR AND MATERIAL [PAYMENT] BOND

(100% of Contract price)

(Reference: California Civil Code §§3247-3248)

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the Board of Directors of the VENTURA REGIONAL SANITATION DISTRICT ("DISTRICT") by action on _____, 2006 has awarded to _____ (hereinafter "Principal" or "CONTRACTOR"), Contract No. 24-001 for the TOLAND ROAD LANDFILL, PHASE 4C LINER EXPANSION, DETENTION BASIN AND ROAD IMPROVEMENTS, Ventura County, California; and

WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, materialmen, mechanics, and other persons, as provided by law;

NOW, THEREFORE, we as Principal and _____, as Surety, are held and firmly bound unto DISTRICT in the sum of _____ Dollars (\$_____), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents;

THE CONDITION OF THIS OBLIGATION IS SUCH that if CONTRACTOR, its heirs, executors, administrators, successors or assigns, or subcontractor(s), fails to pay for any materials or provisions used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the unemployment insurance act with respect to such work or labor, said Surety will pay for the same, in an amount not exceeding the sum specified above, and also, in case suit is brought upon this Bond, reasonable attorney fees to be fixed by the court. This Bond shall inure to the benefit of any and all persons entitled to file claims under section 3181, et seq., of the California Civil Code, as to give a right of action to such persons or their assigns in any suit brought upon this bond.

Provided that any alterations in the work to be done or the materials to be furnished, which may be made pursuant to the terms of the Contract, shall not in any way release either CONTRACTOR or Surety thereunder, nor shall any extensions of time granted under the provisions of the Contract release either the Contract or Surety, and notice of such alteration or extensions of the Contract is hereby waived by Surety.

IN WITNESS WHEREOF, three (3) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named on the ____ day of _____, 2006.

By _____
(Principal)

By _____
(Surety)

(SEAL)

By _____
(Attorney In Fact)
(Address)

Note: Signatures of those executing for the surety must be properly acknowledged.

Note: A deposit in lieu of a Payment Bond is not acceptable [See California Civil Code §3248(d)]

PERFORMANCE BOND
(100% of Contract price)
(Reference: California Civil Code §§3247-3248)

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the Board of Directors of the VENTURA REGIONAL SANITATION DISTRICT, by action on the _____ day of _____ 2024 has awarded to _____, hereinafter designated as "Principal," Contract No. 24-001 for the TOLAND ROAD LANDFILL, PHASE 4C LINER EXPANSION, DETENTION BASIN AND ROAD IMPROVEMENTS, which Contract is by this reference incorporated herein; and

WHEREAS, Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract;

NOW, THEREFORE, we as Principal and _____, as Surety, are held firmly bound unto the VENTURA REGIONAL SANITATION DISTRICT ("Obligee"), in the penal sum of _____ Dollars (\$_____), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of this obligation is such that, if Principal shall promptly and faithfully perform the Contract, and all covenants and obligations therein, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

Any alterations in the work to be done, or the materials to be furnished, which may be made pursuant to the terms of the Contract, shall not in any way release either the Principal or the Surety, nor shall any extensions of time granted under the provisions of the Contract release either the Principal or Surety hereunder. Surety waives notice of any alterations or extensions of time made by Obligee.

Whenever Principal shall be, and is declared by Obligee to be, in default under the Contract, Obligee having performed Obligee's obligations thereunder, Surety may promptly remedy the default or complete the Contract in accordance with its terms and conditions.

In the event suit is brought upon this bond by Obligee and judgment is recovered, Surety shall pay all costs incurred by Obligee in such suit, including reasonable attorney fees to be fixed by the court.

IN WITNESS WHEREOF, three identical copies of this instrument, each of which shall for all purposes be deemed an original hereof, have been duly executed by Principal and Surety above named, on the ____ day of _____ 2024.

(Principal)
By _____
(Surety)
By _____
(Attorney In Fact)

(Address)

(SEAL)

Note: Signatures of those executing for a surety must be properly acknowledged.

CORPORATE CERTIFICATE

I, _____, certify that I am the _____ secretary of the corporation named as CONTRACTOR in the foregoing Contract; that _____, who signed said Contract on behalf of CONTRACTOR was then _____ of said corporation; and that said Contract was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

By _____
CONTRACTOR

By _____
Secretary

CONTRACTOR'S CERTIFICATE OF COMPLIANCE

_____ ("CONTRACTOR") hereby certifies that it is aware of and is in conformance with, and during the course of this Contract shall fully comply with all federal, state and local statutes, regulations, ordinances and guidelines pertaining to CONTRACTOR's work, including:

1. Workers' Compensation. CONTRACTOR is aware of the provisions of California Labor Code §3700 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 CONTRACTOR will comply with such provisions before commencing the performance of the work of this Contract. (California Labor Code §1861).

2. Fair Employment Practices. CONTRACTOR shall comply with the Federal Civil Rights Act of 1964, the Federal Equal Employment Act of 1972, Executive Orders 11246 and 11375, Federal Department of Labor and Treasury Regulations 41 CFR, Chapter 60, the California Fair Employment Practice Act, and any other applicable federal, state and local laws and regulations hereinafter enacted relating to fair employment practices.

3. Worker's Safety. CONTRACTOR shall give all notices and comply with all laws, ordinances, regulations, standards and orders pertaining to worker safety, including but not limited to all Occupational Safety and Health Act (OSHA) laws and regulations.

4. Prevailing Wages. Contractor shall comply with the provisions of the California Labor Code pertaining to the payment of prevailing per diem wage rates (§1720 et seq.). Pursuant to California Labor Code §1773.2, a copy of the prevailing per diem wage rates in Ventura County is on file with the District Clerk of the Board. A copy of these rates will be furnished to any interested party upon request. Contractor shall post copies of the prevailing wage schedule at the work site.

5. General. CONTRACTOR shall bear sole responsibility for compliance with all applicable laws, ordinances, regulations, standards and orders pertaining to the nature and conduct of CONTRACTOR's work.

Date: _____

CONTRACTOR

**PAYMENT IN FULL
SWORN AFFIDAVIT**

NOTICE IS HEREBY GIVEN THAT:

1. Property and Interest:

2. Location:

3. Contractor:

The above CONTRACTOR hereby states that all workmen and persons employed, all firms supplying the materials and all subcontractors have been paid in full, and there are no bills outstanding against the project for either labor or material.

IN WITNESS WHEREOF, the undersigned CONTRACTOR has caused this instrument to be executed and its seal affixed by its duly authorized officer this ____ day of _____, 2024.

Name of CONTRACTOR

Typed or Printed Name of Officer

Signature

Title

SUBSCRIBED AND SWORN BEFORE ME this _____ day of _____, 2024.

Witness my hand and official seal.

Notary Public

EMERGENCY PROCEDURES

NOTIFICATION:

In the event of an emergency, Contractor shall use one of the following methods of contacting District personnel and/or emergency services:

- Under normal circumstances, contract workers will be in close proximity to District personnel in possession of two-way radios. If there is an emergency, the contract worker should contact the closest District employee and relate to him or her the type of emergency (fire, injury, etc.). The District employee will then use the two-way radio to request all appropriate emergency services and District personnel will respond to the emergency.

- If circumstances dictate that contract labor crews work in an area where they are out of contact with District personnel, the District will provide the contract crew supervisor with one of the District's private band VHF radios. In the event of an emergency, the contract crew supervisor will contact the scale house of the appropriate site in the following manner:

"REGIONAL TOLAND, THIS IS (NAME OF CONTRACTING BUSINESS or AGENCY)". The weighmaster on duty will acknowledge that he or she is receiving the transmission by responding:

"REGIONAL TOLAND, GO AHEAD". The contract crew supervisor should then transmit the type of emergency and if there are any injuries involved. The weighmaster will then contact the appropriate emergency services and District personnel.

ACTIONS:

Contract workers should take no action that endangers their life or well-being. In case of fire, District personnel will make a determination if the fire can safely be extinguished or if it should be left to professional fire response personnel. Only those people professionally trained in first aid/lifesaving procedures should attempt to treat injuries, and then only if rescue will not endanger their own life or the lives of others.

EVACUATION:

If the emergency requires evacuation, the contract workers will evacuate to the designated location of the site where they are working for a head count. A District supervisor will inform the contract crew supervisor of the designated evacuation location.

I have read and understand the above procedures:

Contractors representative

Date