

Bid Summary
Fresno County Department of Public Works and Planning

Project: American Avenue Disposal Site Landfill Gas Collection
Contract No.: 20-18-SW

Bid Opening: 3/11/2021
Award Date: 4/13/2021

Bidders

- 1 BSE General Engineering, Inc.
- 2 ETIC
- 3 Blue Flame Crew
- 4 Innovative Construction Solutions
- 5 Stearns Conrad and Schmidt
- 6 Unified Field Service Corp.

BSE General Engineering, Inc.
Subcontractors
TBCO
Sacramento Drilling, Inc.

ETIC
Subcontractors
Sacramento Drilling, Inc.

Blue Flame Crew
Subcontractors
Rasmussen Land Surveying Inc.
AWD Services Inc.

Innovative Construction Solutions
Subcontractors
Sacramento Drilling Inc

Stearns Conrad and Schmidt
Subcontractors
Sacramento Drilling, Inc.

Unified Field Service Corp.
Subcontractors
AWD Services Inc

ITEM NO.	QUANTIT Y	UNIT OF MEASURE	ITEM DESCRIPTION	Engineer's Estimate		1		2		3		4		5		6	
				ITEM PRICE	TOTAL PRICE	ITEM PRICE	TOTAL PRICE	ITEM PRICE	TOTAL PRICE	ITEM PRICE	TOTAL PRICE	ITEM PRICE	TOTAL PRICE	ITEM PRICE	TOTAL PRICE	ITEM PRICE	TOTAL PRICE
1	1	LS	SUPPLEMENTAL WORK	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00
2	1	LS	MOBILIZATION/DEMobilIZATION	\$45,000.00	\$45,000.00	\$122,700.00	\$122,700.00	\$180,524.69	\$180,524.69	\$95,000.00	\$95,000.00	\$57,640.00	\$57,640.00	\$445,000.00	\$445,000.00	\$131,050.00	\$131,050.00
3	1	LS	TRAFFIC CONTROL	\$20,000.00	\$20,000.00	\$78,673.28	\$78,673.28	\$1,798.11	\$1,798.11	\$70,000.00	\$70,000.00	\$68,380.00	\$68,380.00	\$6,000.00	\$6,000.00	\$11,655.00	\$11,655.00
4	1	LS	CONSTRUCTION SITE MANAGEMENT	\$40,000.00	\$40,000.00	\$62,545.74	\$62,545.74	\$12,663.84	\$12,663.84	\$9,500.00	\$9,500.00	\$153,975.00	\$153,975.00	\$8,000.00	\$8,000.00	\$56,934.00	\$56,934.00
5	1	LS	GRADE CHECKING	\$15,000.00	\$15,000.00	\$44,297.65	\$44,297.65	\$13,068.00	\$13,068.00	\$35,000.00	\$35,000.00	\$26,790.00	\$26,790.00	\$30,000.00	\$30,000.00	\$58,273.00	\$58,273.00
6	1,126	LF	VERTICAL LANDFILL GAS WELL DRILLING	\$89.00	\$100,214.00	\$64.78	\$72,942.28	\$51.81	\$58,338.06	\$62.00	\$69,812.00	\$66.00	\$74,316.00	\$39.00	\$43,914.00	\$105.00	\$118,230.00
7	1,195	LF	VERTICAL LANDFILL GAS EXTRACTION WELL INSTALLATION AND BACKFILL	\$19.50	\$23,302.50	\$58.08	\$69,405.60	\$139.36	\$166,535.20	\$68.00	\$81,260.00	\$85.40	\$102,053.00	\$104.00	\$124,280.00	\$98.00	\$117,110.00
8	15,400	LF	HORIZONTAL LANDFILL GAS WELL INSTALLATION AND BACKFILL	\$38.00	\$585,200.00	\$34.43	\$530,222.00	\$34.65	\$533,610.00	\$52.00	\$800,800.00	\$41.15	\$633,710.00	\$53.00	\$816,200.00	\$47.77	\$735,658.00
9	38	EA	VERTICAL AND HORIZONTAL LANDFILL GAS EXTRACTION WELL WELLHEAD INSTALLATION AND CONNECTION TO LATERAL	\$950.00	\$36,100.00	\$996.53	\$37,868.14	\$1,391.99	\$52,895.62	\$1,500.00	\$57,000.00	\$2,747.00	\$104,386.00	\$1,475.00	\$56,050.00	\$7,565.00	\$287,470.00
10	113	LF	LANDFILL GAS EXTRACTION WELL, DRILL TO REFUSAL AND BACKFILL	\$89.00	\$10,057.00	\$56.18	\$6,348.34	\$171.66	\$19,397.58	\$72.00	\$8,136.00	\$50.50	\$5,706.50	\$81.00	\$9,153.00	\$35.00	\$3,955.00
11	3,500	LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-9 AIR SUPPLY PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS	\$6.75	\$23,625.00	\$2.50	\$8,750.00	\$4.53	\$15,855.00	\$5.00	\$17,500.00	\$10.40	\$36,400.00	\$7.00	\$24,500.00	\$25.22	\$88,270.00
12	3,500	LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-11 CONDENSATE FORCE MAIN PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS	\$6.75	\$23,625.00	\$2.45	\$8,575.00	\$3.94	\$13,790.00	\$5.50	\$19,250.00	\$10.35	\$36,225.00	\$7.00	\$24,500.00	\$25.62	\$89,670.00
13	6,600	LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 6-INCH FITTINGS	\$25.94	\$171,236.80	\$21.57	\$142,362.00	\$27.60	\$182,160.00	\$21.00	\$138,600.00	\$21.80	\$143,880.00	\$40.00	\$264,000.00	\$25.51	\$168,366.00
14	1,400	LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 6-INCH FITTINGS	\$36.19	\$50,661.60	\$24.26	\$33,964.00	\$20.03	\$28,042.00	\$33.00	\$46,200.00	\$59.25	\$82,950.00	\$40.00	\$56,000.00	\$37.04	\$51,856.00
15	500	LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 12-INCH FITTINGS	\$48.59	\$24,293.60	\$50.72	\$25,360.00	\$52.63	\$26,315.00	\$68.00	\$34,000.00	\$99.60	\$49,800.00	\$92.00	\$46,000.00	\$64.80	\$32,400.00
16	220	LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 12-INCH FITTINGS	\$57.60	\$12,671.00	\$81.38	\$17,903.60	\$67.76	\$14,907.20	\$129.00	\$28,380.00	\$239.95	\$52,789.00	\$116.00	\$25,520.00	\$122.00	\$26,840.00
17	620	LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING, WITH GUIDES (ABOVE GRADE) AND 18-INCH FITTINGS	\$93.94	\$58,243.70	\$109.39	\$67,821.80	\$102.11	\$63,308.20	\$92.00	\$57,040.00	\$135.20	\$83,824.00	\$124.00	\$76,880.00	\$94.00	\$58,280.00
18	2,600	LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 18-INCH FITTINGS	\$94.07	\$244,594.30	\$103.67	\$269,542.00	\$86.00	\$223,600.00	\$102.00	\$265,200.00	\$215.15	\$559,390.00	\$127.00	\$330,200.00	\$127.74	\$332,124.00
19	24	EA	PROVIDE AND INSTALL 6-INCH VALVES	\$1,741.00	\$41,784.00	\$881.07	\$21,145.68	\$2,731.95	\$65,566.80	\$2,000.00	\$48,000.00	\$1,491.00	\$35,784.00	\$2,400.00	\$57,600.00	\$6,235.00	\$149,640.00
20	1	EA	PROVIDE AND INSTALL 12-INCH VALVES	\$4,798.00	\$4,798.00	\$2,475.32	\$2,475.32	\$8,443.80	\$8,443.80	\$5,300.00	\$5,300.00	\$4,018.00	\$4,018.00	\$13,400.00	\$13,400.00	\$16,965.00	\$16,965.00
21	4	EA	PROVIDE AND INSTALL 18-INCH VALVES	\$6,563.15	\$26,252.60	\$8,719.75	\$34,879.00	\$23,488.89	\$93,955.56	\$11,300.00	\$45,200.00	\$15,753.00	\$63,012.00	\$18,300.00	\$73,200.00	\$31,808.00	\$127,232.00
22	320	LF	PROVIDE AND INSTALL 12-INCH CORRUGATED STEEL PIPE (CSP) AND ROAD CROSSINGS	\$29.00	\$9,280.00	\$28.42	\$9,094.40	\$69.33	\$22,185.60	\$90.00	\$28,800.00	\$148.00	\$47,360.00	\$78.00	\$24,960.00	\$77.00	\$24,640.00
23	40	LF	PROVIDE AND INSTALL 18-INCH CSP AND ROAD CROSSINGS	\$40.00	\$1,600.00	\$49.75	\$1,990.00	\$104.00	\$4,160.00	\$110.00	\$4,400.00	\$210.00	\$8,400.00	\$124.00	\$4,960.00	\$205.20	\$8,208.00
24	5	EA	CONNECT EXISTING LCRS RISER 10-INCH LFG LATERALS TO 18-INCH HEADER, WWELLHEAD, FITTINGS, & OTHER APPURTENANCES	\$4,500.00	\$22,500.00	\$3,105.14	\$15,525.70	\$3,417.89	\$17,089.45	\$7,000.00	\$35,000.00	\$7,930.00	\$39,650.00	\$8,500.00	\$42,500.00	\$15,415.00	\$77,075.00
25	6	EA	PROVIDE AND INSTALL NEW CONDENSATE SUMP WITH FITTINGS AND OTHER APPURTENANCES	\$52,000.00	\$312,000.00	\$43,508.79	\$261,052.74	\$54,112.69	\$324,676.14	\$43,000.00	\$258,000.00	\$71,160.00	\$426,960.00	\$68,300.00	\$409,800.00	\$56,975.00	\$341,850.00
26	1	EA	CONNECT LFG HEADER DRAIN TO EXISTING CONDENSATE SUMP	\$3,000.00	\$3,000.00	\$2,976.73	\$2,976.73	\$6,022.37	\$6,022.37	\$6,000.00	\$6,000.00	\$5,025.00	\$5,025.00	\$8,300.00	\$8,300.00	\$14,205.00	\$14,205.00
TOTAL BID (ITEMS 1-26)				\$1,955,039.10	\$1,998,421.00	\$1,998,421.00	\$1,998,421.00	\$2,198,908.22	\$2,198,908.22	\$2,313,378.00	\$2,313,378.00	\$2,952,423.50	\$2,952,423.50	\$3,070,917.00	\$3,070,917.00	\$3,177,956.00	\$3,177,956.00

SPECIFICATIONS

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

18950 W American Ave, Kerman, CA 93630

BUDGET / ACCOUNT: 9026 / 8150



Department of Public Works and Planning

CONTRACT NUMBER 20-18-SW

T A B L E O F C O N T E N T S

COVER SHEET

BOARD ADOPTION AND ACKNOWLEDGMENT

Engineer's Signature
Consultant's Signature

NOTICE TO BIDDERS

SPECIAL PROVISIONS

TECHNICAL SPECIFICATIONS

PROJECT DETAILS / DRAWINGS

Project Drawings/Details
Self-Dealing Transactions Disclosure Form
Revised Standard Specifications Dated 09-02-16

BID BOOK

Bidder's Declaration
Bid Form
Abbreviations Used
Signature Page
Noncollusion Declaration
Public Contract Code
Subcontractor List
Certifications
Guaranty

AGREEMENT

PLANS

PROJECT: AMERICAN AVENUE DISPOSAL SITE PHASE III MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

CONTRACT NUMBER: 20-18-SW

Steve Brandau, Chairman	2nd District
Brian Pacheco, Vice Chairman	1st District
Sal Quintero	3rd District
Ernest Buddy Mendes	4th District
Nathan Magsig	5th District

Jean Rousseau, County Administrative Officer

Steven E. White, Director
Department of Public Works and Planning



Date Signed: 2/9/2021

Supervising Engineer: _____

A handwritten signature in black ink, appearing to be "S. Artal", written over a horizontal line.

FRESNO COUNTY
Department of Public Works and Planning
m/a 2220 Tulare Street, Suite 720
Fresno, CA 93721-2106

Sebastian Artal, PE 76724
Lic. Expiration: 12/31/2022

**PROJECT: AMERICAN AVENUE DISPOSAL SITE PHASE III MODULES 3-8 LANDFILL GAS
COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION**

CONTRACT NUMBER: 20-18-SW



Date Signed: 2/11/2021

Consultant Engineer: _____

A handwritten signature in cursive script, appearing to read "Sami H Ayass", written over a horizontal line.

Sami H Ayass, PE C84806

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765

Lic. Expiration: 03/31/2022

BOARD OF SUPERVISORS COUNTY OF FRESNO STATE OF CALIFORNIA

NOTICE TO BIDDERS

Sealed proposals will be received at:

<https://www.bidexpress.com/businesses/36473/home>

and at the Fresno County Department of Public Works and Planning (Department), Office of the Design Engineer, Seventh Floor, Fresno County Plaza Building, 2220 Tulare Street, Fresno, CA 93721 until

**2:00 P.M., (1400 hours and 00 seconds)
Thursday, March 11, 2021**

Due to the COVID-19 restrictions and guidelines, the Department's bid reception desk is closed and all bidders are encouraged submit bids online through Bid Express.

If a bidder is unable to submit online through Bid Express, please make arrangements to submit your bid in person or by mail by e-mailing DesignServices@fresnocountyca.gov or calling (559) 600-9908.

Promptly following the closing of the bidding all timely submitted bids will be publicly opened and viewable via a livestream (the link for which will be posted at <http://www.co.fresno.ca.us/planholders>) for construction in accordance with the project specifications therefor, to which special reference is made as follows:

**AMERICAN AVENUE DISPOSAL SITE PHASE III MODULES 3-8 LANDFILL GAS
COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION**

18950 W AMERICAN AVE, KERMAN, CA 93630

CONTRACT NUMBER 20-18-SW

The work to be done consists, in general, of installing 23 new single depth Landfill Gas (LFG) vertical extraction wells and 15 LFG horizontal extraction wells; installing header and lateral piping to connect new extraction wells to the collection system; furnishing, installing and testing 6 condensate sumps, associated pumps and furnishing all appurtenances and performing all incidental work to effectuate the planned expansion of the site's landfill gas collection and control system.

A pre-bid conference will be held at 10:00 a.m., on WEDNESDAY, FEBRUARY 24, 2021. A discussion of the project will be held and the project sites will be open for examination. Contractors should meet at American Avenue Disposal Site, 18950 W American Ave, Kerman, CA 93630. Attendance at the pre-bid is not mandatory; however, the scheduled pre-bid will be the only opportunity for prospective bidders to visit the site in the presence of County staff, and requests for individual site visits with County staff will not be granted.

Note that the pre-bid meeting will be conducted exclusively out of doors and that attendees will not be requested to sign in or otherwise handle any materials provided or touched by

County staff. Attendees are requested to each ensure that appropriate social distancing is maintained at all times during the meeting, and all attendees are required to wear facial covering for the duration of the meeting.

The Department has made a public interest finding on January 12, 2021 and has determined that the following items (Refer to Section 01 60 00-2) shall be used for this project and no substitution shall be allowed:

Supplier: QED Environmental Systems, Inc.

Products: 2-inch QED Vertical wellhead, Model ORP215M 6-inch, 2-inch QED Horizontal wellhead, Model ORP215MHL 6-inch, QED Vertical Orifice Plate Kit, Model 40640, QED Horizontal Orifice Plate Kit, Model 40690, QED Stabilizer™ well cap, Model GWC62, 2-inch QED Solarguard™ flex hose (100-foot roll), Model 40946, QED high strength stainless steel hose band kit for Solarguard™ Flex Hose, Model 40979, 6-inch by 2-inch Fernco Flexseal coupling, Model 1056-62, and 2-inch Fernco Flexseal coupling, Model 1056-215

Supplier: Real Environmental Products (REP)

Products: Auto Sump 7000-I-24/36-DC with Viridian VP4-BL submersible pump and Infa-just pipe supports/anchors 6000 Series

The County of Fresno is committed to increasing the availability of employment and training opportunities, and requires that the Contractor and each subcontractor employed on this Project shall use their best efforts to ensure that thirty-three percent (33%) of apprentice hours are performed by qualified participants in state approved apprenticeship programs who also are current or former “Welfare-to-Work” participants in the CalWORKs program. Attention is directed to “Apprentices” in Section 7 of these special provisions.

Incentives whereby the Contractor or subcontractor receives partial reimbursement for the wages paid to apprentices who qualify may be available. The incentive program is administered by the County of Fresno, Department of Social Services, Employment Resource Center. For questions regarding the incentive program, contact the Employment Resource Center at (559) 600-5370.

Bidders may fill out a Request to be Added to Planholders list:

<https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/design-division/planholders-list-request-to-be-added>

Requesters will then be listed as a planholder for the project on the website and receive notifications and addenda issued for the project.

Prospective bidders may also select the project on www.BidExpress.com. Those that demonstrate interest in the project will be added to the planholders list, and receive notifications and addenda issued for the project.

Planholder and exchange/publication names may be obtained from the Fresno County website at <http://www.co.fresno.ca.us/planholders>.

Electronic copies, in “.pdf” file format, of the official project plans and specifications, bid books and proposal sheets, and such additional supplemental project information as may be provided, are available to view, download, and print at <http://www.co.fresno.ca.us/planholders>.

If a bidder is unable to submit a bid via Bid Express, Bid Books, which contain bid proposal sheets necessary to submit a bid, may be obtained within the Specifications documents posted on the Fresno County website.

Electronic bids shall be submitted via the BidExpress website. Hardcopy bids shall be submitted in a sealed envelope addressed to the Department and labeled with the name of the bidder, the name of the project and the statement "Do Not Open Until The Time Of Bid Opening."

Bid security in the amount of ten (10) percent of the amount of the bid, and in the form of a bid bond issued by an admitted surety insurer licensed by the California Department of Insurance, cash, cashier's check or certified check shall accompany the bid. You must either attach an electronic bid bond or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening. Bid security shall be made in favor of the County of Fresno.

Hardcopy bid bonds shall be submitted in a sealed envelope addressed to the Department and labeled with the name of the bidder, the name of the project and the statement "Do Not Open Until The Time Of Bid Opening – BID BOND"

A Summary of Bids and a list of subcontractors for the apparent low bidder will be posted at the above listed website, generally within 24 hours of the Bid Opening.

All questions regarding this project shall be in writing and shall be received by the Department of Public Works and Planning, Design Division, no later than 2:00 P.M. on the seventh (7th) calendar day before bid opening. Any questions received after this deadline will not receive a response unless the Department of Public Works and Planning elects to issue an addendum to revise the bid opening date. In the event that the bid opening date is revised, the deadline for questions will be extended to no later than 2:00 P.M. on the seventh (7th) calendar day before the revised bid opening date. Questions shall be submitted on the "Request for Clarification Form" provided on our website:

<http://www.co.fresno.ca.us/departments/public-works-and-planning/construction-bidding-opportunities/20-18-sw/20-18-sw-request-for-clarification-form>

Any changes to, or clarification of, the project plans and specifications shall be in the form of a written addendum issued to planholders of record. Questions that prompt a change or clarification shall be included in the addendum with the subsequent answer.

Any oral explanation or interpretations given to this project are not binding.

No contract will be awarded to a contractor who has not been licensed in accordance with the provisions of the Contractors State License Law, California Business and Professions Code, Division 3, Chapter 9, as amended, or whose bid is not on the proposal form included in the contract document. A valid California Contractor's License, **Class A (General Engineering)**, is required for this project.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at County of Fresno, Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno CA 93721-2104 and available from the California

Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

The U.S. Department of Transportation (DOT) provides a toll-free "hotline" service to report bid rigging activities. Bid rigging activities can be reported Mondays through Fridays, between 8:00 a.m. and 5:00 p.m., Eastern Time, Telephone No. 1-800-424-9071. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report these activities. The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

Bids are required for the entire work described herein. Bids will be compared on the basis of the cumulative sum of the bid amounts listed for the individual line items.

The successful bidder shall furnish a faithful performance bond in the amount of 100 percent of the contract amount and a payment bond in the amount of 100 percent of the contract amount. Each bond specified in this Notice (bid bond, faithful performance bond and payment bond) shall meet the requirements of all applicable statutes, including but not limited to those specified in Public Contract Code section 20129 and Civil Code section 3248.

Each bond specified in this Notice shall be issued by a surety company designated as an admitted surety insurer in good standing with and authorized to transact business in this state by the California Department of Insurance, and acceptable to the County of Fresno. Bidders are cautioned that representations made by surety companies will be verified with the California Department of Insurance. Additionally, the County of Fresno, in its discretion, when determining the sufficiency of a proposed surety company, may require the surety company to provide additional information supported by documentation. The County generally requires such information and documentation whenever the proposed surety company has either a Best's Key Rating Guide of less than **A** and a financial size designation of less than **VIII**. Provided, however, that the County expressly reserves its right to require all information and documentation to which the County is legally entitled from any proposed surety company.

Pursuant to Public Contract Code Section 22300, substitution of securities for any moneys withheld by the County of Fresno to ensure performance under the contract shall be permitted.

The Board of Supervisors reserves the right to reject any or all bids.

Board of Supervisors, County of Fresno

Jean Rousseau, County Administrative Officer

Bernice E. Seidel, Clerk to the Board

Issue Date: February 9, 2021

Special Provisions

DIVISION I GENERAL PROVISIONS

1 GENERAL

1-1.01 GENERAL

Add to the beginning of Section 1:

The work is done in accordance with the 2015 *Standard Specifications*, 2015 *Standard Plans* and the following special provisions.

Where these special provisions indicate to replace, add to, delete, delete from, or otherwise modify a "section," or a portion thereof, the section or portion thereof to which such modification is to be applied is the section or portion thereof with the corresponding numbering in the 2015 *Standard Specifications*.

Except to the extent that they may conflict with these special provisions, revised standard specifications apply if included in the project details section of the book entitled "Specifications."

Revised standard plans apply if listed on the "List of Revised Standard Plans," if any, in these special provisions; or if shown or referenced on the project plans or in the project details section of the book entitled "Specifications."

In case of conflict between the *Standard Specifications* and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

In case of conflict between applicable revised standard specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

Add to the end of section 1-1.01:

Refer to Section 01 20 00 "MEASURE AND PAYMENT"

Add to the 1st table of section 1-1.06:

SJVAPCD	San Joaquin Valley air pollution control district
AQMD	air quality management district
CISS	cast-in-steel shell
CSL	crosshole sonic logging
GGL	gamma-gamma logging
METS	Caltrans Material Engineering and Testing Services

Add to section 1-1.06:

Abbreviations in the Bid Item List are also used in Proposal 2 Bid Item List.

Replace Section 1-1.07 with:

1-1.07 DEFINITIONS

1-1.07A General

Interpret terms as defined in the Contract documents.

1-1.07B Glossary

abandon: Render unserviceable in place.

acts of God: *Acts of God* as defined in Pub Cont Code § 7105.

activity: Task, event, or other project element on a schedule that contributes to completing the project.
An activity has a description, start date, finish date, duration, and one or more logic ties.

adjust: Raise or lower a facility to match a new grade line.

aerially deposited lead: Lead primarily from vehicle emissions deposited within unpaved areas or formerly unpaved areas.

Authorized Facility Audit List: Caltrans-developed list of facilities. For the Authorized Facility Audit List, go to the METS website.

authorized laboratory: Independent testing laboratory (1) not employed or compensated by any subcontractor or subcontractor's affiliate providing other services for the Contract and (2) authorized by the Department.

Authorized Material List: Caltrans-developed list of authorized materials. For the Authorized Material List go to the METS website.

Authorized Material Source List: Caltrans-developed list of authorized source materials. For the Authorized Material Source List go to the METS website.

base: Layer of specified material of planned thickness placed immediately below the pavement or surfacing.

basement material: Material in an excavation or embankment under the lowest layer to be placed.

bid item: Work unit for which the Bidder provides a price.

Bid Item List: List of bid items, units of measure, and the associated quantities. The verified Bid Item List is the Bid Item List with verified prices. The Contract Proposal (Proposal 2) of Low Bidder at the Department's website is the verified Bid Item List. After contract award, interpret a reference to the Bid Item List as a reference to the verified Bid Item List.

borrow: Fill acquired from an excavation source outside the described cut area.

1. **local borrow:** Material obtained by widening cuts or excavating from sources outside the planned or authorized cross section on the job site. The location of the local borrow is described or designated by the Engineer.
2. **imported borrow:** Borrow that is not local borrow.

bridge: Structure that:

1. Has a bridge number
2. Carries a (1) utility, (2) railroad, or (3) vehicle, pedestrian, or other traffic over, under, or around obstructions or waterways

building-construction contract: Contract that has *Building Construction* on the cover of the *Notice to Bidders and Special Provisions*.

California Test: Caltrans-developed test for determining work quality. For California Tests, go to the METS website.

Caltrans: State of California Department of Transportation

certificate of compliance: Certificate stating the material complies with the Contract.

Certified Industrial Hygienist: Industrial hygienist certified in comprehensive practice by the American Board of Industrial Hygiene.

change order work: Work described in a Change Order, including extra work and work described in the Contract as change order work.

closure: Closure of a traffic lane or lanes, including shoulder, ramp, or connector lanes, within a single traffic control system.

commercial quality: Quality meeting the best general practices.

commercial source: Established business operating as a material source for the general public.

Contract: Written and executed contract between the Department and the Contractor.

Contract acceptance: Director's written acceptance of a completed Contract.

Contract time: Number of original working days as adjusted by any time adjustment.

Contractor: Person or business or its legal representative entering into a Contract with the Department for performance of the work.

controlling activity: Construction activity that will extend the scheduled completion date if delayed.

County: The County of Fresno

critical path: Longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path extends the scheduled completion date.

critical path method: Network-based planning technique using activity durations and relationships between activities to calculate a schedule for the entire project.

culvert: Structure other than a bridge that provides an opening under a roadway.

data date: Day after the date through which a schedule is current. Everything occurring earlier than the data date is as-built and everything on or after the data date is planned.

day: 24 consecutive hours running from midnight to midnight; calendar day.

1. **business day:** Day on the calendar except a Saturday and a holiday.
2. **working day:** Time measure unit for work progress. A working day is any 24-consecutive-hour period except:
 - 2.1. Saturday and a holiday.
 - 2.2. Day during which you cannot perform work on the controlling activity for at least 50 percent of the scheduled work shift with at least 50 percent of the scheduled labor and equipment due to any of the following:
 - 2.2.1. Adverse weather-related conditions.
 - 2.2.2. Traffic maintenance under the Contract.
 - 2.2.3. Suspension of a controlling activity that you and the Engineer agree benefits both parties.
 - 2.2.4. Unanticipated event not caused by either party, such as:
 - 2.2.4.1. Act of God
 - 2.2.4.2. Act of a public enemy.
 - 2.2.4.3. Epidemic.
 - 2.2.4.4. Fire.
 - 2.2.4.5. Flood.
 - 2.2.4.6. Governor-declared state of emergency.
 - 2.2.4.7. Landslide.
 - 2.2.4.8. Quarantine restriction.
 - 2.2.5. Issue involving a third party, including:
 - 2.2.5.1. Industry or area-wide labor strike.
 - 2.2.5.2. Material shortage.
 - 2.2.5.3. Freight embargo.
 - 2.2.5.4. Jurisdictional requirement of a law enforcement agency.
 - 2.2.5.5. Workforce labor dispute of a utility or nonhighway facility owner resulting in a nonhighway facility rearrangement not described and not solely for the Contractor's convenience. Rearrangement of a nonhighway facility includes installation, relocation, alteration, or removal of the facility.
 - 2.3. Day during a concurrent delay.
3. **original working days:**

- 3.1. Working days to complete the work shown on the *Notice to Bidders* for a non-cost-plus-time-based bid
- 3.2. Working days bid to complete the work for a cost-plus-time-based bid

Where working days is specified without the modifier *original* in the context of the number of working days to complete the work, interpret the number as the number of original working days as adjusted by any time adjustment.

deduction: Money permanently taken from a progress payment or the final payment. Deductions are cumulative and are not retentions under Pub Cont Code § 7107.

delay: Event that extends the completion of an activity.

1. **excusable delay:** Delay caused by the Department and not reasonably foreseeable when the work began, such as:
 - 1.1. Change in the work
 - 1.2. Department action that is not part of the Contract
 - 1.3. Presence of an underground utility main not described in the Contract or in a location substantially different from that specified
 - 1.4. Described facility rearrangement not rearranged as described, by the utility owner by the date specified, unless the rearrangement is solely for the Contractor's convenience
 - 1.5. Department's failure to obtain timely access to the right-of-way
 - 1.6. Department's failure to review a submittal or provide notification in the time specified
2. **critical delay:** Excusable delay that extends the scheduled completion date
3. **concurrent delay:** Occurrence of at least 2 of the following events in the same period of time, either partially or entirely:
 - 3.1. Critical delay
 - 3.2. Delay to a controlling activity caused by you
 - 3.3. Non-working day

Department: The Fresno County Board of Supervisors and its authorized representatives.

District Office: County of Fresno Department of Public Works and Planning

detour: Temporary route for traffic around a closed road part. A passageway through a job site is not a detour.

Director: Department's Chairman

disadvantaged business enterprise: Disadvantaged business enterprise as defined in 49 CFR 26.5.

dispose of: Remove from the job site.

divided highway: Highway with separated traveled ways for traffic, generally in opposite directions.

Engineer: The County's Director of Public Works and Planning, acting through their authorized designees.

early completion time: Difference in time between an early scheduled completion date and the work completion date.

environmentally sensitive area: Area within or near construction limits where access is prohibited or limited to protect environmental resources.

estimated cost: Estimated cost of the project as shown on the *Notice to Bidders*.

extra work: Any work, desired or performed, but not included in the original Contract.

federal-aid contract: Contract that has a federal-aid project number on the cover of the *Specifications*.

final pay item: Bid item whose quantity shown on the Bid Item List is the quantity paid.

finished grade: Final surface of the completed facility. If the work under the Contract includes stage construction, the relation between the finished grade and the work under the Contract is shown.

fixed cost: Labor, material, or equipment cost directly incurred by the Contractor as a result of performing or supplying a particular bid item that remains constant regardless of the item's quantity.

float: Difference between the earliest and latest allowable start or finish times for an activity.

1. **Department-owned float:** Time saved on the critical path by actions of the Department. It is the last activity shown on the schedule before the scheduled completion date.

force account work: Work ordered on a construction project without an existing agreement on its cost, and performed with the understanding that the contractor will bill the owner according to the cost of labor, materials, and equipment, plus a certain percentage for overhead and profit.

grading plane: Basement material surface on which the lowest layer of subbase, base, pavement, surfacing, or other specified layer is placed.

highway: Whole right-of-way or area reserved for use in constructing the roadway and its appurtenances.

holiday: Holiday shown in the following table:

Holidays	
Holiday	Date observed
Every Sunday	Every Sunday
New Year's Day	January 1 st
Birthday of Martin Luther King, Jr.	3rd Monday in January
Presidents' Day	3rd Monday in February
Cesar Chavez Day	March 31 st
Memorial Day	Last Monday in May
Independence Day	July 4 th
Labor Day	1st Monday in September
Veterans Day	November 11 th
Thanksgiving Day	4th Thursday in November
Day after Thanksgiving Day	Day after Thanksgiving Day
Christmas Day	December 25 th

If January 1st, March 31st, July 4th, November 11th, or December 25th fall on a Sunday, the Monday following is a holiday. If January 1st, March 31st, July 4th, November 11th, or December 25th fall on a Saturday, the preceding Friday is a holiday.

hours of darkness: Hours of darkness as defined in Veh Code § 280.

idle equipment: Equipment:

1. On the job site at the start of a delay
2. Idled because of the delay
3. Not operated during the delay

informal-bid contract: Contract that has *Informal Bid Authorized by Pub Cont Code § 10122* on the cover of the *Notice to Bidders and Special Provisions*.

job site: Area within the defined boundaries of a project.

Labor Surcharge and Equipment Rental Rates: Caltrans publication that lists labor surcharge and equipment rental rates.

landscaping: Practice of a landscaping contractor under 16 CA Code of Regs § 832.27.

material: Any product or substance specified for use in the construction of a project.

material shortage:

1. Shortage of raw or produced material that is area-wide and caused by an unusual market condition except if any of the following occurs:
 - 1.1. Shortage relates to a produced, nonstandard material
 - 1.2. Supplier's and the Contractor's priority for filling an order differs
 - 1.3. Event outside the United States for a material produced outside the United States
2. Unavailability of water that delays a controlling activity

material source facility audit: Self-audit and a Caltrans audit evaluating a facility's capability to consistently produce materials that comply with Caltrans standards.

median: Portion of a divided highway separating the traveled ways including inside shoulders.

milestone: Event activity that has zero duration and is typically used to represent the start or end of a certain stage of the project.

mobilization: Preparatory work that must be performed or costs incurred before starting work on the various items on the job site (Pub Cont Code § 10104).

modify: Add to or subtract from an appurtenant part.

narrative report: Document submitted with each schedule that discusses topics related to project progress and scheduling.

near critical path: Chain of activities with total float exceeding that of the critical path but having not more than 10 working days of total float.

obliterate: Place an earth cover over or root, plow, pulverize, or scarify.

Office engineer: The Director of Public Works and Planning for the County of Fresno

Owner: County of Fresno

pavement: Uppermost layer of material placed on a traveled way or shoulder.

plans: Standard plans, revised standard plans, and project plans.

1. **standard plans:** Drawings standard to Department construction projects. These plans are in a book titled *Standard Plans*.
2. **revised standard plans:** New or revised standard plans. These plans are listed in the *List of Revised Standard Plans* in a book titled *Specifications*.
3. **project plans:** Drawings specific to the project, including authorized shop drawings. These plans also include a section titled *Project Details* of a book titled *Specifications*.

plant establishment period: Number of days shown on the *Notice to Bidders* for plant establishment.

quality characteristic: Characteristic of a material that is measured to determine conformance with a given requirement.

quality control plan: Contractor's plan to ensure QC.

reconstruct: Remove and disassemble and construct again at an existing or new location.

relocate: Remove and install or place in a new location.

remove: Remove and dispose of.

reset: Remove and install or place laterally at the same station location.

roadbed: Roadway portion extending from the curb line to curb line or the shoulder line to shoulder line.
A divided highway has 2 roadbeds.

roadside: Area between the outside shoulder edge and the right-of-way limits.

roadway: Portion of the highway within the outside lines of curbs, sidewalks, slopes, ditches, channels, or waterways. A roadway includes the structures and features necessary for safety, protection of facilities, and drainage.

salvage: Remove, clean, and haul to a specified location.

schedule:

1. **baseline schedule:** Initial schedule showing the original work plan starting on the date of Contract approval. This schedule shows no completed work to date and no negative float or negative lag to any activity.
2. **revised schedule:** Schedule that incorporates a proposed or past change to logic or activity durations.
3. **updated schedule:** Current schedule developed from the accepted baseline and any subsequent accepted updated or revised schedules through regular monthly review to incorporate actual past progress.

scheduled completion date: Planned work completion date shown on the current schedule.

shoulder: Roadway portion contiguous with the traveled way for accommodation of a stopped vehicle, emergency use, and lateral support of base and surface courses.

small tool: Tool or piece of equipment not listed in Labor Surcharge and Equipment Rental Rates that has a replacement value of \$500 or less.

specifications: Standard specifications, revised standard specifications, and special provisions.

1. **standard specifications:** Specifications standard to Department construction projects. These specifications are in a book titled *Standard Specifications*.
2. **revised standard specifications:** New or revised standard specifications. These specifications are in a section titled *Revised Standard Specifications* of a book titled *Specifications*.
3. **special provisions:** Specifications specific to the project. These specifications are in a section titled *Special Provisions* of a book titled *Specifications, Division I and Division II*.
4. **Technical specifications:** Specifications specific to the project immediately after the Special Provisions identified as DIVISION 00, 01, 23, 31, 33 and 44

State: State of California, including its agencies, departments or divisions whose conduct or action is related to the work.

Structure Design: Offices of Structure Design of the Department of Transportation.

subbase: Layer of material between a base and the basement material.

subgrade: Roadbed portion on which pavement, surfacing, base, subbase, or a layer of any other material is placed.

submittal:

1. **action submittal:** Written and graphic information and samples that require the Department's response.
2. **informational submittal:** Written information that does not require the Department's response.

substantial defects: Defects plainly seen as damaged, displaced, or missing parts or improper functioning of materials, parts, equipment, or systems.

substructure: Bridge parts below the bridge seats, pier tops, and haunches for rigid-framed bridges or spring lines for arched bridges; includes abutment backwalls, abutment parapets, and wingwalls.

superstructure: Bridge parts except the substructure.

supplemental project information: Information relevant to the project, specified as supplemental project information, and made available to bidders.

surfacing: Uppermost layer of material placed on a traveled way or shoulders; pavement.

time impact analysis: Analysis using a CPM schedule developed specifically to demonstrate the effect a proposed or past change or delay has on the current scheduled completion date.

time-scaled network diagram: Graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

total bid: Sum of the item totals as verified by the Department; original Contract price.

total float: Amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

traffic: Pedestrians, bicyclists, ridden or herded animals, vehicles, streetcars, and other conveyances either singularly or together while using any highway for purposes of travel.

traffic lane: Portion of traveled way used for the movement of a single line of vehicles.

traveled way: Portion of the roadway for the movement of vehicles, exclusive of the shoulders, berms, sidewalks, and parking lanes.

tunnel: Tunnel as defined in 8 CA Code of Regs § 8405 et seq.

unauthorized work: Work performed beyond the lines and grades described in the Contract or established by the Engineer or extra work performed without Department authorization.

unsuitable material: Material encountered below the natural ground surface in embankment areas or below the grading plane in excavation areas that the Engineer determines to be in any of the following conditions:

1. Of such unstable nature that it cannot be compacted to the specified density using ordinary methods at optimum moisture content.
2. Too wet to be properly compacted and cannot be dried before incorporating it into the work. Excessive moisture alone is not sufficient cause for determining that the material is unsuitable.
3. Inappropriate for the planned use.

withhold: Money temporarily or permanently taken from a progress payment.

work: Resources and activities required for Contract acceptance, including labor, materials, equipment, and the created product.

work plan: Detailed formulation of a program of action.

work zone: Area of a highway with construction, maintenance, or utility work activities.

1-1.08 DISTRICTS

Replace Section 1.08 with:

Not Used

Add to the end of Section 1-1.09

This project is not in a freeze-thaw area.

Replace Section 1-1.11 with:

1-1.11 WEBSITES, ADDRESSES, AND TELEPHONE NUMBERS

Websites, Addresses, and Telephone Numbers

Reference or agency or department unit	Website	Address	Telephone no.
Authorized Material Lists Authorized Material Source Lists	https://dot.ca.gov/programs/engineering-services/authorized-materials-lists	--	--
CA Unified Certification Program's list of certified DBEs	https://dot.ca.gov/programs/civil-rights/dbe-search	--	--
<i>California MUTCD</i>	https://dot.ca.gov/programs/safety-programs/camutcd	--	--
Department	http://www.co.fresno.ca.us	2220 Tulare Street Design Division – Seventh Floor Fresno, CA 93721	(559) 600-9908
Department of Conservation, Office of Mine Reclamation	http://www.conservation.ca.gov/dmr/	--	--
Department of Industrial Relations	http://www.dir.ca.gov	455 Golden Gate Ave San Francisco CA 94102	--
Design Services - Contract Administration, Planholders, Bid Results	https://www.co.fresno.ca.us/departments/public-works-planning/contractor-bids-plan-holders-electronic-plans-bid-results	2220 Tulare Street Design Division – Seventh Floor Fresno, CA 93721	Tel: (559) 600-9908 Fax:(559) 455-4609 Email: DesignServices@fresnocountyca.gov
Division of Accounting, Office of External Accounts Payable	https://dot.ca.gov/programs/accounting	Major Construction Payment and Information Unit Office of External Accounts Payable Division of Accounting Department of Transportation P.O. Box 168043 Sacramento, CA 95816-8043	(916) 227-9013
Division of Construction	http://www.dot.ca.gov/hq/construc/	--	--
Geotechnical Services	http://www.dot.ca.gov/hq/esc/geotech	Geotechnical Services Department of Transportation 5900 Folsom Blvd Sacramento, CA 95819-4612	(916) 227-7000
METS	http://www.dot.ca.gov/hq/esc/Translab/	Materials Engineering and Testing Services Department of Transportation 5900 Folsom Blvd Sacramento, CA 95819-4612	(916) 227-7000
<i>MPQP</i>	https://dot.ca.gov/programs/construction/material-plant-quality-program	--	--

Office Engineer	--	Director of Public Works & Planning Fresno County 2220 Tulare St, 8 th Floor Fresno, CA 93721	(559) 600-4078
Offices of Structure Design, Documents Unit	--	MSC 9-4/4I Documents Unit Offices of Structure Design Department of Transportation 1801 30th St Sacramento, CA 95816-7006	(916) 227-0716
Publication Distribution Unit	--	Publication Unit Department of Transportation 1900 Royal Oaks Dr Sacramento, CA 95815-3800	--

Replace Section 1-1.12 with:

1-1.12 MISCELLANY

Make checks and bonds payable to the County of Fresno.

Replace Section 2 with:

2 BIDDING

2-1.01 GENERAL

Section 2 includes specifications related to bid eligibility and the bidding process.

2-1.02 BID INELIGIBILITY

A firm that has provided architectural or engineering services to the Department for this contract before bid submittal for this contract is prohibited from any of the following:

1. Submitting a bid
2. Subcontracting for a part of the work
3. Supplying materials

2-1.03 CONTRACTOR REGISTRATION

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

2-1.04–2-1.05 RESERVED

2-1.06 BID DOCUMENTS

2-1.06A General

The *Bid* book includes bid forms and certifications and may be requested from Design Services and are available online at <http://www.BidExpress.com>.

The *Specifications* includes the *Notice to Bidders*, revised standard specifications, project details, and special provisions.

The *Specifications*, project plans, and any addenda to these documents may be accessed at Design Services.

The *Standard Specifications* and *Standard Plans* may be purchased at the Publication Distribution Unit or accessed online at <https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>.

2-1.06B Supplemental Project Information

The Department makes the following supplemental project information available:

Supplemental Project Information

Where Available	Description
Included in Project Details	Title V Permit to Operate in San Joaquin Air Pollution Districts Limits
Available on Design Services webpage	N/A

If as-built drawings are available they may not show existing dimensions and conditions. Where new construction dimensions are dependent on existing bridge dimensions, verify the field dimensions and adjust the dimensions of the work to fit the existing conditions.

2-1.06C–2-1.06D Reserved

2-1.07 JOB SITE AND DOCUMENT EXAMINATION

Examine the job site and bid documents. Notify the Department of apparent errors and patent ambiguities in the plans, specifications, and Bid Item List. Failure to do so may result in rejection of a bid or rescission of an award.

Bid submission is your acknowledgment that you have examined the job site and bid documents and are satisfied with:

1. General and local conditions to be encountered
2. Character, quality, and scope of work to be performed
3. Quantities of materials to be furnished
4. Character, quality, and quantity of surface and subsurface materials or obstacles
5. Requirements of the contract

2-1.08 RESERVED

2-1.09 BID ITEM LIST

Submit a bid based on the bid item quantities the Department shows on Proposal 2.

2-1.10 SUBCONTRACTOR LIST

On the Subcontractor List form, list each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid or \$10,000, whichever is greater (Pub Cont Code § 4100 et seq.).

For each subcontractor listed, the Subcontractor List form must show:

1. Business name and the location of its place of business.
2. California contractor license number for a non-federal-aid contract.
3. Public works contractor registration number.
4. Portion of work it will perform. Show the portion of the work by:
 - 4.1. Bid item numbers for the subcontracted work
 - 4.2. Percentage of the subcontracted work for each bid item listed
 - 4.3. Description of the subcontracted work if the percentage of the bid item listed is less than 100 percent

2-1.11 RESERVED

2-1.12 RESERVED

2-1.13–2-1.30 RESERVED

Replace section 2-1.31 with:

2-1.31 RESERVED

2-1.31 OPT OUT OF PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS

You may opt out of the payment adjustments for price index fluctuations specified in section 9-1.07. To opt out, submit a completed Opt Out of Payment Adjustments for Price Index Fluctuations form under section 2-1.33.

2-1.32 RESERVED

2-1.33 BID DOCUMENT COMPLETION AND SUBMITTAL

2-1.33A General

Complete forms in the *Bid* book.

Submit an electronic bid online at <http://www.BidExpress.com> (Section 2-1.33D) or submit a hardcopy bid:

1. Under sealed cover
2. Marked as a bid
3. Identifying the contract number and the bid opening date

Certain bid forms must be submitted with the bid and properly executed.

Certain other forms and information must be submitted either with the bid or within the prescribed period after bid opening as specified elsewhere in these special provisions.

Failure to submit the forms and information as specified results in a nonresponsive bid.

If an agent other than the authorized corporation officer or a partnership member signs the bid, file a Power of Attorney with the Department either before opening bids or with the bid. Otherwise, the bid may be nonresponsive.

2-1.33B Bid Item List and Bid Comparison

Submit a bid based on the bid item quantities the Department shows on Proposal 2. Bids will be evaluated and the low bidder determined as indicated in the *Notice to Bidders*.

Do not submit an unbalanced bid. An unbalanced bid is one in which one or more bid items is/are considered by the Department to have been bid at an amount that is unreasonably high or unreasonably low. A bid may be considered to be non-responsive and may be rejected if it is considered by the Department to be unbalanced.

2-1.33C Bid Document Completion

Proposal items are identified by title and by the word "Proposal" followed by the number assigned to the item sheet in question. Proposal items are included in the *Bid Book*.

2-1.33C(1) Proposal 1 - Proposal to the Board of Supervisors of Fresno County

2-1.33C(2) Proposal 2 - Bid Item List

One or more sheet(s) or list(s) upon which the bidder completes the bid.

Fill out completely including a unit price and total for each unit price-based item and a total for each lump sum item.

Do not make any additions such as "plus tax", "plus freight", or conditions such as "less 2% if paid by 15th".

Use ink or typewriter for paper bids.

2-1.33C(3) Proposal 3 - Evaluation of Bid Item List

Describes how inconsistencies and irregularities are evaluated and corrected when Design Services reviews the Bid Item List.

2-1.33C(4) Proposal 4 - Bid Security and Signature

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

- Cash
- Cashier's check
- Certified check
- Signed bidder's bond by an admitted surety insurer

Indicate type of bid security provided.

- Cash – Acceptable but not recommended. Cash is deposited in a clearing account and is returned to bidders by County warrant. This process may take several weeks.
- Cashier's or Certified Checks. This type of security is held until the bid is no longer under consideration. If submitted by a potential awardee, they will be returned when the contract is fully executed by the bidder and bonds and insurance have been approved.
- Bid Bonds - Must be signed by the bidder and by the attorney-in-fact for the bonding company. Provide notarized signature of attorney-in-fact accompanied by bonding company's affidavit authorizing attorney-in-fact to execute bonds. An unsigned bid bond will be cause for rejection.

Provide contractor's license information.

State business name and if business is a:

- Corporation - list officers
- Partnership - list partners
- Joint Venture - list members; if members are corporations or partnerships, list their officers or partners.
- Individual - list Owner's name and firm name style

Signature of Bidder - the following lists types of companies and corresponding authorized signers.

- Corporation - by an officer
- Partnership - by a partner
- Joint Venture - by a member
- Individual - by the Owner

If signature is by a Branch Manager, Estimator, Agent, etc., the bid must be accompanied by a power of attorney authorizing the individual to sign the bid in question or to sign bids more generally, otherwise the bid may be rejected.

Business Address - Firm's Street Address

Mailing Address - P.O. Box or Street Address

Complete, sign, and return with bid.

2-1.33C(5) Proposal 5 - Noncollusion Declaration

Must be completed, signed, and returned with bid.

2-1.33C(6) Proposal 6 - Public Contract Code Section 10285.1 Statement

Select "has" or "has not" in accordance with instructions on form, return with completed for with bid. Note that signing the bid constitutes signing this statement.

2-1.33C(7) Proposal 7 - Public Contract Code Section 10162 Questionnaire And Public Contract Code 10232 Statement

Select: "yes" or "no" accordance with instructions on form, include explanation if "yes" is selected. Return completed form with bid. Note that signing the bid constitutes signing this questionnaire and statement.

2-1.33C(8) Proposal 8(a) through Proposal 8(f) - Subcontractors

Sheet(s) or spaces where bidders list subcontractors. List each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid (Pub Cont Code § 4100 et seq.).

The *Subcontractor List* submitted with the bid must show the name, location of business, work portions to be performed, and the contractor's license number for each subcontractor listed.

- Use subcontractor's business name style as registered with the License Board.
- Specify the city in which the subcontractor's business is located and the state if other than California.
- Description of the work to be performed by the subcontractor. Indicate with bid item numbers from the bid item list and/or work descriptions similar to those on bid item list.
- List license number and Department of Industrial Relations registration number for each subcontractor.

Upon request from Design Services, provide the following additional information within 24 hours of bid opening if not included on the *Subcontractor List* submitted with the bid:

- Complete physical address for each subcontractor listed.
- Percentage of the total bid or dollar amount associated with each subcontractor listed.

2-1.33C(16) Proposal 16 - Opt out of payment adjustments for price index fluctuations

You may opt out of the payment adjustments for price index fluctuations specified in section 9-1.07. To opt out, submit a completed *Opt Out of Payment Adjustments for Price Index Fluctuations* form with your bid.

2-1.33C(17) Proposal 17 - Guaranty

Does not need to be signed with the bid. Part of the contract which must be signed by the contractor when contract is executed.

Section 2-1.33D Electronic Bid Document Completion

Electronic versions of the bid book documents are available online at <http://www.BidExpress.com>, and may be submitted through that website.

You must either attach an electronic bid bond or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening.

Bidders submitting online may use one of the accepted electronic sureties (SurePath or Surety 2000) to submit their bid bond; or may submit cash, cashier's check, certified check, or a bidder bond to Design Services at 2220 Tulare St., Seventh Floor, Fresno, CA 93721. Those submitting bid bonds directly to Design Services must submit their bid bond:

1. Under sealed cover
2. Marked as a bid-bond
3. Identifying the contract number and the bid opening date on the cover

Note: While it is strongly encouraged that you comply with the above bidding requirements if at all possible, it is acknowledged that this bid opening is occurring during the COVID-19 State of Emergency in Fresno County, the impact of which is immense. If, as a result of the emergency, you are unable to provide the original bid security or electronic bid bond prior to the bid opening (and if your bid is otherwise appropriately responsive to bid requirements), then staff will request that the Board of Supervisors consider exercising its discretion to waive the bidding irregularity (regarding the time of delivery of the bid security) IF you: (1) attach a scanned copy of the original bid security to the Bid; and (2) provide for hand-delivery of the original bid security to the County within 24 hours of the bid opening. **If necessary, please e-mail DesignServices@fresnocountyca.gov or call (559) 600-9908, so that arrangements may be made to hand deliver your bid bond.**

2-1.34 BIDDER'S SECURITY

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

1. Cash
2. Cashier's check
3. Certified check
4. Signed bidder's bond by an admitted surety insurer

Submit cash, cashier's check, certified check, or bidder's bond with your bid.

2-1.35–2-1.39 RESERVED

2-1.40 BID WITHDRAWAL

1. An authorized agent may withdraw a bid before the bid opening date and time by submitting a written bid withdrawal request at the location where the bid was submitted. Withdrawing a bid does not prevent you from submitting a new bid. An authorized agent is an individual authorized to submit a bid.
2. After the bid opening time, you cannot withdraw a bid.

2-1.41–2-1.42 RESERVED

2-1.43 BID OPENING

The Department publicly opens and reads bids at the time and place shown on the *Notice to Bidders*.

2-1.44–2-1.45 RESERVED

2-1.46 DEPARTMENT'S DECISION ON BID

The Department's decision on the bid amount is final.

The Department may reject:

1. All bids
2. A nonresponsive bid

2-1.47 BID RELIEF

The Department may grant bid relief under Pub Cont Code § 5100 et seq. Submit any request for bid relief to Design Services.

2-1.48 RESERVED

2-1.49 SUBMITTAL FAILURE HISTORY

The Department considers a bidder's past failure to submit documents required after bid opening in determining a bidder's responsibility.

2-1.50 RESERVED

2-1.51 DISCLOSURE OF SELF-DEALING TRANSACTIONS

This provision is only applicable if the contractor is operating as a corporation (a for-profit or non-profit corporation) or if during the term of this agreement, the contractor changes its status to operate as a corporation.

Members of the contractor's Board of Directors shall disclose any self-dealing transactions that they are a party to while contractor is providing goods or performing services under this agreement. A self-dealing transaction shall mean a transaction to which the contractor is a party and in which one or more of its directors has a material financial interest. Members of the Board of Directors shall disclose any self-dealing transactions that they are a party to by completing and signing a Self-Dealing Transaction Disclosure Form which is included in *Project Details* of these special provisions.

In the event that the Contractor (to whom the project is awarded) is operating as a corporation or incorporates during the course of the construction contract, and any member of its board of directors is engaged or intends to become engaged in self-dealing transaction(s), each member of its board of directors who is engaged or intends to become engaged in a self-dealing transaction or transactions must complete and submit to the County a completed Self-Dealing Transaction Disclosure Form (in Project Details) for each such transaction prior to engaging therein or immediately thereafter.

3 CONTRACT AWARD AND EXECUTION

Replace the headings and paragraphs of Section 3 with:

3-1.01 GENERAL

Section 3 includes specifications related to contract award and execution.

3-1.02 CONSIDERATION OF BIDS

3-1.02A General

Bids will be compared on the basis listed in the Notice to Bidders.

3-1.02B Tied Bids

The Department breaks a tied bid with a coin toss:

3-1.03 CONTRACTOR REGISTRATION

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

3-1.04 CONTRACT AWARD

3-1.04A BID PROTEST PROCEDURES

Any bid protest must be submitted in writing and delivered by the Bidder by either of the following means: (1) via e-mail to DesignServices@fresnocountyca.gov; or (2) via certified mail, return receipt requested to

the following address: Design Division, Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno, CA 93721.

The bid protest must be received no later than 5:00 p.m. of the seventh (7th) calendar day following the deadline for submittal of the specific bid document(s) placed at issue by the protest. Any Bidder filing a protest is encouraged to submit the bid protest via e-mail, because the deadline is based on the Department's receipt of the bid protest. A bid protest accordingly may be rejected as untimely if it is not received by the deadline, regardless of the date on which it was postmarked. The Bidder's compliance with the following additional procedures also is mandatory:

- a. The initial protest document shall contain a complete statement of the grounds for the protest, including a detailed statement of the factual basis and any supporting legal authority.
- b. The protest shall identify and address the specific portion of the document(s) forming the basis for the protest.
- c. The protest shall include the name, address and telephone number of the person representing the protesting party.
- d. The Department will provide a copy of the initial protest document and any attached documentation to all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- e. The Board of Supervisors will issue a decision on the protest. If the Board of Supervisors determines that a protest is frivolous, the party originating the protest may be determined to be irresponsible and that party may be determined to be ineligible for future contract awards.
- f. The procedure and time limits set forth herein are mandatory and are the Bidder's sole and exclusive remedy in the event of a bid protest. Failure by the Bidder to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including the subsequent filing of a Government Code Claim or legal proceedings.

3-1.04B AWARD PERIOD

If the Department awards the contract, the award is made to the lowest responsible bidder within 54 calendar days after bid opening.

The Department may extend the specified award period if the Bidder agrees.

You may request to extend the award period by faxing a request to Design Services before 4:00 p.m. on or before the last day of the award period. If you do not make this request, after the specified award period:

1. Your bid becomes invalid
2. You are not eligible for the award of the contract

3-1.05 CONTRACT BONDS (PUB CONT CODE §§ 10221 AND 10222)

The successful bidder must furnish 2 bonds conforming to the requirements in the *Agreement* of these special provisions.

3-1.06 CONTRACTOR LICENSE

For a federal-aid contract, the Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Pub Cont Code § 10164).

For a non-federal-aid contract:

1. Contractor must be properly licensed as a contractor from bid opening through Contract acceptance (Bus & Prof Code § 7028.15)
2. Joint venture bidders must obtain a joint venture license before contract award (Bus & Prof Code § 7029.1)

3-1.07 INSURANCE POLICIES

The successful bidder must submit copies of its insurance policies conforming to the requirements in the *Agreement* of these special provisions.

3-1.08 –3-1.10 RESERVED

3-1.11 PAYEE DATA RECORD

Complete and deliver to the Engineer a Payee Data Record form when requested by the Engineer.

3-1.12 RESERVED

3-1.13 RESERVED

3-1.14–3-1.17 RESERVED

3-1.18 CONTRACT EXECUTION

The successful bidder must sign the *Agreement*.

Deliver to Design Services:

1. Signed *Agreement* including the attached form FHWA-1273
2. Contract bonds
3. Documents identified in section 3-1.07
4. For a federal-aid contract, *Local Agency Bidder - DBE Information* form

Design Services must receive these documents before the 10th business day after the bidder receives the contract.

The bidder's security may be forfeited for failure to execute the contract within the time specified (Pub Cont Code §§ 10181, 10182, and 10183).

3-1.19 BIDDERS' SECURITIES

The Department keeps the securities of the 1st, 2nd, and 3rd low bidders until the contract has been executed. The other bidders' securities, other than bidders' bonds, are returned upon determination of the 1st, 2nd, and 3rd low bidders, and their bidders' bonds are of no further effect (Pub Cont Code § 10184).

4 SCOPE OF WORK

Replace Section 4-1.02 with:

4-1.02 INTENT

The Contract intent is to provide for work completion using the best general practices.

Nothing in the specifications, special provisions, Standard Specifications, or in any other Contract document voids the Contractor's public safety responsibilities.

Replace Section 4-1.07C with:

4-1.07C Reserved

Replace Section 4-1.13 with:

4-1.13 CLEANUP

Before final inspection, leave the job site neat and presentable and dispose of:

1. Rubbish
2. Excess materials
3. Falsework
4. Temporary structures
5. Equipment

Remove warning, regulatory, and guide signs when directed by the Engineer.

5 CONTROL OF WORK

Delete the 9th Paragraph of Section 5-1.01

Add the following before the last sentence in Section 5-1.02

Caltrans Standard Plans, , and any other other-agency Standard Drawings included in the “Project Details” section of the book entitled “Specifications” have the same ranking as Standard Plans.”

All other drawings in the “Project Details” section of the book entitled “Specifications” have the same ranking as Project Plans.

Tables and other documents in the “Project Details” section of the book entitled “Specifications” have the same ranking as Special Provisions. If a portion of a document in the Project Details section conflicts with the Special Provisions, the Special Provisions shall prevail.

Replace Section 5-1.09 with:

5-1.09 RESERVED

Replace Section 5-1.12 with:

5-1.12 ASSIGNMENT

No third-party agreement relieves you or your surety of the responsibility to complete the work. Do not sell, transfer, or otherwise dispose of any Contract part without prior written consent from the Department.

If you assign the right to receive Contract payments, the Engineer accepts the assignment upon the Engineer's receipt of a notice. Assigned payments remain subject to deductions and withholds described in the Contract. The Department may use withheld payments for work completion whether payments are assigned or not.

A pending or disapproved request for assignment does not relieve you of the responsibility to commence and pursue work timely and in strict accordance with contract documents.

Replace Section 5-1.13C with:

5-1.13C RESERVED

Replace Section 5-1.13D with:

5-1.13D RESERVED

Add the following paragraph to the end of section 5-1.16 with:

Submit Daily Log records to the Engineer weekly for the entire course of work unless the Engineer requests another interval.

Replace Section 5-1.20B(4) with:

5-1.20B(4) Contractor–Property Owner Agreement

Before procuring material from or disposing or stockpiling of material on non-highway property:

1. Provide proof that the property where materials are to be stockpiled or equipment parked/stored is appropriately zoned and/or permitted for the use proposed by the Contractor.
2. Obtain written authorization from each and every owner of the property where materials are to be stockpiled or equipment parked/stored.
3. Provide proof that the signor(s) of the authorization are the owners of the property.
4. Provide an executed release from the property owner(s) absolving the Department from any and all responsibility in connection with the stockpiling of materials or parking/storage of equipment on said property.
5. Obtain written permission from the Engineer to stockpile materials or park/store equipment at the location designated in said authorization.

Before Contract acceptance, submit a document signed by the owner of the material source or disposal site stating that the Contractor has complied with the Contractor-owner agreement.

Failure by the Contractor to provide written authorization shall result in the withholding of all funds due to the Contractor until said authorization is received by the County.

Replace Section 5-1.23A with:

5-1.23A General

Section 5-1.23 includes specifications for action and informational submittals.

Any submittal not specified as an informational submittal is an action submittal.

Submit action and informational submittals to the Engineer. Unless otherwise specified in these Specifications, submittals shall be provided via email in .pdf format.

Each submittal must have a cover sheet that must include:

1. Contract number
2. Project Name
3. Date
4. Submittals (and resubmittals if applicable) must be numbered sequentially. Each submittal shall be labeled with an original number and a decimal number. The decimal number will indicate a revision to the original submittal number. Example: Original submittal 1.0; any resubmittal of the same material shall be labeled as 1.1, 1.2, etc until approved.
5. Structure number if applicable
6. Contractor
7. Person responsible for submitting the submittal
8. Signature of Contractor's representative sending submittal
9. Section number and/or item submittal is referencing

10. Pages of submittal, excluding cover sheet

The Department rejects a submittal if it has any error or omission.

If the last day for submitting a document falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

Documents must be submitted in the English language.

Convert documents to US customary units.

Replace Section 5-1.23B with:

Section 01 33 00 "SUBMITTAL PROCEDURES" of the Technical Specifications

Replace Section 5-1.26 with:

5-1.26 CONSTRUCTION SURVEYS

Construction Surveys shall be as per Section 01 32 23 of the Technical Specifications

Replace Section 5-1.27E with:

5-1.27E CHANGE ORDER BILLS

Maintain separate records for change order work costs.

5-1.32 AREAS FOR USE

Occupy the site only for purposes necessary to perform the work and as directed by Engineer.

Defend, indemnify, and hold the Department harmless to the same extent as under section 7-1.05.

The Department does not allow temporary residences within the site.

6 CONTROL OF MATERIALS

Replace section 6-1.05 with:

6-1.05 SPECIFIC BRAND OR TRADE NAME AND SUBSTITUTION

Unless substitution is expressly precluded in the special provisions, a reference to a specific brand or trade name establishes a quality standard and is not intended to limit competition. Unless the Department has made a public interest finding expressly authorizing sole source procurement of a particular item, you may use a product that is equal to or better than the specified brand or trade name if authorized.

Submit a substitution request with a time period that:

1. Follows Contract award
2. Allows 30 days for review
3. Causes no delay

Include substantiating data with the substitution request that proves that substitution:

1. Causes no delay
2. Is of equal or better quality and suitability

If the special provisions disallow substitution of a particular item, provide the specified item and do not propose substitution.

The Department has made a public interest finding and has determined that the products listed under paragraph 2.1 of Section 01 60 00 Product Requirements shall be used for the project, and no substitution therefor shall be allowed.

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Replace the 2nd Paragraph of Section 7-1.02K(2) with:

The general prevailing wage rates and any applicable changes to these wage rates are available:

1. From Design Services
2. From the Department of Industrial Relations' Web site

Replace section 7-1.02K(3) with:

Keep accurate payroll records.

Submit a copy of your certified payroll records, weekly, including those of subcontractors. Include:

1. Each employee's:
 - 1.1. Full name
 - 1.2. Address
 - 1.3. Social security number
 - 1.4. Work classification
 - 1.5. Straight time and overtime hours worked each day and week
 - 1.6. Actual wages paid for each day to each:
 - 1.6.1. Journeyman
 - 1.6.2. Apprentice
 - 1.6.3. Worker
 - 1.6.4. Other employee you employ for the work
 - 1.7. Pay rate
 - 1.8. Itemized deductions made
 - 1.9. Check number issued
 - 1.10. Fringe Benefits
2. Apprentices and the apprentice-to-journeyman ratio

Each certified payroll record must include a Statement of Compliance form signed under penalty of perjury that declares:

1. Information contained in the payroll record is true, correct, and complete
2. Employer has complied with the requirements of sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project
3. Wage rates paid are at least those required by the Contract

Submitted certified payrolls for hauling and delivering ready-mixed concrete must be accompanied by a written time record. The time record must include:

1. Truck driver's full name and address
2. Name and address of the factory or batching plant
3. Time the concrete was loaded at the factory or batching plant
4. Time the truck returned to the factory or batching plant
5. Truck driver's signature certifying under penalty of perjury that the information contained in this written time record is true and correct

Make certified payroll records available for inspection at all reasonable hours at your main office on the following basis:

1. Upon the employee's request or upon request of the employee's authorized representative, make available for inspection a certified copy of the employee's payroll record.

2. Refer the public's requests for certified payroll records to the Department. Upon the public's request, the Department makes available for inspection or furnishes copies of your certified payroll records. Do not give the public access to the records at your main office.

Make all payroll records available for inspection and copying or furnish a copy upon request of a representative of the:

1. Department
2. Division of Labor Standards Enforcement of the Department of Industrial Relations
3. Division of Apprenticeship Standards of the Department of Industrial Relations

Furnish the Department the location of the records. Include the street address, city, and county. Furnish the Department a notification of a location and address change within 5 business days of the change.

Comply with a request for the records within 10 days after you receive a written request. If you do not comply within this period, the Department withholds from progress payments a \$100 penalty for each day or part of a day for each worker until you comply. You are not assessed this penalty for a subcontractor's failure to comply with Labor Code § 1776.

The Department withholds from progress payments for delinquent or inadequate records (Labor Code § 1771.5). If you have not submitted an adequate record by the month's 15th day for the period ending on or before the 1st of that month, the Department withholds up to 10 percent of the monthly progress estimate, exclusive of mobilization. The Department does not withhold more than \$10,000 or less than \$1,000.

7-1.02K(4)i Apprenticeship Requirements for non-Federal Projects

- A. Pursuant to Sections 1770-1780 of the Labor Code of the State of California, the Director of the Department of Industrial Relations has determined the general prevailing rate of wages in the locality for each craft or type of worker needed to execute the work. Said wage rates pursuant to Section 1773.2 of the Labor Code are on file with the Clerk to the Fresno County Board of Supervisors, and will be made available to any interested person on request. A copy of this wage scale may also be obtained at the following Web Site: www.dir.ca.gov/dlsr.
- B. Pursuant to Section 1775 of the Labor Code of the State of California, nothing in this Article shall prevent the employment of properly registered apprentices upon public works. Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which he/she is registered.
- C. Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3, of the Labor Code, are eligible to be employed on public works. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.
- D. Fresno County is committed to increasing the availability of employment and training opportunities, with particular attention to the plight of those who are most economically disadvantaged. In an effort to advance that purpose, the County will require that the Contractor and each subcontractor employed on this Project shall use their best efforts to ensure that thirty-three percent (33%) of apprentice hours, as determined by California Labor Code Section 1777.5 for each contractor and subcontractor of any tier on this Project, are performed by qualified participants in state approved apprenticeship programs who also are current or former "Welfare-to-Work" participants in the CalWORKs program. Provided, that nothing contained in this Paragraph D shall be interpreted to relieve or in any way diminish the obligation of the Contractor and each subcontractor to comply fully with all applicable

apprenticeship laws in accordance with the California Labor Code and the California Code of Regulations; and accordingly such requirements as are contractually imposed by this Paragraph D shall be in addition to such legally mandated requirements, and applicable only to the extent fully consistent therewith.

Replace Section 7-1.02M(2) with:

7-1.02M(2) Fire Prevention

Cooperate with local fire prevention authorities in eliminating hazardous fire conditions.

Obtain the phone numbers of the nearest fire suppression agency, California Department of Forestry and Fire Protection (Cal Fire) unit headquarters, United States Forest Service (USFS) ranger district office, and U.S. Department of Interior (USDI) BLM field office. Submit these phone numbers to the Engineer before the start of job site activities.

Immediately report to the nearest fire suppression agency fires occurring within the project limits.

Prevent project personnel from setting open fires that are not part of the work.

Prevent the escape of and extinguish fires caused directly or indirectly by job site activities

Except for motor trucks, truck tractors, buses, and passenger vehicles, equip all hydrocarbon-fueled engines, both stationary and mobile including motorcycles, with spark arresters that meet USFS standards as specified in the *Forest Service Spark Arrester Guide*. Maintain the spark arresters in good operating condition. Spark arresters are not required by Cal Fire, the BLM, or the USFS on equipment powered by properly maintained exhaust-driven turbo-charged engines or equipped with scrubbers with properly maintained water levels. The *Forest Service Spark Arrester Guide* is available at the district offices.

Each toilet must have a metal ashtray at least 6 inches in diameter by 8 inches deep half-filled with sand and within easy reach of anyone using the facility.

Locate flammable materials at least 50 feet away from equipment service, parking, and gas and oil storage areas. Each small mobile or stationary engine site must be cleared of flammable material for a radius of at least 15 feet from the engine.

Each area to be cleared and grubbed must be cleared and kept clear of flammable material such as dry grass, weeds, brush, downed trees, oily rags and waste, paper, cartons, and plastic waste. Before clearing and grubbing, clear a fire break at the outer limits of the areas to be cleared and grubbed. Other fire breaks may be ordered and are change order work.

Furnish the following fire tools:

1. 1 shovel and 1 fully charged fire extinguisher UL rated at 4 B:C or more on each truck, personnel vehicle, tractor, grader, or other heavy equipment.
2. 1 shovel and 1 backpack 5-gallon water-filled tank with pump for each welder.
3. 1 shovel or 1 chemical pressurized fire extinguisher, fully charged, for each gasoline-powered tool, including chain saws, soil augers, and rock drills. The fire tools must always be within 25 feet from the point of operation of the power tool. Each fire extinguisher must be of the type and size required by the Pub Res Code § 4431 and 14 CA Code of Regs § 1234. Each shovel must be size O or larger and at least 46 inches long.

Furnish a pickup truck and driver for the sole purpose of fire control during working hours. The truck must be equipped with:

1. 10 shovels, 5 axes, 2 backpack 5-gallon water-filled tanks with pumps
2. 100-gallon tank of water with a gasoline motor powered pump and 100 feet of 3/4-inch hose on a reel.

The pickup truck and operator must patrol the area of construction for at least 1/2 hour after job site activities have ended.

In addition to being available at the site of the work, the truck and operator must patrol the area of construction from noon until at least 1/2 hour after job site activities have ended. If the fire danger rating is very high or extreme, the truck and operator must patrol the area of construction while work is being done and for at least 1/2 hour after job site activities have ended.

Cal Fire, USFS, and BLM have established the following adjective class ratings for 5 levels of fire danger for use in public information releases and fire protection signing: low, moderate, high, very high, extreme. Obtain the fire danger rating daily for the project area from the nearest Cal Fire unit headquarters, USFS ranger district office, or BLM field office.

Arrangements have been made with Cal Fire, USFS, and BLM to notify the Department when the fire danger rating is very high or extreme. This information will be furnished to the Engineer who will notify you for dissemination and action in the area affected. If a discrepancy between this notice and the fire danger rating obtained from the nearest office of either Cal Fire or USFS exists, you must conduct operations according to the higher of the two fire danger ratings.

If the fire danger rating reaches very high:

1. Falling of dead trees or snags must be discontinued.
2. No open burning is permitted and fires must be extinguished.
3. Welding must be discontinued except in an enclosed building or within an area cleared of flammable material for a radius of 15 feet.
4. Blasting must be discontinued.
5. Smoking is allowed only in automobiles and cabs of trucks equipped with an ashtray or in cleared areas immediately surrounded by a fire break unless prohibited by other authority.
6. Vehicular travel is restricted to cleared areas except in case of emergency.

If the fire danger rating reaches extreme, take the precautions specified for a very high fire danger rating except smoking is not allowed in an area immediately surrounded by a firebreak and work of a nature that could start a fire requires that properly equipped fire guards be assigned to such operation for the duration of the work.

The Engineer may suspend work wholly or in part due to hazardous fire conditions. The days during this suspension are non-working days.

If field and weather conditions become such that the determination of the fire danger rating is suspended, section 7-1.02M(2) will not be enforced for the period of the suspension of the determination of the fire danger rating. The Engineer will notify you of the dates of the suspension and resumption of the determination of the fire danger rating.

Replace Section 7-1.04 with:

7-1.04 PUBLIC SAFETY

7-1.04A GENERAL

You are responsible to provide for public safety.

Do not construct a temporary facility that interferes with the safe passage of traffic.

Control dust resulting from the work, inside and outside the right-of-way.

Move workers, equipment, and materials without endangering traffic.

Whenever your activities create a condition hazardous to the public, furnish, erect and maintain those fences, temporary railing, barricades, lights, signs, and other devices and take any other necessary protective measures to prevent damage or injury to the public.

Any fences, temporary railing, barricades, lights, signs, or other devices furnished, erected and maintained by you are in addition to those for which payment is provided elsewhere in the specifications.

Provide flaggers whenever necessary to ensure that the public is given safe guidance through the work zone. At locations where traffic is being routed through construction under one-way controls, move your equipment in compliance with the one-way controls unless otherwise ordered.

Use of signs, lights, flags, or other protective devices must comply with the *California MUTCD* and any directions of the Engineer. Signs, lights, flags or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.

Keep existing traffic signals and highway lighting in operation. Other forces within the Department will perform routine maintenance of these facilities during the work.

Cover signs that direct traffic to a closed area.

Install temporary illumination in a manner which the illumination and the illumination equipment does not interfere with public safety. The installation of general roadway illumination does not relieve you from furnishing and maintaining any protective devices.

Equipment must enter and leave the highway via existing ramps and crossovers and must move in the direction of traffic. All movements of workmen and construction equipment on or across lanes open to traffic must be performed in a manner that do not endanger the public. Your vehicles or other mobile equipment leaving an open traffic lane to enter the construction area must slow down gradually in advance of the location of the turnoff to give the traffic following an opportunity to slow down. When leaving a work area and entering a roadway carrying traffic, your vehicles and equipment must yield to traffic.

Immediately remove hauling spillage from a roadway lane or shoulder open to traffic. When hauling on roadways, trim loads and remove material from shelf areas to minimize spillage.

Notify the Engineer not less than 5 days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders.

If vertical clearance is temporarily reduced to 15.5 feet or less, place low clearance warning signs in compliance with the *California MUTCD* and any directions of the Engineer. Signs must comply with the dimensions, color, and legend requirements of the *California MUTCD* and section 12-3.06 except that the signs must have black letters and numbers on an orange retroreflective background. W12-2P signs must be illuminated so that the signs are clearly visible.

Pave or provide full width continuous and cleared wood walks for pedestrian openings through falsework. Protect pedestrians from falling objects and concrete-curing water. Extend overhead protection for pedestrians at least 4 feet beyond the edge of the bridge deck. Illuminate all pedestrian openings through falsework. Temporary pedestrian facilities must comply with the *California MUTCD*, Part 6, Chapter 6D, "Pedestrian and Worker Safety."

Do not store vehicles, material, or equipment in a way that:

1. Creates a hazard to the public
2. Obstructs traffic control devices

Do not install or place temporary facilities used to perform the work which interfere with the free and safe passage of traffic.

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop

drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

If you appear to be neglectful or negligent in furnishing warning devices and taking protective measures, the Engineer may direct your attention to the existence of a hazard. You must furnish and install the necessary warning devices. If the Engineer points out the inadequacy of warning devices and protective measures, that action on the part of the Engineer does not relieve you from your responsibility for public safety or abrogate your obligation to furnish and pay for these devices and measures.

Install Type K temporary railing or other authorized protective systems under any of the following conditions:

1. Excavations: Where the near edge of the excavation is within 15 feet from the edge of an open traffic lane
2. Temporarily unprotected permanent obstacles: When the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and you elect to install the obstacle before installing the protective system; or you, for your convenience and as authorized, remove a portion of an existing protective railing at an obstacle and do not replace such railing completely the same day
3. Storage areas: When material or equipment is stored within 15 feet of the edge of an open traffic lane and the storage is not otherwise prohibited by the Contract
4. Height differentials: When construction operations create a height differential greater than 0.15 feet within 15 feet of the edge of traffic lane

Installation of Type K temporary railing is not required if an excavation within 15 feet from the edge of an open traffic lane is protected by any of the following:

1. Steel plate or concrete covers of adequate thickness to prevent accidental entry by traffic or the public
2. Side slope where the downhill slope is 4:1 (horizontal: vertical) or less unless a naturally occurring condition
3. Barrier or railing

Offset the approach end of Type K temporary railing a minimum of 15 feet from the edge of an open traffic lane. Install the temporary railing on a skew toward the edge of the traffic lane of not more than 1 foot transversely to 10 feet longitudinally with respect to the edge of the traffic lane. If the 15-foot minimum offset cannot be achieved, the temporary railing must be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules must be installed at the approach end of the temporary railing.

Secure Type K temporary railing in place before starting work for which the temporary railing is required.

Where 2 or more lanes in the same direction are adjacent to the area where the work is being performed, including shoulders, the adjacent lane must be closed under any of the following conditions:

1. Work is off the traveled way but within 6 feet of the edge of the traveled way, and the approach speed is greater than 45 miles per hour
2. Work is off the traveled way but within 3 feet of the edge of the traveled way, and the approach speed is less than 45 miles per hour

Closure of the adjacent traffic lane is not required when performing any of the following:

1. Working behind a barrier
2. Paving, grinding, or grooving
3. Installing, maintaining, or removing traffic control devices except Type K temporary railing

Do not reduce an open traffic lane width to less than 10 feet. When traffic cones or delineators are used for temporary edge delineation, the side of the base of the cones or delineators nearest to traffic is considered the edge of the traveled way.

If a traffic lane is closed with channelizers for excavation work, move the devices to the adjacent edge of the traveled way when not excavating. Space the devices as specified for the lane closure.

Do not move or temporarily suspend anything over a traffic lane open to the public unless the public is protected.

7-1.04B WORK ZONE SAFETY AND MOBILITY

7-1.04B(1) POLICY

In order to ensure safe and efficient flow of traffic through work zones, the County of Fresno, via its General Plan, Transportation and Circulation Element, Policy TRA-1, has adopted the use of AASHTO Standards as supplemented by Caltrans and County Department of Public Works and Planning Standards.

7-1.04B(2) TRAFFIC MANAGEMENT PLAN

Perform traffic management shall be in accordance with Section 12, "TEMPORARY TRAFFIC CONTROL," of these special provisions.

7-1.04B(3) TEMPORARY TRAFFIC CONTROL PLAN

Prepare traffic control plan(s) in accordance with Section 12, "TEMPORARY TRAFFIC CONTROL," of these special provisions.

7-1.04B(4) PUBLIC INFORMATION

Provide notice to public agencies and others to the extent required, if any, elsewhere in these special provisions. The Engineer provides other noticing not identified to be performed by the Contractor.

Replace Section 7-1.06 with:

7-1.06 INSURANCE

7-1.06A General

Nothing in the Contract is intended to establish a standard of care owed to any member of the public or to extend to the public the status of a third-party beneficiary for any of these insurance specifications.

7-1.06B Casualty Insurance

Obtain and maintain insurance on all of your operations with companies acceptable to the Department as follows:

1. Keep all insurance in full force and effect from the start of the work through Contract acceptance.
2. All insurance must be with an insurance company with a rating from A.M. Best Financial Strength Rating of A or better and a Financial Size Category of VIII or better.
3. Maintain completed operations coverage with a carrier acceptable to the State through the expiration of the patent deficiency in construction statute of repose set forth in Civ Pro Code § 337.1.

7-1.06C Workers' Compensation and Employer's Liability Insurance

Under Labor Code § 1860, secure the payment of worker's compensation under Labor Code § 3700.

Submit to the Department the following certification before performing the work (Labor Code § 1861):

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

Contract signing constitutes certification submittal.

Provide Employer's Liability Insurance in amounts not less than:

1. \$1,000,000 for each accident for bodily injury by accident
2. \$1,000,000 policy limit for bodily injury by disease
3. \$1,000,000 for each employee for bodily injury by disease

If there is an exposure of injury to your employees under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations, or statutes applicable to maritime employees, coverage must be included for such injuries or claims.

7-1.06D Liability Insurance

7-1.06D(1) General

Carry General Liability and Umbrella or Excess Liability Insurance covering all operations by or on behalf of you providing insurance for bodily injury liability and property damage liability for the following limits and including coverage for:

1. Premises, operations and mobile equipment
2. Products and completed operations
3. Broad form property damage (including completed operations)
4. Explosion, collapse, and underground hazards
5. Personal injury
6. Contractual liability

7-1.06D(2) Liability Limits/Additional Insureds

Refer to the *Agreement* of these special provisions

Additional insured coverage must be provided by a policy provision or by an endorsement providing coverage at least as broad as *Additional Insured* (Form B) endorsement form CG 2010, as published by the Insurance Services Office (ISO), or other form designated by the Department.

7-1.06D(3) Contractor's Insurance Policy is Primary

The policy must stipulate that the insurance afforded the additional insureds applies as primary insurance. Any other insurance or self-insurance maintained by the State is excess only and must not be called upon to contribute with this insurance.

7-1.06E Automobile Liability Insurance

Comply with requirements in the *Agreement* of these special provisions

7-1.06F Policy Forms, Endorsements, and Certificates

Provide your General Liability Insurance under Commercial General Liability policy form no. CG0001 as published by the Insurance Services Office (ISO) or under a policy form at least as broad as policy form no. CG0001.

7-1.06G NOT USED

7-1.06H Enforcement

The Department may assure your compliance with your insurance obligations. Ten days before an insurance policy lapses or is canceled during the Contract period you must submit to the Department evidence of renewal or replacement of the policy.

If you fail to maintain any required insurance coverage, the Department may maintain this coverage and withhold or charge the expense to you or terminate your control of the work.

You are not relieved of your duties and responsibilities to indemnify, defend, and hold harmless the State, its officers, agents, and employees by the Department's acceptance of insurance policies and certificates.

Minimum insurance coverage amounts do not relieve you for liability in excess of such coverage, nor do they preclude the State from taking other actions available to it, including the withholding of funds under this Contract.

7-1.06I Self-Insurance

Comply with the *Agreement* of these special provisions

Replace Section 7-1.07 with:

7-1.07 LEGAL ACTIONS AGAINST THE DEPARTMENT

7-1.07A General

If legal action is brought against the Department over compliance with a State or federal law, rule, or regulation applicable to highway work, then:

1. If the Department in complying with a court order prohibits you from performing work, the resulting delay is a suspension related to your performance, unless the Department terminates the Contract.
2. If a court order other than an order to show cause or the final judgment in the action prohibits the Department from requiring you to perform work, the Department may delete the prohibited work or terminate the Contract.

Add between the 1st and 2nd paragraphs of section 7-1.11A:

Comply with 46 CFR 381.7(a)–(b).

8 PROSECUTION AND PROGRESS

Replace the headings and paragraphs in Section 8 with:

8-1.01 GENERAL

Section 8 includes specifications related to prosecuting the Contract and work progress.

8-1.01A Work Hours

Perform all work on working days during daytime between the hours of 6:00 a.m. and 6:00 p.m. The site gate will open at 7:00 a.m. and shall be closed by 3:00 p.m. Monday – Friday. Contractor will not be allowed to dispose of material or work inside the disposal site before 7:00 a.m. or after 3:00 p.m. Monday – Friday. The site shall be cleared by 6:00 PM without exception.

You may request approval to work on a holiday or on a non-working day. If, pursuant to such request, the Engineer authorizes you to work on a holiday or on a non-working day, you pay the actual cost incurred by the Department to perform all inspection, surveying, testing, and all other project-related work by the Department on such holiday or non-working day. Such payment will be deducted from monies due or which may become due to the Contractor.

Plan work so that all construction operations performed each day, including cleanup of the project site, establishment of appropriate traffic control and any other work necessary for the safety of the public shall be completed within the daytime hours.

For work, if you fail to complete work during the above-mentioned hours, the Engineer will stop all work and order you to perform any and all work the Engineer deems necessary to ensure the safety of the public and site is cleared by 6:00 p.m

You are not entitled to any additional compensation or extension of the contract time as a result of the Engineer stopping the work due to the onset of nighttime.

8-1.02 SCHEDULE

8-1.02A General

Upon completion of all work, the Department returns the withholds associated with section 8-1.02 and makes a payment adjustment for work not performed in the same manner as work-character changes.

8-1.02B Level 1 Critical Path Method Schedule

8-1.02B(1) General

No pay item is provided for Level 1 Critical Path Project Schedule. Payment is considered to be included in the various items of work. See section 01 20 00 for payment and schedule.

Before or at the preconstruction conference, submit a CPM baseline schedule.

8-1.02B(2) Schedule Format

On each schedule, show:

1. Planned and actual start and completion dates of each work activity, including applicable:
 - 1.1. Submittal development
 - 1.2. Submittal review and acceptance
 - 1.3. Material procurement
 - 1.4. Mobilization
 - 1.5. Installation of landfill gas extraction wells and collectors
 - 1.6. Installation of landfill gas header and lateral pipe systems
 - 1.7. Installation of wellheads
 - 1.8. Final inspection
 - 1.9. Final cleanup and demobilization
 - 1.10. Submittal of Record Drawings
2. Order that you propose to prosecute the work
3. Logical links between the time-scaled work activities
4. All controlling activities
5. Legible description of each activity
6. At least 1 predecessor and 1 successor to each activity except for project start and project end milestones
7. Duration of at least 1 working day for each activity
8. Start milestone date as the Contract approval date

8-1.02B(3) Updated Schedule

Submit a monthly updated schedule that includes the status of work completed to date and the work yet to be performed as planned.

You may include changes to updated schedules that do not alter a critical path or extend the scheduled completion date compared to the current schedule. Changes may include:

1. Adding or deleting activities
2. Changing activity constraints
3. Changing durations
4. Changing logic

If any proposed change in planned work would alter the critical path or extend the scheduled completion date, submit a revised schedule within 15 days of the proposed change.

8-1.02C–8-1.02F Reserved

8-1.03 PRECONSTRUCTION CONFERENCE

Attend a preconstruction conference with key personnel, including your assigned representative, at a time and location determined by the Engineer. Submit documents as required before the preconstruction conference.

Be prepared to discuss the topics and documents shown in the following table:

Topic	Document
Potential claim and dispute resolution	Potential claim forms
Contractor's representation	Assignment of Contractor's representative
DBE	Final utilization reports
Equipment	Equipment list
Labor compliance and equal employment opportunity	Job site posters and benefit and payroll reports
Material inspection	Notice of Materials to be Used form
Materials on hand	Request for Payment for Materials on Hand form
Measurements	--
Partnering	--
Quality control	QC plans
Safety	Injury and Illness Prevention Program and job site posters
Schedule	Baseline schedule and Weekly Statement of Working Days form
Subcontracting	Subcontracting Request form
Surveying	Survey Request form
Traffic control	Traffic contingency plan and traffic control plans
Utility work	--
Weight limitations	--
Water pollution control	SWPPP or WPCP
Work restrictions	PLACs
Action submittals	--

8-1.04 START OF JOB SITE ACTIVITIES

8-1.04A General

Provide signed contracts, bonds, and evidence of insurance timely as required.

This section, 8-1.04, "Start of Job Activities," does not modify remedies available to the Department should you fail to provide signed contracts bonds and insurance timely.

Submit a notice 72 hours before starting job site activities. If the project has more than 1 location of work, submit a separate notice for each location.

You may start job site activities before receiving notice of Contract approval if you:

1. Deliver the signed Contract, bonds, and evidence of insurance to the Department
2. Submit 72-hour notice
3. Obtain an encroachment permit from the Department
4. Are authorized by the Department to start
5. Perform work at your own risk
6. Perform work under the Contract

If the Contract is approved, work already performed that complies with the Contract is authorized.

If the Contract is not approved, leave the job site in a neat condition. If a facility has been changed, restore it to its former condition or an equivalent condition. The Department does not pay for the restoration.

8-1.04B Standard Start

Be prepared to begin work at the project site no later than the 20th business day after award of the Contract by the Department.

The Engineer may issue a notice to proceed as soon as the Contracts, including bonds and insurance certificates, have been approved.

Start work on the day shown in the notice to proceed, unless an early start has been approved.

The Engineer may issue a notice of commencement of contract time if you fail to provide Contracts, including bonds and insurance certificates or other required documents timely.

A notice of commencement of contract time does not authorize you to start work on the project site, but contract time begins to elapse on the date shown in the notice of commencement of contract time.

**Complete work before the expiration of
EIGHTY (80) WORKING DAYS**

from the date shown in said Notice to Proceed, or in the Notice of Commencement of Contract Time, whichever comes first.

Complete all work, including corrective work and punch list work, prior to the expiration of the allotted working days. Working days continue to accrue until corrective work and punch list work is completed and accepted.

**Pay to the County of Fresno the sum of
FOUR THOUSAND DOLLARS (\$4000.00)**

per day for each and every calendar day's delay in finishing the work, including corrective work and punch list work, in excess of the total number of working days prescribed above.

Special attention is directed to Paragraph 1.3 of Section 01 78 39 "PROJECT RECORD DOCUMENT". Contractor is responsible to submit final documents as stated within Section 01 78 39.

**Complete such work before the expiration of
FORTY (40) WORKING DAYS**

from the date the final walk through is performed.

**Pay to the County of Fresno the sum of
ONE HUNDRED DOLLARS (\$100.00)**

per day for each and every calendar day's delay in finishing the work. Corrections to the final documents as deemed necessary by the ENGINEER shall be addressed within the above prescribed time. The time necessary by County ENGINEER to review the final documents will not be considered as part of the allotted time to the Contractor.

Replace Section 8-1.04B with:

8-1.04B Reserved

8-1.05 TIME

Contract time starts on the day specified in the notice to proceed or in the notice of commencement of contract time as described in section 8-1.04 or on the day you start job site activities, whichever occurs first.

Complete the work within the Contract time.

Meet each specified interim work completion date.

The Engineer issues a *Weekly Statement of Working Days* by the end of the following week.

The *Weekly Statement of Working Days* shows:

1. Working days and non-working days during the reporting week
2. Time adjustments
3. Work completion date computations, including working days remaining
4. Controlling activities

8-1.06 SUSPENSIONS

The Engineer may suspend work wholly or in part due to conditions unsuitable for work progress. Provide for public safety and a smooth and unobstructed passageway through the work zone during the suspension as specified in sections 7-1.03 and 7-1.04. Providing the passageway is force account work. The Department makes a time adjustment for the suspension due to a critical delay.

The Engineer may suspend work wholly or in part due to your failure to (1) fulfill the Engineer's orders, (2) fulfill a Contract part, or (3) perform weather-dependent work when conditions are favorable so that weather-related unsuitable conditions are avoided or do not occur. The Department may provide for a smooth and unobstructed passageway through the work during the suspension and deduct the cost from payments. The Department does not make a time adjustment for the suspension.

Upon the Engineer's order of suspension, suspend work immediately. Resume work when ordered.

8-1.07 DELAYS

8-1.07A General

To request a delay-related time or payment adjustment, submit an RFI.

8-1.07B Time Adjustments

The Department may make a time adjustment for a critical delay. The Engineer uses information from the schedule to evaluate requests for time adjustments.

To request an adjustment, submit a revised schedule showing the delay's effect on the controlling activity. If the delay has:

1. Occurred, submit records of the dates and what work was performed during the delayed activity
2. Not occurred, submit the expected dates or duration of the delayed activity

Update the schedule to the last working day before the start of the delay if ordered.

8-1.07C Payment Adjustments

The Department may make a payment adjustment for an excusable delay that affects your costs.

Only losses for idle equipment, idle workers, and moving or transporting equipment are eligible for delay-related payment adjustments.

The Engineer determines payment for idle time of equipment in the same manner as determinations are made for equipment used in the performance of force account work under section 9-1.04 with the following exceptions:

1. Delay factor in the *Labor Surcharge and Equipment Rental Rates* applies to each equipment rental rate.
2. Daily number of payable hours equals the normal working hours during the delay, not to exceed 8 hours per day.
3. Delay days exclude non-working days.
4. Markups are not added.

The Engineer determines payment adjustment for the idle workers under section 9-1.04B, but does not add markups.

The Engineer includes costs due to necessary extra moving or transporting of equipment.

The Department does not make a payment adjustment for overhead incurred during non-working days of additional construction seasons experienced because of delay.

8-1.08–8-1.09 RESERVED

8-1.10 LIQUIDATED DAMAGES

8-1.10A General

The Department specifies liquidated damages (Pub Cont Code § 10226). Liquidated damages, if any, accrue starting on the 1st day after the expiration of the working days through the day of Contract acceptance except as specified in sections 8-1.10B and 8-1.10C.

The Department withholds liquidated damages before the accrual date if the anticipated liquidated damages may exceed the value of the remaining work.

Liquidated damages are specified in section 8-1.04.

8-1.10B Failure to Complete Work Parts within Specified Times

The Department may deduct specified damages from payments for each day needed to complete a work part in excess of the time specified for completing the work part.

Damages for untimely completion of work parts may not be equal to the daily amount specified as liquidated damages for the project as a whole, but the Department does not simultaneously assess damages for untimely completion of work parts and for the whole work.

Damages accrue starting the 1st day after a work part exceeds the specified time through the day the specified work part is complete.

8-1.10C Failure to Complete Work Parts by Specified Dates

The Department may deduct specified damages from payments for each day needed to complete a work part in excess of the specified completion date for the work part.

Damages for untimely completion of a work part may not be equal to the daily amount specified as liquidated damages for the project as a whole, but the Department does not simultaneously assess damages for untimely completion of a work part and the whole work.

Damages accrue starting the 1st day after an unmet completion date through the day the work part is complete.

8-1.10D RESERVED

8-1.11–8-1.12 RESERVED

8-1.13 CONTRACTOR'S CONTROL TERMINATION

The Department may terminate your control of the work for failure to do any of the following (Pub Cont Code § 10253):

1. Supply an adequate workforce
2. Supply material as described
3. Pay subcontractors (Pub Cont Code §10262)
4. Prosecute the work as described in the Contract

The Department may also terminate your control for failure to maintain insurance coverage.

For a federal-aid project, the Department may terminate your control of the work for failure to include "Required Contract Provisions, Federal-Aid Construction Contracts" in subcontracts.

The Department gives notice to you and your surety at least 5 business days before terminating control. The notice describes the failures and the time allowed to remedy the failures. If failures are not remedied within the time provided, the Department takes control of the work.

The Department may complete the work if the Department terminates the Contractor's control or you abandon the project (Pub Cont Code § 10255). The Department determines the unpaid balance under Pub Cont Code § 10258 and the Contract.

At any time before final payment of all claims, the Department may convert a Contractor's control termination to a Contract termination.

8-1.14 CONTRACT TERMINATION

8-1.14A General

The Director may terminate the Contract if it serves the State's best interest. The Department issues you a written notice, implements the termination, and pays you.

8-1.14B Relief from Responsibility for Work

Upon receiving a termination notice:

1. Stop work
2. Notify subcontractors and suppliers of the Contract termination and stop Contract-related work
3. Perform the Engineer-ordered work to secure the job site for termination
4. Remove equipment
5. Subject to the Engineer's authorization, settle termination-related claims and liabilities involving subcontractors and suppliers; assign to the Department the rights, titles, or interests held by you with respect to these parties

8-1.14C Responsibility for Materials

Upon receiving a termination notice, protect unused material until:

1. You submit an inventory of materials already produced, purchased, or ordered but not yet used; include the location of the material.
2. The Engineer identifies materials that will be retained by the Department. Submit bills of sales or other records of material title.
3. The Engineer confirms that unused materials paid by progress payment and materials furnished by the State have been delivered and stored as ordered.
4. The titles are transferred for materials purchased by the Department.

Dispose of materials that will not be retained by the Department.

8-1.14D Contract Acceptance after Termination

The Engineer recommends Contract acceptance after determining the completion of:

1. Work ordered to be completed before termination
2. Other work ordered to secure the project before termination
3. Material delivery and title transfer

The Department pays you under section 9-1.17.

8-1.14E Payment Adjustment for Termination

If the Department issues a termination notice, the Engineer determines the payment for termination based on the following:

1. Direct cost for the work:
 - 1.1. Including:
 - 1.1.1. Mobilization.
 - 1.1.2. Demobilization.
 - 1.1.3. Securing the job site for termination.
 - 1.1.4. Losses from the sale of materials.
 - 1.2. Not including:
 - 1.2.1. Cost of materials you keep.

- 1.2.2. Profit realized from the sale of materials.
- 1.2.3. Cost of material damaged by:
 - 1.2.3.1. Act of God.
 - 1.2.3.2. Act of a public enemy.
 - 1.2.3.3. Fire.
 - 1.2.3.4. Flood.
 - 1.2.3.5. Governor-declared state of emergency.
 - 1.2.3.6. Landslide.
 - 1.2.3.7. Tsunami.
- 1.2.4. Other credits.
- 2. Cost of remedial work, as estimated by the Engineer, is not reimbursed.
- 3. Allowance for profit not to exceed 4 percent of the cost of the work. Prove a likelihood of having made a profit had the Contract not been terminated.
- 4. Material handling costs for material returned to the vendor or disposed of as ordered.
- 5. Costs in determining the payment adjustment due to the termination, excluding attorney fees and litigation costs.

Termination of the Contract does not relieve the surety of its obligation for any just claims arising out of the work performed.

8-1.15–8-1.16 RESERVED

9 PAYMENT

Add to Section 9-1.01:

Refer to Section 01 20 00 “MEASURE AND PAYMENT” of the Technical Specifications for bid items descriptions

Add Section 9-1.01A:

9-1.01A COMPENSATION

The bid items shown in the bid item list represent full compensation for performing all work. Full compensation for any work for which there is no bid item shall be considered to be included in the various items of work.

Replace Section 9-1.03 with:

9-1.03 PAYMENT SCOPE

The Department pays you for furnishing the resources and activities required to complete the work. The Department’s payment is full compensation for furnishing the resources and activities, including:

- 1. Risk, loss, damage repair, or cost of whatever character arising from or relating to the work and performance of the work
- 2. PLACs and taxes
- 3. Any royalties and costs arising from patents, trademarks, and copyrights involved in the work

The Department does not pay for your loss, damage, repair, or extra costs of whatever character arising from or relating to the work that is a direct or indirect result of your choice of construction methods, materials, equipment, or manpower, unless specifically mandated by the Contract.

Payment is:

- 1. Full compensation for all work involved in each bid item shown on the Bid Item List by the unit of measure shown for that bid item
- 2. For the price bid for each bid item shown on the Bid Item List or as changed by change order with a specified price adjustment

Full compensation for work specified in divisions I, II, and X is included in the payment for the bid items unless:

1. Bid item for the work is shown on the Bid Item List
2. Work is specified as change order work

Work paid for under one bid item is not paid for under any other bid item.

Payment for a bid item includes payment for work in sections referenced by the section set forth by that bid item.

Notwithstanding anything to the contrary in these special provisions, full compensation for performing all work as shown, as specified, and as directed by the Engineer is considered to be included in the various bid items, and no additional payment will be made, except pursuant to a contract change order to perform work not shown and/or specified.

If one or more bid item(s) is/are not included, perform the work as shown and as specified and payment therefor is considered to be included in the various items of work.

If an alternative is described in the Contract, the Department pays based on the bid items for the details and specifications not described as an alternative unless the bid item is described as an alternative, in which case, the Department pays based on the details and specifications for that alternative.

The Department pays for change order work based on one or a combination of the following:

1. Bid item prices
2. Force account
3. Agreed price
4. Specialist billing

If the Engineer chooses to pay for change order work based on an agreed price, but you and the Engineer cannot agree on the price, the Department pays by force account.

If a portion of extra work is covered by bid items, the Department pays for this work as changed quantities in those items. The Department pays for the remaining portion of the extra work by force account or agreed price.

If the amount of a deduction or withhold exceeds final payment, the Department invoices you for the difference, to be paid upon receipt.

Pay your subcontractors within 10 days of receipt of each progress payment under Pub Cont Code §§ 10262 and 10262.5.

Replace Section 9-1.07 with:

9-1.07 PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS DOES NOT APPLY TO THIS PROJECT

Replace Section 9-1.16F with:

9-1.16F Retentions

The Department, once in each month, shall cause an estimate in writing to be made by the Engineer. The estimate shall include the total amount of work done and acceptable materials furnished, provided the acceptable materials are listed as eligible for partial payment as materials in the special provisions and are furnished and delivered by the Contractor on the ground and not used or are furnished and stored for use on the contract, if the storage is within the State of California and the Contractor furnishes evidence satisfactory to the Engineer that the materials are stored subject to or under the control of the Department, to the time of the estimate, and the value thereof. The estimate shall also include any amounts payable for mobilization. Daily extra work reports furnished by the Contractor less than 5 calendar days, not including Saturdays, Sundays and legal holidays, before the preparation of the monthly progress estimate shall not be eligible for payment until the following month's estimate.

The amount of any material to be considered in making an estimate will in no case exceed the amount thereof which has been reported by the Contractor to the Engineer on State-furnished forms properly

filled out and executed, including accompanying documentation as therein required, less the amount of the material incorporated in the work to the time of the estimate. Only materials to be incorporated in the work will be considered. The estimated value of the material established by the Engineer will in no case exceed the contract price for the item of work for which the material is furnished.

The Department shall retain 5 percent of the estimated value of the work done and 5 percent of the value of materials so estimated to have been furnished and delivered and unused or furnished and stored as aforesaid as part security for the fulfillment of the contract by the Contractor. The Department will not hold retention for mobilization or demobilization.

The Department shall pay monthly to the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the contract. No monthly estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the contract.

No monthly estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

Attention is directed to the prohibitions and penalties pertaining to unlicensed contractors as provided in Business and Professions Code Sections 7028.15(a) and 7031.

Add Section 9-1.23:

9-1.23 RESOLUTION OF CONTRACT CLAIMS

Public works contract claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a Contractor and a local public agency shall be resolved in accordance with the provisions of California Public Contract Code Sections 20104-20104.6, inclusive. In addition, California Public Contract Code Section 9204 requires that the procedure established therein shall apply to all claims (as therein defined) filed by a contractor in connection with a public works project. Accordingly, this contract expressly incorporates all of the terms and conditions of those statutory provisions, which are as follows:

California Public Contract Code Section 9204

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)(A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of

the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

California Public Contract Code Sections 20104 – 20104.6

Section 20104

(a)(1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b)(1) "Public work" means "public works contract" as defined in Section 1101 but does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

Section 20104.2

For any claim subject to this article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b) (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time

no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c) (1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

Section 20104.4

The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

Section 20104.6

(a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Add to the end of Section 10-1.02C(2):

Protect any irrigation component to be relocated before performing any other construction activity in the area.

Add to Section 10-6 WATERING:

A construction water supply (non-potable) is available on-site. Contractor is responsible for all materials and equipment necessary to pump water from the pond and haul it to the construction site.

12 TEMPORARY TRAFFIC CONTROL

Replace section 12-1.04 with:

12-1.04 FLAGGING COSTS

You pay the cost of furnishing all flaggers, including transporting flaggers and furnishing stands and towers for flaggers to provide for the passage of traffic through the work as specified in sections 7-1.03 and 7-1.04.

Replace Section 12-3.01C with:

12-3.01C Construction

If channelizing devices are used on the project, perform all layout work necessary to place channelizing devices:

1. On the proper alignment
2. Uniformly at the location and spacing described
3. Straight on a tangent alignment
4. On a true arc in a curved alignment

If temporary traffic control devices are damaged, displaced, or stop operating or functioning as described from any cause during the progress of the work, immediately repair, repaint, or replace the components and restore them to their original locations and positions.

If ordered, furnish and place additional temporary traffic control devices. This work is not change order work if:

1. Required to conform with your traffic control plan
2. Required to conform with the MUTCD
3. Necessary for public safety or convenience as determined by the Engineer
4. Required to perform staged construction shown on the plans

Replace Section 12-3.03C with:

12-3.03C Construction

If plastic traffic drums are used on project, use 1 type of plastic traffic drum on the project.

Use the same type and brand of retroreflective sheeting for all plastic traffic drums used on the project.

Do not use sandbags or comparable ballast.

Moving plastic traffic drums from location to location if ordered after initial placement is not change order work if:

1. Required to conform with your traffic control plan
2. Required to conform with the MUTCD
3. Necessary for public safety or convenience as determined by the Engineer
4. Required to perform staged construction shown on the plans

Replace Section 12-3.10C with:

12-3.10C Construction

If barricades are used on the project, place each barricade such that the stripes slope downward in the direction road users are to pass.

Place each sand-filled bag near the ground level on the lower parts of the frame or stays to serve as ballast for the barricades. Do not place ballast on top of barricades or over any retroreflective barricade rail face that is facing traffic.

Do not remove barricades that are shown to be left in place at the time of work completion.

Moving a barricade from location to location is change order work if ordered after initial placement of the barricade unless.

1. Required to conform with your traffic control plan
2. Required to conform with the MUTCD
3. Necessary for public safety or convenience as determined by the Engineer

4. Required to perform staged construction shown on the plans

Add to section 12-3.32C:

Start displaying the message (“CONSTRUCTION WORK ON SITE START MONTH/DAY/YEAR” “EXPECT DELAYS”) on message boards 7 days prior to the start of construction. The sign shall be at least four feet tall by eight feet wide and made of ¾ inch thick exterior grade plywood. The sign shall be supported by two 16 feet tall, 4x4 smooth wood posts, painted white. The sign shall be prepared in a professional manner with all the message clearly visible. The sign shall be kept in good condition for the duration of construction.

Place the message sign in advance of the 1st warning sign for each:

1. Lanfill Entrance
2. At one other location directed by Engineer

**Replace Section 12-4 with:
12-4 MAINTAINING TRAFFIC**

12-4.01 GENERAL

12-4.01A General

Section 12-4.01 includes general specifications for maintaining traffic through construction work zones.

If local authorities regulate traffic, notify them at least 5 business days before the start of job site activities. Cooperate with the local authorities to handle traffic through the work zone and to make arrangements to keep the work zone clear of parked vehicles.

12-4.01B Materials

Not Used

12-4.01C CONSTRUCTION

Furnishing and operating pilot cars is not change order work.

12-4.01D Payment

Not Used

12-4.02 TRAFFIC CONTROL SYSTEMS

12-4.02A General

12-4.02A(1) Summary

Section 12-4.02 includes specifications for providing a traffic control system to maintain safety within the Disposal site.

A traffic control system for a closure includes the temporary traffic control devices described as part of the traffic control system. Temporary traffic control devices must comply with section 12-3.

12-4.02A(2) Definitions

designated holidays: Designated holidays are shown as “holidays” in Section 1-1.07B.

12-4.02A(3) Submittals

12-4.02A(3)(a) General

The Contractor shall prepare and submit to the County Construction Engineer for acceptance, a traffic control system plan indicating the means and methods he will employ to institute and maintain traffic control for all phases of the work within the project. The traffic control system plan shall be submitted to the County Construction Engineer as early as possible, preferably **five (5) working days** prior to pre-

construction meeting. The Engineer will require five (5) working days to review the initial submittal of the traffic control system plan and an additional five (5) working days for each successive review.

No work at the project site whatsoever, including preparatory work, shall commence until the traffic control system plan has been accepted in writing by the Engineer. In the event that the traffic control system plan is not submitted timely, the Engineer may issue a notice of commencement of contract time prior to acceptance of the traffic control system plan, and working days will begin to accrue against the allotted contract time.

Late submittal of the traffic control plan or revisions thereafter required, due to the inadequacy of the plan, shall not be accepted as justification for the delay in the start of the working days for the project.

If the Contractor's haul route crosses the existing operation roads of the disposal site, then the Contractor shall provide a flagman at each point of crossing during hauling operations. Said flagman shall stop construction, yielding pass to traffic entering or exiting the disposal site or site of active garbage dumping as necessary. If vehicles accessing or exiting the Disposal site traffic shall be stopped to avoid any hazardous condition, they shall not be delayed for more than one minute or as determined by the Engineer.

The Contractor is responsible for placing appropriate traffic control signs as directed by the Engineer at the point of crossing and in advance of the location. Said signing shall be placed on American Avenue if necessary to warn traffic entering the Disposal Site.

If the Contractor does not provide the traffic control and it becomes necessary for the Engineer to notify the Contractor, the Engineer will direct to cease any construction activities immediately.

Traffic will be controlled by flagmen by eyesight, radio (walkie-talkie), or baton. In the event these methods do not work satisfactorily, as determined by the Engineer, a pilot car will be required.

Providing, installing, maintaining, and removing all traffic control, including portable changeable message signs if required, , and providing all traffic control operations shall be the responsibility of the contractor, and no additional compensation will be allowed therefor.

12-4.02C(3)(o) Closure of Conventional County Roads

The type and location of signs, lights, flags, flagmen, and other traffic control and safety devices shall be in accordance with the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD) issued by the State of California, Department of Transportation (Caltrans).

Allow public traffic to pass through construction at all times unless otherwise specified herein.

No work that would require a public traffic lane closure shall be performed.

The full width of the traveled way shall be open for use by public traffic even when construction operations are actively in progress.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders including sections closed to public traffic.

The Contractor's equipment and materials shall not remain in a lane except when such lane is closed to traffic and the lane is being used for contract operations.

13 WATER POLLUTION CONTROL

Replace 13-1.01A with:

13-1.01A Summary

Section 13-1 includes general specifications for preventing, controlling, and abating water pollution within waters of the State.

Information on forms, reports, and other documents is in the following Caltrans manuals:

1. Field Guide to Construction Site Dewatering
2. Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual
3. Construction Site Best Management Practices (BMPs) Manual
4. Construction Site Monitoring Program Guidance Manual

You may view these manuals at the Stormwater and Water Pollution Control Information link at the Caltrans Division of Construction website or purchase them at the Caltrans Publication Distribution Unit.

A WPCP and a SWPPP must comply with the Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual and must be prepared using the latest template posted on the Construction stormwater website.

Replace Section 13-1.01D92) with

13-1.01D(2) Regulatory Requirements

Comply with the discharge requirements in the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities; Order No. 2009-000 9-DWQ, CAS000002 (Construction General Permit) and any amendments thereto issued by the SWRCB. The Construction General Permit may be found at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Discharges from manufacturing facilities, such as batch plants and crushing plants, must comply with the discharge requirements in the NPDES General Permit for Storm Water Discharges Associated with Industrial Activities; Order No. 2014-0057-DWQ, CAS000001 (Industrial General Permit), issued by the SWRCB. For the Industrial General Permit, go to the SWRCB website.

For a batch plant and crushing plant outside a job site or within a job site that serves one or more contracts, obtain coverage under the Industrial General Permit before operating a batch plant to manufacture concrete, HMA, or other material or a crushing plant to produce rock or aggregate.

This Project disturbs **less than 1** acre of soil.

A WPCP is required for this project.

Replace Section 13-1.01D(4)(b) with:

13-1.01D(4)(b) Qualifications

The WPC manager must:

1. Comply with the requirements provided in the Construction General Permit for:
 - 1.1. QSP if the project requires a WPCP
 - 1.2. QSD if the project requires a SWPPP
2. Complete the stormwater management training described at the Stormwater and Water Pollution Control Information link at the Caltrans Division of Construction website

Replace Section 13-3.01C(2)(b)(iv) with:

13-3.01C(2)(b)(iv) Sampling and Analysis Plan

If a sampling and analysis plan is required, submit a sampling and analysis plan that complies with the Caltrans *Construction Site Monitoring Program Guidance Manual*.

The sampling and analysis plan must describe:

1. Sampling equipment and sample containers.
2. Preparation of samples.
3. Collection and holding times.
4. Field measurement methods.
5. Analytical methods.
6. Quality assurance and quality control.
7. Sample preservation and labeling.
8. Collection documentation, including the names of personnel collecting samples and their training.
9. Shipment of samples.
10. Chain of custody.
11. Data management and reporting.
12. Precautions from the construction site health and safety plan, including procedures for collecting samples during precipitation. List the conditions under which you are not required to collect samples, such as:
 - 12.1. Dangerous weather
 - 12.2. Flooding or electrical storms
 - 12.3. Times outside of normal working hours
13. Procedures for collecting and analyzing at least 3 samples for each day of each qualifying rain event for a risk level 2 or risk level 3 project.
14. Procedures for collecting effluent samples at all locations where the stormwater is discharged off the job site.

The sampling and analysis plan must identify the State-certified laboratory that will perform the analyses. For a list of State-certified laboratories, go to the SWRCB's website.

Submit a revised plan if discharges or sampling locations change because of changed work activities or knowledge of site conditions.

Replace Section 13-4.03G with:

13-4.03G Dewatering

Dewatering consists of discharging accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities.

If dewatering is required, perform dewatering work as specified for the work items involved, such as a temporary ATS or dewatering and discharge.

If dewatering and discharging activities are not specified for a work item and you perform dewatering activities:

1. Conduct dewatering activities under the Caltrans *Field Guide for Construction Site Dewatering*.

2. Ensure any dewatering discharge does not cause erosion, scour, or sedimentary deposits that could impact natural bedding materials.
3. Discharge the water within the project limits. Dispose of the water if it cannot be discharged within project limits due to site constraints or contamination.
4. Do not discharge stormwater or nonstormwater that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface. Immediately notify the Engineer upon discovering any such condition.

14 ENVIRONMENTAL STEWARDSHIP

Add Section 14-12.04:

14-12.04 RELATIONS WITH SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD)

You are responsible for compliance with all applicable SJVAPCD regulations and requirements. This section is provided for your information, and nothing herein or elsewhere within these special provisions shall be construed as limiting your responsibility for complying with all applicable rules and regulations.

This Project disturbs less than 1 acre of soil.

Replace Section 14-12.04–14.12.08 With:

14-12.05–14.12.08 RESERVED

DELETE DIVISION III THROUGH DIVISION XII AND REPLACE WITH THE FOLLOWING

Technical Specifications

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AMERICAN AVENUE DISPOSAL SITE
KERMAN, CALIFORNIA**

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SECTION 00 73 19
HEALTH AND SAFETY CONSIDERATIONS

PART 1 - GENERAL

1.1 Section Includes

- A. Preparing project Site Specific Health & Safety Plan and Traffic Control Plan.
- B. Implementing project Site Specific Health & Safety Plan and Traffic Control Plan.

1.2 Other

- A. The exact nature of materials and wastes disposed of at the landfill is unknown. The possibility exists of encountering gases and/or other substances during the Work that may be potentially hazardous to the safety and health of personnel, especially those working in the vicinity of open excavations and pipes venting gases.
- B. The CONTRACTOR is advised that decomposing refuse produces landfill gas which is approximately 50 percent methane (natural gas) by volume. Landfill gas is colorless, can be odorless, may contain hydrogen sulfide, toxic or hazardous material, is combustible, and may contain no 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 and asphyxiation when working on the landfill and in or near excavations on the project site.

1.3 Submittals

- A. CONTRACTOR shall submit, after Notice of Award but prior to pre-construction meeting, a Site Specific Health & Safety Plan and Traffic Control Plan to OWNER (See Section 01 33 00). Acceptance of the plans by the ENGINEER does not release the CONTRACTOR of liability in the event of an accident or injury, nor does it place any liability on the OWNER.
- B. Submittals may be completed electronically.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Construction

- A. CONTRACTOR shall be solely and completely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Take all necessary precautions for the safety of, and provide the necessary protection to prevent injury or loss to all CONTRACTOR'S employees.

- B. CONTRACTOR shall comply with all applicable California Occupational Safety and Health Agency (OSHA) regulations. The CONTRACTOR'S Health and Safety Plan does not supersede or in any way relieve the CONTRACTOR of obligations under any applicable OSHA regulations including (but not limited to) 29 CFR 1910: Occupational Safety and Health Standards and 29 CFR 1926: Health and Safety Regulations for Construction.
- C. CONTRACTOR shall be responsible for ensuring that all Subcontractors abide with the contents of this section.
- D. CONTRACTOR shall become familiar with potential hazardous health and safety conditions and risks associated with working in or near decomposing refuse at a landfill site and take the applicable precautions for work at the project site.
- E. CONTRACTOR shall be solely responsible for determining and providing an appropriate health and safety program, including monitoring, equipment, plans in event of problems and/or emergencies, and other related items as needed.

3.2 Site Restrictions

- A. Smoking and vaping will not be permitted at the project site unless a smoking area is designated and approved by OWNER. Smoking is prohibited on the landfill
- B. Reflective safety vests, hard hats and steel toed and puncture resistant boots shall be worn by all personnel during work. Other personal protective equipment will be worn as necessary.
- C. CONTRACTOR shall adhere to the posted speed limit at all times. CONTRACTOR shall further limit vehicle speeds as necessary for safe operation based on road conditions and construction traffic.
- D. Heavy equipment operating around exposed waste shall be equipped with vertical exhaust piping and spark arrestors to prevent fire. CONTRACTOR shall maintain a minimum of one fire extinguisher with a rating of ABC available with each trailer and construction vehicle.
- E. Landfill Equipment will have right-of-way. The CONTRACTOR shall yield when Landfill Equipment is approaching.
- F. Site working hours are Monday through Saturday from 6:00 AM to 6:00 PM.

3.3 Site Specific Health and Safety Program

- A. Develop and implement a Health and Safety Program in accordance with all applicable California Health and Safety regulations, Federal OSHA regulations, 29 CFR 1910 and 29 CFR 1926, and any other applicable federal, state, or local agency regulations or requirements. 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. The CONTRACTOR'S Health and Safety Plan shall include as appropriate, but shall not necessarily be limited to, the items required by OSHA 29 CFR 1910.120:

1. Organizational structure
 2. Comprehensive work plan
 3. Hazard analysis for each site task
 4. Employee training
 5. Personal protective equipment to be used for each task
 6. Medical surveillance
 7. Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used.
 8. Site control measures
 9. Decontamination procedures
 10. Emergency response plan
 11. Confined space entry procedures (if part of scope of work)
 12. Spill containment program
 13. Cell phone use policy while driving or operating equipment
- B. Provide to the OWNER, prior to the start of any field activities, certification that requirements of this Section have been met. This certification shall include:
1. Documentation of the training required under OSHA 29 CFR 1910.120 for site personnel and supervisors.
 2. Documentation of current first aid and CPR training for at least two employees per work shift.
 3. Documentation of participation of all site personnel in a medical surveillance program in accordance with OSHA 29 CFR 1910.120.
 4. Documentation that all site personnel expected to wear respiratory protection have been medically examined and approved for wearing such equipment and have been fit tested in accordance with OSHA regulations.
- C. The CONTRACTOR shall maintain a copy of the plan at the site for the duration of work.
- D. If the OWNER observes any of the CONTRACTOR's employees or Subcontractors engaging in an unsafe act or procedure that may result in serious injury or death to the person performing the act/procedure, or to any other person, the OWNER shall have the right, but not the duty, to stop the work until the condition is corrected. The CONTRACTOR shall be held responsible for any increased costs that result from this work stoppage.
- E. The CONTRACTOR shall be responsible for holding mandatory weekly safety meetings on the site. The OWNER shall be notified of the time and place for these meetings, so that they may attend if they desire. Meetings shall reiterate all safety measures to be taken and shall discuss any violations committed and preventive measures. The CONTRACTOR shall provide the OWNER with a copy of the minutes and the attendance upon request.

- F. The CONTRACTOR shall provide all personnel working on the project with required orientation and training on the potential hazards and the appropriate use of safety equipment.
- G. The CONTRACTOR shall meet at all times during drilling and excavations, applicable OSHA health and safety requirements. The CONTRACTOR shall secure all work areas and close any open holes or excavations when not working by marking with ribbons and cones, and posting of signs indicating to the public to stay away due to the existence of deep open excavation.
- H. The CONTRACTOR shall provide continuous lower explosive limit (LEL) gas detection monitoring and oxygen monitoring in enclosed areas prone to gas build-up or during drilling.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Measurement and Payment

- A. Reference Section 01 20 00.

*** END OF SECTION ***

SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 Project Locations and Access

A. Project Location:

1. The Site (also referred to as Project Site) is the American Avenue Disposal Site owned and operated by the County of Fresno. The physical address is:

American Avenue Disposal Site
18950 W. American Avenue
Kerman, CA 93630

1.2 Scope of Work

- A. General: The Work included in the contract consists of construction of improvements to the landfill gas collection and control system (LFGCCS). The Work is more fully detailed in the Construction Drawings and Specifications included herein.

B. Principal features include:

1. Mobilization and demobilization of equipment, labor, and construction of temporary facilities.
2. Installation of LFGCCS components, which include but are not limited to the following:
 - a. Vertical Landfill Gas Extraction Wells and Wellheads
 - b. Horizontal Landfill Gas Collectors and Wellheads
 - c. High density polyethylene (HDPE) landfill gas header and lateral piping
 - d. Road crossings
 - e. Miscellaneous fittings
 - f. Valves
 - g. Connections to leachate collection and removal system (LCRS)
 - h. Condensate Sumps
 - i. Manifolds
 - j. Bollards
3. Welding of HDPE pipe.
4. Drilling in the waste footprint.
5. Trenching and backfilling both in and out of the waste footprint.

- C. The above description of the Work is for general information only and does not limit

the responsibility of the CONTRACTOR to accomplish the Work in strict accordance with the Construction Drawings and Specifications.

- D. Environmental Observations: The Work shall be performed in strict accordance with the applicable requirements of the federal, state, and local agencies having jurisdiction, and in accordance with the requirements of the Construction Drawings, General Conditions, Supplementary Conditions, and these Specifications.

1.3 Existing Site Conditions

- A. The CONTRACTOR is advised that construction of this project is at a municipal solid waste landfill and will entail working in, on, and adjacent to buried solid wastes and refuse. As buried organic material decomposes anaerobically, it generates landfill gas (LFG). This LFG normally consists of approximately 45 percent carbon dioxide (CO₂), 55 percent methane (CH₄) and other gases that may include volatile organic compounds (VOCs), depending on the composition of the buried materials. Hydrogen sulfide (H₂S) and other toxic gases have been encountered at landfills even though the sites were not classified as hazardous waste disposal sites.
- B. The American Avenue Disposal Site is permitted for the disposal of "nonhazardous solid waste." Notwithstanding the above, the OWNER cannot guarantee that toxic or hazardous materials or vapors will not be encountered by the CONTRACTOR during the construction of this project.
- C. The Contractor should review and adhere to all restrictions and implement all requirements of the American Avenue Disposal Site. Some additional safety items (e.g. lock out tag out, confined space) are separate programs. American Avenue Disposal Site will provide copies of available training and operating procedures as needed for the project.

1.4 Construction Drawings

- A. Where "as shown," "as detailed," "as noted," or words of like meaning are used in these Specifications, it shall be understood that reference is being made to the Construction Drawings unless otherwise specified.

1.5 Codes and Standards

- A. All work to be done and materials and equipment transported, handled, stored or installed shall be done in strict conformance with the applicable orders, rules and regulations of the United States Government, the State of California, and with all other County, City, and District requirements. Nothing contained in these specifications or shown or noted on the plans shall be construed to permit work not conforming to these orders, rules, and regulations.
- B. When the Construction Drawings and/or Specifications call for material or construction of a better quality or larger size or capacity than may be required by applicable codes or standards, the provisions of the Construction Drawings and/or Specifications shall take precedence over the requirements of the code or standard. If there is any other conflict between the Construction Drawings and/or

Specifications and the requirements of applicable codes and standards, the more stringent provisions shall govern.

- C. See also Section 01 42 00 - References.

1.6 Manufacturers' Specifications and Instructions

- A. Unless otherwise indicated or specified, all manufactured materials, products, processes, equipment, or the like shall be installed or applied in accordance with the manufacturers' instructions, directions, or specifications. Said installation or application shall be in accordance with printed instructions furnished by the manufacturer of the material or equipment concerned for use under conditions similar to those at the job site. Copies of such instructions shall be furnished to the ENGINEER and their acceptance thereof obtained before work is begun.
- B. Any deviation from the manufacturers' printed recommendations shall be explained and acknowledged as correct for the circumstances, in writing by the particular manufacturer. The CONTRACTOR will be held responsible for all installations not conforming to the manufacturers' recommendations. If any item of material or equipment is installed not in accordance with the manufacturer's recommendations, the CONTRACTOR shall make all changes necessary to achieve such compliance.

1.7 Work Quality

- A. Shop and field work shall be performed by mechanics and workers skilled and experienced in the fabrication and installation of the work feature involved. All Work under this Contract shall be performed in accordance with the standard practices of the various trades involved and in accordance with the Construction Drawings, reviewed shop drawings, these Specifications and all applicable codes and regulations.
- B. All Work shall be erected and installed plumb, level, square and true, or true to indicated angle, and in proper alignment and relationship to the work of other trades. All finished Work shall be free from defects and damage.
- C. The ENGINEER reserves the right to reject any materials and work quality which is not considered to be up to the general standards of the various trades involved. Such inferior material or work quality shall be repaired or replaced, as directed, at no additional cost to the OWNER.

1.8 Field Measurement and Templates

- A. CONTRACTOR shall secure all field measurements required for proper and accurate fabrication and installation of the Work included in this Contract. Exact measurements are the CONTRACTOR's responsibility. CONTRACTOR shall also furnish or obtain all templates, patterns, and setting instructions required for the installation of all Work. All dimensions shall be verified by the CONTRACTOR in the field.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

*** END OF SECTION ***

SECTION 01 20 00
MEASURE AND PAYMENT

PART 1 - GENERAL

1.1 Section Includes

- A. General measurement methods
- B. General payment requirements.
- C. Calculation of quantities.
- D. Value of unit prices.
- E. Changes and extra work.
- F. Rejected materials.
- G. Force account work.
- H. Specific measurement and payment descriptions for contract bid items.

1.2 References

- A. State of California, Department of Transportation, Standard Specifications, 2015 edition, as amended.

1.3 Measurement

- A. Performed according to United States Standard measure.
- B. Based on actual units installed or neat line dimensions of work completed.
- C. CONTRACTOR shall be responsible for measurement for payment, including surveying. ENGINEER shall have the option of verifying CONTRACTOR's measurements.

1.4 Payment

- A. In accordance with lump sum, unit prices, or force account rates shown on the Bid Form.
- B. Includes all costs for overhead and profit and for supplying materials, labor, equipment, and tools, necessary to complete the Work in accordance with the Standard Specifications, Special Provisions, Technical Specifications, and Project Drawings.

1.5 Calculation of Quantities

- A. Progress Payment Quantities:
 - 1. ENGINEER will compute all quantities of Work performed, or of materials and equipment delivered to the site for progress payment purposes.

- B. Final Payment Quantities: ENGINEER will compute all quantities of Work performed, or of materials and equipment delivered to the site for final payment purposes.
- C. Earthwork quantities: Earthwork (excavating, trenching, backfilling, and placing earthfill) will be required and is considered to be incidental to the bid item. Separate calculation of earthwork quantities will not be made. Include all costs related to earthwork in the appropriate bid item prices.

1.6 Value of Unit Prices

- A. The number of units and quantities contained in the Bid Schedule are approximate only, and final payment will be made for the actual number of units and quantities incorporated in the work or made necessary to complete the project and measured in accordance with this Section.
- B. In the event that work and materials or equipment are required to be furnished to a greater or lesser extent than is indicated by the Contract Documents, such work and materials or equipment will be furnished in greater or lesser quantities.

1.7 Rejected Materials

- A. Quantities of material wasted or disposed in a manner not called for in the Technical Specifications; rejected loads of material, including material rejected after it has been placed by reasons of the failure of the CONTRACTOR to conform to the provisions of the Technical Specifications; material not unloaded from the transporting vehicle; material placed outside the limits indicated by the Drawings or established by the ENGINEER or material remaining on hand after completion of the Work, will not be paid for, and such quantities will not be included in the final total quantities.
- B. No compensation will be permitted for loading, hauling, and disposing of rejected material.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Measurement and Payment

- A. CONTRACTOR shall submit a force account rate sheet for labor and equipment utilized on a time and materials (force account) basis under this contract.
 - 1. Provide labor rates, based on California prevailing wage rates that are fully burdened including profit and represent the full hourly rate that will be invoiced to the ENGINEER.
 - 2. Provide equipment rental rates, based on Caltrans equipment rental rates that represent the full hourly rate for each piece of equipment that will be invoiced to the ENGINEER and includes the cost of the operator, fuel, and profit.

PART 4 - MEASUREMENT AND PAYMENT DESCRIPTIONS

4.1 For Contract Base Bid Items

Bid Item 1 – Supplemental Work

1. Supplemental Work is provided to compensate the CONTRACTOR for new and unforeseen work necessary to construct the project as designed and intended. Supplemental Work is not for design changes. Supplemental Work will be classed as extra work in accordance with the provisions of Section 4-1.05 "Changes & Extra Work" of the 2015 Caltrans Standard Specifications. The amount shown in the Proposal shall be included in each Bidder's proposal. Supplemental Work cannot proceed without first going through County Authorization.
2. The amount shown in the Proposal shall be included in each Bidder's proposal. This item may be increased, decreased or deleted entirely by OWNER, if the ENGINEER determines that it is unnecessary. If the item is deleted, no compensation will be made therefor. No costs shall be incurred pertaining to this item unless directed by the ENGINEER. This item is excluded from the adjustment of changed quantities as specified in Standard Specifications Section 9-1.06 "Changed Quantity Payment Adjustments".

Bid Item 2 – Mobilization/Demobilization

1. Work includes, but is not limited to mobilization and demobilization of all equipment, materials, and labor; preparing and implementing Health and Safety Plan and procedures; preparing CONTRACTOR staging and storage areas; providing temporary facilities and temporary controls (including but not limited to pollution control, dust control, safety control); protection of all utilities and features; and any other indirect services necessary or described in Division 1.
2. Basis of Measurement: Measurement for this item shall be by Lump Sum (LS). No separate measurement will be made.
3. Basis for Payment: Payment for this item will be for all direct and indirect costs associated with furnishing all labor, materials, equipment, and incidentals required to prepare for and complete the Work as indicated in the Contract Documents (Per Pub Cont. Code § 10264).

Bid Item 3 – Traffic Control

1. This bid item includes full compensation for furnishing all labor (including flagmen), materials (including signs), tools, equipment, and incidentals, and for performing all work involved in placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the Traffic Control system, and for furnishing and operating the pilot car (including driver, radios, other equipment, and labor needed), if required, in accordance with Section 12 of Special Provisions and Standard Specifications.
2. Basis of Measurement: Lump Sum (LS). Separate measurement of Traffic Control will not be made.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide Traffic Control.

4. Payment during the agreed contract payment period will be based on a weekly amount as agreed by the ENGINEER, of work performed for that contract payment period for Traffic Control placed and used on the project, as described above.

Bid Item 4 - Construction Site Management

1. This bid item includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals for preparing and implementing a Water Pollution Control Plan (WPCP), performing all work involved in spill prevention and control, material management, stockpile management, waste management, non-stormwater management, dewatering, and identifying, sampling, testing, handling, and disposing of hazardous waste resulting from construction activities in accordance with Section 13 of the Standard Specifications and the Special Provisions.
2. Basis of Measurement: Lump Sum (LS). Separate measurement of Construction Site Management will not be made.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide Construction Site Management.

Bid Item 5 - Grade Checking

1. Layout Work, as necessary, and as shown on Drawings using stakes and reference marks set by CONTRACTOR
2. Document as-constructed conditions and provide information to ENGINEER for preparation of record drawings depicting as-constructed conditions.
3. Protect existing above- and below-ground facilities that may be impacted by Work.
4. Basis of Measurement: Lump Sum (LS). Separate measurement of grade checking and protection of existing facilities will not be performed.
5. Basis for Payment: Payment for this item includes all labor, equipment and materials to perform surveying and layout, and to prepare record drawings.
6. This item may be increased, decreased or deleted entirely by OWNER, if the ENGINEER determines that it is unnecessary. If the item is deleted, no compensation will be made therefor. No costs shall be incurred pertaining to this item unless directed by the ENGINEER. This item is excluded from the adjustment of changed quantities as specified in Standard Specifications Section 9-1.06 "Changed Quantity Payment Adjustments".

Bid Item 6 - Vertical Landfill Gas Well Drilling (Sheets 4, 7, and 8)

1. Furnish all labor, materials, tools, equipment, and incidentals to drill vertical LFG extraction wells at the locations and depths shown on the Project Drawings and to dispose of waste generated during drilling.
2. Basis of Measurement: Linear Feet (LF). Based on the total linear feet of completed vertical LFG well drilling.
3. Basis for Payment: Payment for this item shall be based on the linear feet

of completed vertical LFG extraction well drilling.

Bid Item 7 - Vertical Landfill Gas Extraction Well Installation and Backfill (Sheets 4, 7, and 8)

1. Furnish all labor, materials, tools, equipment, and incidentals to install single LFG extraction wells. This bid item includes, but is not limited to, all casing and perforated pipe, casing centralizer, pipe fittings, end cap, filter media, bentonite plug, gravel, excavation, hauling, and placement of soil for select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF). Based on the linear feet of complete and fully functional LFG extraction wells installed.
3. Basis for Payment: Payment for this item is based on the linear feet of complete and fully functional LFG extraction wells installed.

Bid Item 8 - Horizontal Landfill Gas Well Installation and Backfill (Sheets 5, 6, 8 and 9)

1. Furnish all labor, materials, tools, equipment, and incidentals to install horizontal LFG extraction wells. This bid item includes, but is not limited to, all perforated pipe, pipe fittings, filter media, geotextile, bentonite plug, gravel, excavation, hauling, and placement of soil for select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF). Based on the linear feet of complete and fully functional horizontal LFG extraction wells installed.
3. Basis for Payment: Payment for this item is based on the linear feet of complete and fully functional single LFG extraction wells installed.

Bid Item 9 - Vertical and Horizontal Landfill Gas Extraction Well Wellhead Installation and Connection to Lateral (Sheets 8 and 9)

1. Furnish all labor, materials, tools, equipment, and incidentals to install LFG extraction well wellheads and connect to laterals. This bid item includes, but is not limited to, all well caps, wellheads, flex hose, hose clamps, piping, fittings, and appurtenances.
2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional LFG extraction well wellheads installed and connected to laterals.
3. Basis for Payment: Payment for this item is based on the number of complete and fully functional LFG extraction well wellheads installed and connected to laterals.

Bid Item 10 - Landfill Gas Extraction Well, Drill to Refusal and Backfill (Sheet 8)

1. Furnish all labor, materials, tools, equipment, and incidentals to abandon obstructed LFG extraction well borings in accordance with backfilling requirements in Technical Specification Section 31 23 33. This bid item includes, but is not limited to, granular fill material, bentonite plug, and excavation, hauling, and placement of select soil backfill material.
2. Drilling equipment lost in an obstructed boring is incidental to this bid item.
3. The unit price for this item shall be applicable regardless of the total depth of obstructed borings abandoned.

4. Basis of Measurement: Linear Feet (LF). Based on 10 percent on total estimated drilling depths per the Construction Drawings.
5. Basis for Payment: Payment for this item is based on the linear feet of obstructed LFG extraction well borings.
6. The amount shown in the Proposal shall be included in each Bidder's proposal. This item may be increased, decreased or deleted entirely by OWNER, if the ENGINEER determines that it is unnecessary. If the item is deleted, no compensation will be made therefor. No costs shall be incurred pertaining to this item unless directed by the ENGINEER. This item is excluded from the adjustment of changed quantities as specified in Standard Specifications Section 9-1.06 "Changed Quantity Payment Adjustments".

Bid Item 11 – Provide and Install 2-inch HDPE SDR-9 Air Supply Pipe (Above Grade or in Common Trench) and 2-Inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 15, and 16)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, valves, guides, supports, and related materials to provide a complete and fully functional piping system connecting air supply piping. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil for select backfill, guides, anchors, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, including valve lengths, and other sections that are incident to the installation of the 2-inch diameter HDPE SDR-9 pipe.
3. Basis for Payment: Payment for this item is based on the linear feet of 2-inch SDR-9 air supply pipe installed, including pipe fittings and valve lengths.

Bid Item 12 – Provide and Install 2-inch HDPE SDR-11 Condensate Force Main Pipe, (Above Grade or in Common Trench) and 2-Inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 15, and 16)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, valves, guides, supports, and related materials to provide a complete and fully functional piping system connecting condensate force main piping. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil for select backfill, guides, anchors, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, including valve lengths, and other sections that are incident to the installation of the 2-inch diameter HDPE SDR-11 pipe.
3. Basis for Payment: Payment for this item is based on the linear feet of 2-inch SDR-9 condensate force main pipe installed, including pipe fittings and valve lengths.

Bid Item 13 – Provide and Install 6-inch HDPE SDR-11 Piping, with Anchors and Guides (Above Grade) and 6-inch Fittings (Sheets 4, 5, 6, 8, 9, 10, 11, 12, and 14)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, guides, supports, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil pipe anchors, guides, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, including for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 6-inch diameter HDPE pipe, excluding valve lengths.
3. Basis for Payment: Payment for this item is based on the linear feet of 6-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 14 – Provide and Install 6-inch HDPE SDR-11 Piping (Below Grade) and 6-inch Fittings (Sheets 4, 5, 6, 8, 9, 10, 11, 12, and 14)

4. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, trenching, excavation, hauling and placing backfill, appurtenances, and pipe leak testing.
5. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, including for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 6-inch diameter HDPE pipe, excluding valve lengths.
6. Basis for Payment: Payment for this item is based on the linear feet of 6-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 15 – Provide and Install 12-inch HDPE SDR-11 Piping, with Anchors and Guides (Above Grade) and 12-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, and 14)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, guides, supports, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil, guides, anchors, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 12-inch diameter HDPE pipe, excluding valve lengths.

3. Basis for Payment: Payment for this item is based on the linear feet of 12-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 16 – Provide and Install 12-inch HDPE SDR-11 Piping (Below Grade) and 12-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, and 14)

4. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, guides, supports, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, fittings, pipe fittings, connections, trenching, excavation, hauling and placing backfill, appurtenances, and pipe leak testing.
5. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 12-inch diameter HDPE pipe, excluding valve lengths.
6. Basis for Payment: Payment for this item is based on the linear feet of 12-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 17 – Provide and Install 18-inch HDPE SDR-11 Piping, with Guides (Above Grade) and 18-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 14, and 15)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, supports, guides, and related materials to provide a complete and fully functional header piping system. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil, appurtenances, tie-in connections to existing and new headers, guides, anchors, drainage outlets, soil berm, and pipe leak testing.
2. Basis of Measurement: Measurement for this item shall be by Linear Feet (LF) along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 18-inch diameter HDPE header pipe, excluding valve lengths.
3. Basis for Payment: Payment for this item is based on the linear feet of 18-inch LFG header pipe installed, including pipe fittings and valve lengths.

Bid Item 18 – Provide and Install 18-inch HDPE SDR-11 Piping (Below Grade) and 18-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 14, and 15)

4. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, and related materials to provide a complete and fully functional header piping system. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, trenching, excavation, hauling and placing backfill, appurtenances, and pipe leak testing.

5. Basis of Measurement: Measurement for this item shall be by Linear Feet (LF) along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 18-inch diameter HDPE header pipe, excluding valve lengths.
6. Basis for Payment: Payment for this item is based on the linear feet of 18-inch LFG header pipe installed, including pipe fittings.

Bid Item 19 – Provide and Install 6-inch Valves (Sheets 9, 11, 12, and 14)

1. Furnish all labor, materials, tools, equipment, and incidentals to install valves and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe.
2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional valves installed.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide and install 6-inch valves.

Bid Item 20 – Provide and Install 12-inch Valves (Sheet 9)

1. Furnish all labor, materials, tools, equipment, and incidentals to install valves and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe.
 2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional valves installed.
- Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide and install 12-inch valves.

Bid Item 21 – Provide and Install 18-inch Valves (Sheets 8 and 15)

1. Furnish all labor, materials, tools, equipment, and incidentals to install valves and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe.
2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional valves installed.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide and install 18-inch valves.

Bid Item 22 – Provide and Install 12-inch Corrugated Steel Pipe (CSP) and Road Crossings (Sheets 4 and 10)

1. Furnish all labor, materials, tools, equipment, and incidentals to install 12-inch diameter CSP and road crossings. This bid item includes, but is not limited to, all CSP and CSP fittings, excavation, marker tape, hauling and placing select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF) measured along the centerline of complete CSP and road crossings.
3. Basis for Payment: Payment for this item is based on the linear feet of CSP and road crossings installed.

Bid Item 23 – Provide and Install 18-inch CSP and Road Crossings (Sheets 4 and 10)

1. Furnish all labor, materials, tools, equipment, and incidentals to install 18-inch diameter CSP and road crossings. This bid item includes, but is not limited to, all CSP and CSP fittings, excavation, marker tape, hauling and placing select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF) measured along the centerline of complete CSP and road crossings.
3. Basis for Payment: Payment for this item is based on the linear feet of CSP and road crossings installed.

Bid Item 24 – Connect Existing Leachate Collection and Removal System (LCRS) Riser 10-inch LFG Laterals to 18-inch Header, with Wellhead, Fittings, and Other Appurtenances (Sheet 13)

1. Furnish all labor, materials, tools, equipment, and incidentals to connect existing LCRS riser to LFG header. This bid item includes, but is not limited to, all pipe and pipe fittings, excavation, excavating, hauling, and placing backfill, tie-in connection to LFG header, wellhead, and appurtenances.
2. Basis of Measurement: Each (EA) Based on the number of complete, fully functional LCRS riser connection to the LFG header.
3. Basis for Payment: Payment for this item is based on the number of complete, fully functional existing LCRS connection to the 18-inch LFG header.

Bid Item 25 – Provide and Install New Condensate Sump with Fittings and Other Appurtenances (Sheets 4, 5, 6, and 16)

1. There will be a total of six (6) Auto Sump 7000-R-18-24DC with VP4 Pneumatic Pump by Real Environmental Products, LLC.
2. Furnish all labor, materials, tools, equipment, and incidentals to install a complete and fully functional LFG condensate sump. This bid item includes, but is not limited to, all pipe and pipe fittings, connections, flanges, force main valving sump pump (Viridian pump), excavation, backfill with controlled density fill, vault box, pipe leak testing, protective bollards, appurtenances start-up testing, and commissioning.
3. Basis of Measurement: Each (EA) based on the number of complete, fully functional condensate sumps installed.
4. Basis for Payment: Payment for this item is based on the number of fully complete and functional condensate sumps installed.

Bid Item 26 – Connect LFG Header Drain to Existing Condensate Sump (Sheets 4 and 11)

1. Furnish all labor, materials, tools, equipment, and incidentals to install a complete and fully functional LFG header drain and connection to existing condensate sump. This bid item includes, but is not limited to, LFG header fittings, all other pipe and pipe fittings, flanges, force main valving, excavation,

hauling and placing backfill, connections to condensate sump, and appurtenances.

2. Basis of Measurement: Each (EA) based on the number of fully complete and functional LFG header drains installed.
3. Basis of Payment: Payment for this item is based on the number of fully complete and functional LFG header drains installed.

* * * END OF SECTION * * *

SECTION 01 31 13
PROJECT COORDINATION

PART 1 - GENERAL

1.1 Submittals

1. See Section 01 33 00 Submittal Procedures

1.2 General

- A. Include sequencing constraints as specified herein as a part of Project Construction Schedule.
- B. Refer to Caltrans Standard Specifications Section 12, Temporary Traffic Control and these Special Provisions.

1.3 Work Sequencing/Constraints

- A. Include the following work sequences in the Progress Schedule:
 1. General: The American Avenue Disposal Site (AADS) is a regional landfill for the County of Fresno. As such, the landfill needs to be able to operate in full-time mode whereby the County of Fresno will occupy the premises during the entire construction period to conduct normal business. CONTRACTOR may conduct Work from 6:00 a.m. to 6:00 p.m., Monday - Friday. The CONTRACTOR shall obtain approval of the ENGINEER before working Saturdays. The CONTRACTOR must schedule and conduct activities to enable the facility to operate continuously without obstruction, unless otherwise noted and approved. This includes all access roads, landfill gas system, leachate systems, condensate systems, and all other landfill-related operations. Two-way access roads may be reduced to one travel lane but will require traffic control (flaggers, cones, and other traffic control devices) in accordance to the CONTRACTOR's Traffic Control Plan (as approved by the ENGINEER). The CONTRACTOR shall be responsible for providing all necessary traffic control.
- B. Existing Landfill Gas System:
 1. The CONTRACTOR shall coordinate and schedule all Work affecting the existing landfill gas collection and control system (GCCS) at the landfill facility. CONTRACTOR shall include in their Project Construction Schedule (and Traffic Control Plan) all landfill gas system construction work, testing, switch-over, and commissioning.
 2. Work Responsibilities:
 - a. The ENGINEER will take responsibility for the following Work:
 - 1) Deactivating and reactivating, and oversight of the active GCCS components and condensate system.
 - 2) Operating of GCCS valves and other system components.

- b. The CONTRACTOR shall be responsible for:
- 1) Coordinating with ENGINEER on all Work, and installing and commissioning County-furnished equipment.
 - 2) Providing to the ENGINEER the CONTRACTOR's Project Construction Schedule for installation, connection, and tie-in to the active GCCS. No active system piping shall be disconnected until after 8:00 a.m.; reconnected GCCS piping shall be done and in stable operation during normal facility work hours, unless otherwise approved by ENGINEER.
 - 3) No more than five existing landfill gas collection wells shall be shut down at any one time. Dual collection wells shall be counted as two wells. All landfill gas collection wells shut down during the working day shall be reactivated before the end of the working day.
 - 4) Provide minimum 48 hours written notice to ENGINEER for any Work required by the ENGINEER's forces or representatives, or any work that impacts the facility's operations unless otherwise specified in these Special Provisions.
 - 5) The LFG combustion flare may only be shut down for a total of 96 hours during the Work. The LFG combustion flare may not be shut down beyond the end of the work day. The CONTRACTOR shall be responsible for any fines and/or penalties associated with excess emissions of LFG and/or Notices of Violation as a result of the CONTRACTOR's work.

1.4 Facility Operations

- A. Continuous operation of the landfill facility is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.
- B. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption to facility operations. All Work shall be conducted during normal operating hours for the facility, Monday - Friday. No Work will be permitted outside of normal operating hours, unless approved in advance and in writing by ENGINEER.
- C. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of the facility.
- D. Only landfill personnel are authorized to operate any landfill facilities. CONTRACTOR is to coordinate with the ENGINEER to disconnect any existing facilities.
- E. Do not close lines, open or close valves, or take other action that could affect the operation of existing systems, except as specifically required to do Work and after authorization by ENGINEER. Such authorization will be considered within 48 hours after receipt of CONTRACTOR's written request, unless otherwise specified in these Special Provisions.

- F. Refer to Article Work Sequencing/Constraints. Construct work in phases in order to minimize impact to facility operations.
- G. Process or Facility Shutdown:
 - 1. The following will require shutdown at some time during the Work (limit downtime):
 - a. Existing landfill gas collection and control system and associate condensate pumping and conveyance system.
 - 2. Provide 5 business days advance written request to ENGINEER for approval for need to shut down a process or facility unless otherwise specified in the Special Provisions.
 - 3. Power outages will be considered upon 48 hours written request to ENGINEER. Describe the reason, anticipated length of time, and areas affected by the outage. Provide temporary provisions for continuous power supply to critical facility components.
- H. Install and maintain bypass facilities and temporary connections required to keep facility operations on-line. Sequences other than those specified will be considered upon written request to ENGINEER, provided they afford equivalent continuity of operations. Flare downtime shall not exceed 96 hours during the Work. The LFG combustion flare shall not be shut down beyond the end of the workday. CONTRACTOR shall pay all fines associated with excess air emissions of landfill gas and/or Notices of Violations (NOVs) as a result of the CONTRACTOR's work.
- I. Do not proceed with Work affecting a facility's operation without obtaining ENGINEER's advance approval of the need for and duration of such Work.
- J. Relocation of Existing Facilities:
 - 1. During construction, it is expected that minor relocations of facilities will be necessary.
 - 2. Provide complete relocation of existing structures and facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other necessary items.
 - 3. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.
 - 4. Perform relocations to minimize downtime of existing facilities.
 - 5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by ENGINEER.

1.5 Adjacent Facilities and Properties

- A. Examination:
 - 1. Before Work at Site is started, CONTRACTOR, ENGINEER, and affected utility purveyors shall make a thorough examination of pre-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.

2. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.
- B. Documentation:
1. Record and submit documentation of observations made on examination inspections in accordance with Paragraph 1.08 of this Section.
 2. Upon receipt, ENGINEER will review, sign, and return one record copy of documentation to CONTRACTOR to be kept on file in field office.
 3. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of CONTRACTOR's operations, and is for the protection of adjacent property, CONTRACTOR, and ENGINEER.

1.6 Construction Photographs

- A. Photographically document all phases of the project including preconstruction, construction progress, and post-construction.
- B. ENGINEER will have the right to select the subject matter and vantage point from which photographs are to be taken.
- C. Preconstruction and Post-Construction:
 1. Before Work at Site is started, and again upon issuance of Substantial Completion, take a minimum of 48 digital photographs of construction areas and areas adjacent to perimeter of construction areas.
 2. Particular emphasis shall be directed to structures both inside and outside the construction work areas.
 3. Format: Digital, minimum resolution of 1152 by 864 pixels and 24 bit.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Cutting, Fitting, and Patching

- A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.
- B. Obtain prior written authorization of ENGINEER before commencing Work to cut or otherwise alter:
 1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
 2. Weather- or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of element.
 4. Work of others.

- C. Refinish surfaces to provide an even finish.
 - 1. Refinish continuous surfaces to nearest intersection.
 - 2. Refinish entire assemblies.
 - 3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and Work is evident in finished surfaces.
- D. Restore existing work, underground facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown.
- E. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.
- F. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces and fill voids.
- G. Remove specimens of installed Work for testing when requested by ENGINEER.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 32 23

SURVEYING

PART 1 - GENERAL

1.1 Summary

- A. This section includes the requirements for surveying, field engineering, and record documents.

1.2 CONTRACTOR's Surveyor

- A. CONTRACTOR is required to provide field engineering and surveying services as required for layout and construction of the project as indicated on the Project Drawings and specified herein. The CONTRACTOR's surveyor shall:
 1. Identify and locate existing features and facilities potentially impacted by the Work
 2. Verify existing facility dimensions, elevations and grades
 3. Provide construction stake out and grade control
 4. Provide record locations and elevations of all components and foundations for "as-built" drawings

1.3 Definitions

- A. Existing features: existing features in the area of the Work include but are not limited to the following:
 1. Landfill gas wells, laterals, and headers
 2. Utilities and other buried piping, conduits and wires
 3. Other existing nearby facilities
 4. Survey benchmarks
- B. Independent Surveyor: an organization independent from the CONTRACTOR.

1.4 CONTRACTOR Submittals

At least 5 days before commencing work, submit the following to County for review:

- A. Qualifications of Surveyor: Submit surveyor's name, State license number, and statement of qualifications (including type and scope of typical survey projects and client references).

1.5 Monthly Inspections

To verify the CONTRACTOR's monthly progress payment requests, CONTRACTOR shall provide the following items to County

- A. Record Documents
- B. CONTRACTOR surveyor's measurements, notes and cut sheets

1.6 Site Conditions

- A. Existing Features: The existence and location of features are not guaranteed. County takes no responsibility, implied or otherwise, for the accuracy of information provided in the Contract Documents or in County's record drawings. The CONTRACTOR is required to field verify all existing features, including topography or elevations, that may be affected or impacted by the Work.
- B. Field Verification: Before beginning site work the CONTRACTOR shall investigate and verify the existence and location of all underground utilities and features, including proposed locations of connections to existing facilities. CONTRACTOR shall verify locations and elevations of all underground facilities in all areas of work requiring any disturbance below the ground surface.
- C. Field Conditions and Measurements: The CONTRACTOR shall base all measurements, both horizontal and vertical on control benchmark provided by County. The CONTRACTOR shall be responsible for field verification of all dimensions and conditions at the job site.
- D. Discrepancies: Should the CONTRACTOR discover any discrepancy between actual conditions and those indicated which prevent following good practice or the intent of the Drawings and Specifications, the CONTRACTOR shall notify County in writing and request clarification and instructions on how to proceed. The CONTRACTOR shall not proceed with the Work until he has received approval from County.
- E. No Additional Payment: No claims shall be made for extra payment or extensions of Contract completion time if the CONTRACTOR fails to notify County of any discrepancy, as described in item D above, in writing within 48 hours of discovery. Under no circumstance shall the CONTRACTOR proceed- with that part of the Work until he has received approval from County.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Qualifications of Surveyor

The CONTRACTOR shall utilize a State of California licensed land surveyor.

3.2 Field Survey Work

- A. Control Points: Use control point provided by ENGINEER. If damaged during execution of his work, the CONTRACTOR shall, at his cost and as soon as possible, replace lost or destroyed project control points to the same accuracy of the existing project control points. Base replacements on the original survey control points. Relate all Work to the current facility elevation datum and coordinate system. The CONTRACTOR is responsible for all construction layout and staking.
- B. Surveyor's Log: The CONTRACTOR or CONTRACTOR's surveyor shall keep neat legible notes of all measurements and calculations made while surveying and laying out the work. The CONTRACTOR or CONTRACTOR's surveyor shall maintain a surveyor's log of control and other survey work, and shall make this log available for reference.

3.3 Tolerances

- A. Positive Drainage: Provide positive drainage for all landfill gas piping at the slopes shown on the Drawings.

3.4 Record Documents

- A. General: The CONTRACTOR shall not use the Record Document plan set for field construction or other markings. The CONTRACTOR shall protect the Record Document plan set from deterioration and loss in a secure, fire-resistive location; provide access to Record Documents for ENGINEER's reference during normal working hours. The CONTRACTOR shall store Record Documents and samples in CONTRACTOR's field office apart from documents used for construction. The CONTRACTOR shall provide files, racks, and secure storage for Record Documents and samples. Electronic documents shall be backed up by CONTRACTOR at least once per week.

Recording

1. The CONTRACTOR shall label and file record documents and samples in accordance with Specification Section number listings in Table of Contents of this Technical Specification. Label each document "PROJECT RECORD" in neat, large, printed letters.
2. Preparation of project record documents shall be by CONTRACTOR's personnel skilled as a draftsman competent to prepare the required drawings.
3. CONTRACTOR shall record and update daily record information from field notes, on set of black line prints and these specifications.
4. Construction progress shall be recorded by CONTRACTOR on a daily basis.
5. The CONTRACTOR shall not conceal Work until required information is recorded.
6. The CONTRACTOR shall record deviations from required lines and levels, and advise ENGINEER when deviations that exceed indicated or recognized

tolerances are detected. On Project Record Drawings, the CONTRACTOR shall record deviations that are accepted and not corrected.

- B. Record Drawings: The CONTRACTOR shall maintain a clean, undamaged set of black line prints of Project Drawings and Shop Drawings. The CONTRACTOR shall mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. The CONTRACTOR shall mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Drawings. The CONTRACTOR shall give particular attention to concealed elements that would be difficult to measure and record at a later date.

The CONTRACTOR shall mark record sets with red erasable pencil, and shall mark new information that is important to County, but was not shown on Project Drawings or Shop Drawings. The CONTRACTOR shall note related Change Order numbers where applicable, organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. The CONTRACTOR shall legibly mark each item to record actual construction, including:

1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to survey benchmarks or permanent surface improvements.
2. Measured locations of cover systems, internal utilities, and appurtenances concealed in construction, referenced to visible and accessible features of construction.
3. Field changes (dimensions and detail)
4. Changes or modifications made by the County.
5. Details not on original Drawings.
6. References to related Shop Drawings and modifications.
7. Depths of various elements of the Work in relation to datum.
8. Record Specifications: Maintain one complete copy of the Specifications including addenda, and one copy of other written construction documents such as Change Orders and Field Order issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications, Change Order, and Field Order. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data. Legibly mark up each Section to record:
 - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - b. Changes made by Change Order or Field Order.
 - c. Other matters not originally specified.

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 Summary

- A. This section includes general requirements for preparation and submission of the following submittals required for the completion of the Work of the Contract:
 - 1. Technical Submittals:
 - a. Shop Drawings
 - b. Product and Performance Data
 - c. Manufacturers' Instructions
 - 2. General Submittals:
 - a. Project Construction Schedule
 - b. Progress Payment Schedule
 - 3. Submittals Not Requiring Approval:
 - a. CONTRACTOR's Site Specific Health and Safety Plan
 - b. CONTRACTOR's Traffic Control Plan
- B. All submittals shall be in English and sequentially numbered.
- C. The CONTRACTOR shall submit all submittals to the ENGINEER.
- D. All submittals shall be submitted electronically via portable document format , except as otherwise stated elsewhere in the Contract, the OWNER, ENGINEER, and CONTRACTOR may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly to ENGINEER, or through access to a secure Project website.
 - 1. If the Contract does not establish protocols for electronic or digital transmittals, then OWNER, ENGINEER, and CONTRACTOR shall jointly develop such protocols.
 - 2. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.
- E. The ENGINEER will clearly label the submittals as follows and return to the CONTRACTOR:
 - 1. Approved

2. Approved as Noted
 3. Revise and Resubmit
 4. Rejected
 5. Information Only
- F. When submittals are returned marked with either “Revise and Resubmit” or “Rejected” the CONTRACTOR shall make such revisions and corrections as required and resubmit the submittal.

1.2 Related Sections

- A. Section 01 45 00 - Quality Control
- B. Section 01 78 39 - Project Record Documents

1.3 Technical Submittals

- A. Schedule of Technical Submittals:
 1. The CONTRACTOR shall submit all Technical Submittals required by this Section within 20 business days of the Notice of Award. Affected work shall not start until such submittal has been reviewed and approved. Allow time for proper review and corrections without work delays.
 2. CONTRACTOR shall maintain a sequential list of submittals with the exception of samples, test samples, and material sources. With each individual submittal, the CONTRACTOR shall submit a copy of the updated list.
 3. Except for shop drawings, allow 15 working days for review of submittals.
 4. The Department's authorization of an action submittal does not void any Contract part.
 5. Do not change the scope of work on revised submittals.
- B. Shop Drawings:
 1. Shop Drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation of adjoining work, and incorporate minor changes of design or construction to suit actual conditions. Shop drawings shall be drawn to scale and shall be completely dimensioned.
 2. Shop Drawings shall be in black ink only and sequentially numbered.
 3. Sheet sizes of shop drawings shall be ANSI B (11 inches x 17 inches) and have a text of a minimum nominal height of 5/32 inch.
 4. Calculation sheets shall be 8.5 inches x 11 inches in size with a minimum font size of 12.
 5. A clear space of 3 in x 3 in shall be provided on each drawing for the ENGINEER's review stamp and comments.
 6. Shop drawings shall be submitted to the ENGINEER in the form of a clean drawing in electronic portable document format.

7. After the ENGINEER has completed their review of Shop Drawings, they will return copies to the CONTRACTOR indicating the approval status.
 8. The ENGINEER will review and generally return shop drawings within twenty (20) calendar days of receipt by the ENGINEER.
- C. Product and Performance Data:
1. Each copy shall be marked to identify applicable products, models, options, performance, and other data; manufacturers' standard data shall be supplemented to provide information unique to the work.
- D. Manufacturers' Instructions: The CONTRACTOR shall submit manufacturers' printed instructions for delivery, storage, shelf life, assembly, installation, adjusting, and finishing.
- E. Certificates of Compliance:
1. The CONTRACTOR shall submit certificates of compliance for the certain materials and products as specified below in lieu of providing samples. Submit certificates required for demonstrating proof of compliance of materials with specification requirements in duplicate with each lot of materials delivered to the Work. The lot so certified shall be clearly identified by the certificate. Certificates shall be signed by an authorized representative of the producer or manufacturer, and shall state that the material complies in all respects with the requirements of the Contract Documents. In the case of multiple shipments, each shipment shall be accompanied by a certificate of compliance.
 2. The certificate of compliance shall be accompanied by a certified copy of test results or shall state that such test results are on file with the producer or manufacturer and shall be furnished to the ENGINEER on request. The certificate shall give the information specified for samples in Paragraph C above, the name and address of the organization performing the tests, the date of the tests, and the quantity of material shipped.
 3. Materials used on the basis of a certificate of compliance may be sampled and tested at any time. The fact that material is used on the basis of a certificate of compliance shall not relieve the CONTRACTOR of responsibility for incorporating material in the Work that conforms to the requirements of the contract, and any such material not conforming to such requirements will be subject to rejection, whether in place or not.
 4. The ENGINEER reserves the right to refuse to permit the use of certain materials on the basis of a certificate of compliance.
 5. Materials and products requiring certificates of compliance:
 - a. High Density Polyethylene (HDPE) Pipe
 - b. Corrugated Steel Piping (CSP)

1.4 General Submittals

- A. Project Construction Schedule:

1. Project Construction Schedule and Material and Equipment Procurement shall be prepared by the CONTRACTOR and submitted within 5 days of receiving the Notice of Award. CONTRACTOR shall submit the Project Construction Schedule for approval, and issue the approved Project Construction Schedule prior to the preconstruction conference.
 2. Format: The Project Construction Schedule shall consist of the following items, each compatible with the other and developed from the same basis:
 - a. Schedule: Gantt/Bar Chart, or Critical Path Method (CPM).
 - b. Critical Milestone Dates as listed below.
 - 1) *Start/complete technical submittals.*
 - 2) *Start/complete procurement of materials and equipment.*
 - 3) *Start/complete mobilization.*
 - 4) *Start/complete installation of the landfill gas extraction wells and collectors.*
 - 5) *Start/complete installation of landfill gas header and lateral pipe systems.*
 - 6) *Start/complete installation of the wellheads.*
 - 7) *Start/complete final inspection.*
 - 8) *Start/complete demobilization.*
 - 9) *Submittal of Record Drawings*
 3. The CONTRACTOR may generate the Schedule manually or by using a computer. The Schedule shall include all significant items of Work.
 4. The CONTRACTOR shall incorporate the ENGINEER's comments into revisions of the Project Construction Schedule adjust the resources as required, and resubmit the schedule to the ENGINEER for approval along with a summary of the changes.
 5. The CONTRACTOR shall submit a monthly updated schedule that includes the status of work completed to date and the work yet to be performed as planned. Which may include changes to updated schedules that do not alter a critical path or extend the scheduled completion date compared to the current schedule.
- B. Equipment List and Labor Rates:
1. The CONTRACTOR shall submit Equipment List and Labor Rates Schedules for use in conjunction with any Force Account Work done on a time and material basis, which shall be used to determine compensation to the CONTRACTOR.
 2. The schedule shall include all equipment and personnel that the CONTRACTOR expects to use on this project. It shall also include any other equipment and personnel that the CONTRACTOR has available that may be used on the Project.
 3. The rates shall include all costs and constitute full payment to the CONTRACTOR for use of operated equipment and personnel. This list shall be submitted with the bid.

1.5 Submittals Not Requiring Approval

- A. The CONTRACTOR shall furnish the following submittals for information only. These submittals will not be approved and returned to the CONTRACTOR unless the plan conflicts with the normal operation of the Landfill.
1. The CONTRACTOR, for presentation and discussion at the pre-construction meeting, shall prepare a preliminary Site Specific Health and Safety Plan and Traffic Control Plan. The CONTRACTOR's Safety Monitor shall be named and be present at the pre-construction meeting. Although the Site Specific Health and Safety Plan and Traffic Control Plan will not be formally approved, the ENGINEER will require a copy of each Plan.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.1 Summary

- A. Section Includes:
1. Acceptance testing by the ENGINEER;
 2. Control testing by the CONTRACTOR; and
 3. Certificates of compliance.

1.2 Source of Materials

- A. The CONTRACTOR shall notify the ENGINEER in writing of the sources from which he proposes to obtain material requiring approval, certification, or testing. Such notification shall be made as soon as possible after award of Contract but no later than 15 days after receipt of the Notice to Proceed.

1.3 Acceptance Testing

- A. Acceptance testing shall be defined as the testing of materials prior to or during their use in the Work. Acceptance testing may include, but not necessarily be limited to, in place soil testing and other tests as specified in the various sections of the Specifications to ensure compliance with the Contract Documents. The ENGINEER shall perform acceptance testing of materials and workmanship, unless otherwise specified, in accordance with the Specifications and submit copies of the results to the CONTRACTOR. The CONTRACTOR reserves the right to perform additional testing at any time to determine conformance with the Contract Documents. Additional testing to confirm ENGINEER acceptance testing results will be performed at no cost to the OWNER.
- B. Acceptance testing by the ENGINEER is not a replacement for control testing conducted by the CONTRACTOR or a manufacturer producing materials for the CONTRACTOR. Control testing will be performed at the expense of the CONTRACTOR.

1.4 Control Testing

- A. Control testing shall be defined as the testing of materials prior to their delivery from a manufacturer, or during construction, including, but not necessarily limited to laboratory soil tests, manufacturer material testing, and other tests as specified in the various sections of the Specifications to ensure compliance. The CONTRACTOR shall assume full responsibility for control testing. Control testing shall be at the expense of the CONTRACTOR and shall be performed by an independent testing firm.

- B. The CONTRACTOR shall submit the name, address, and qualifications, together with the scope of proposed services, of the proposed testing firm(s) to the ENGINEER for approval at least 15 days prior to the scheduled commencement of any Work involving such testing. Should the CONTRACTOR desire to use more than one firm for control testing, the required information shall be submitted for each proposed firm as specified herein.

1.5 Test Reports

- A. Within five (5) days after completion of control testing performed by or for the CONTRACTOR, the test results shall be submitted to the ENGINEER, in writing. Test reports shall be identified with the name and address of the organization performing the test, and the date of the tests.

1.6 Certificates of Compliance

- A. The CONTRACTOR may use certificates of compliance for certain materials and products in lieu of the specified sampling and testing procedures. Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be submitted in duplicate with each lot of material delivered to the Site. The lot so certified shall be clearly identified by the certificate. Certificates shall be signed by an authorized representative of the producer or manufacturer and shall state that the material complies in all respects with the Contract requirements. In the case of multiple shipments, a certificate of compliance shall accompany each shipment.
- B. The certificate of compliance shall be accompanied by a certified copy of test results or shall state that such test results are on file with the producer or manufacturer and shall be furnished to the ENGINEER on request. The certificate shall give the name and address of the organization performing the tests, the date of the tests, and the quantity of material shipped.
- C. Materials used on the basis of a certificate of compliance may be sampled and tested at any time. Reliance on a certificate of compliance shall not relieve the CONTRACTOR of responsibility for incorporating material in the Work which conforms to the requirements of the Contract and any such material not conforming to such requirements will be subject to rejection, whether in place or not.
- D. The ENGINEER reserves the right to refuse to permit the use of certain materials on the basis of a certificate of compliance.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 45 23.13
TESTING PIPING SYSTEM

PART 1 - GENERAL

1.1 Summary

- A. This section covers all labor, equipment, and materials necessary to pressure test the landfill gas piping.

1.2 Submittals

- A. Pipe pressure test results.

1.3 Related sections

- A. 33 51 16.13 - High Density Polyethylene (HDPE) Landfill Piping.

PART 2 - PRODUCTS

2.1 Provisions

- A. The CONTRACTOR shall provide compressed air flanges, caps, bulkheads and monitoring apparatus as necessary to complete the pressure test.

2.2 Testing Equipment

- A. The CONTRACTOR shall provide all equipment required for this testing procedure.
- B. Testing Equipment shall include, but may not be limited to:
 - 1. Polyethylene flange adapter with steel blind flange.
 - 2. Temperature gauge (32°F to 200°F) tapped and threaded into blind flange.
 - 3. Pressure gauge (0 to 15 psi) ASME Standard B40.1 Grade 2A (accuracy of $\pm 0.5\%$ of full scale) with minor graduation marks no greater than 0.10 psi.
 - 4. Inlet valve to facilitate compressed air hose.
 - 5. Valve to release pipe pressure at test completion.
 - 6. Polyethylene reducers to be used to adapt test flange to size of pipe being tested.
 - 7. Air compressor shall provide adequate air supply for testing. CONTRACTOR may not use site air supply lines for testing.
 - 8. Pressurizing equipment shall include a regulator set to avoid over-pressurizing and damaging otherwise acceptable pipe.
- C. Provide verification and results of gauge calibration prior to (less than 60 days) and after Project completion.

PART 3 - EXECUTION

3.1 Preparation

- A. Commence test procedures when the following conditions have been met.
 - 1. Pipe section to be tested is clean and free of dirt, sand, or other foreign material.
 - 2. Plug pipe outlets with test plugs. Brace each plug securely to prevent blowouts. Use concrete if necessary.
 - 3. Add compressed air slowly.
 - 4. Pressurizing equipment shall include regulator set to avoid over-pressurizing and damaging an otherwise acceptable section of pipe.
- B. Provide necessary pipe connections between the section of line being tested and the compressed air supply, together with test pressure equipment, meters, pressure gauge, and other equipment, materials, and facilities necessary to perform the specified tests.
- C. Furnish and install bulkheads, flanges, valves, bracing, blocking or other temporary sectionalizing devices that may be required.
- D. Remove temporary sectionalizing devices after tests have been completed.

3.2 Testing

- A. ENGINEER shall be given notification two business days prior to test.
- B. Appropriate safety precautions must be in-place.
- C. Testing shall not be performed on Friday.
- D. Pipe Test Segments:
 - 1. Butt-fusion weld pipe segments.
 - 2. Less than 2,000 feet in length.
 - 3. Blind flange with test apparatus on one end and fused cap or blind flange assembly on opposite end.
- E. Environment:
 - 1. Bury test segment or lay test segment on ground surface and allow it to reach ambient temperature before test.
 - 2. Perform test during period when pipe segment will be out of direct sunlight to minimize pressure changes as a result of temperature fluctuations.
- F. Test:
 - 1. Apply test pressure of 10 psig to test segment.
 - 2. Observe test pressure for 1-hour.
 - 3. Mathematically correct pressure drop for temperature change.
 - 4. Temperature corrected pressure drop over 1-hour period should not exceed 10%.

G. Test Failure

1. Perform the following when pipe segment fails test.
 - a. Check entire length of pipe and fusion welds for cracks, pinholes, perforations or other possible leakage points.
 - b. Check blocked risers and capped ends for leakage and check gaskets at blind flanges.
 - c. Verify leaks by applying a soapy water solution and observe for bubble formation.
2. Repair pipe and fused joint leaks by cutting out leak areas and re-fusing suitable segments.
3. After the leaks are repaired, retest the pipe after the 8 hour relaxation period.

3.3 Test Reporting

- A. Each test shall be reported in writing, on Attachment 1 included with this section.
- B. Include following information if failure occurs:
 1. Location of failure segment.
 2. Nature of leaks.
 3. Details of repairs performed.
 4. Retest results.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Pipe pressure testing shall be considered incidental to the contract price for Landfill Gas Pipe.

END OF SECTION

SECTION 01 56 37

STORAGE AND PROTECTION OF MATERIAL

PART 1 - GENERAL

1.1 Summary

- A. Store and protect materials in accordance with Manufacturer's recommendations and requirements of Specifications.
- B. The CONTRACTOR shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to other CONTRACTORS, public travel, adjoining authorities, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- C. Areas available on the construction-site for storage of material and equipment shall be approved by ENGINEER. Storage sheds and/or trailers shall be located within the property at locations designated by ENGINEER during the pre-construction meeting.
- D. Hazardous Materials: CONTRACTOR shall handle and/or store flammable or hazardous materials in accordance with all applicable Federal, State and local regulations. CONTRACTOR shall store flammable or hazardous materials in locations designated by ENGINEER authorized personnel.
- E. Materials and equipment which are to become the property of County shall be stored to facilitate their inspection and ensure preservation of the quality and fitness of the work, including proper prevention against damage by freezing and moisture. They shall be placed inside storage areas unless otherwise acceptable to ENGINEER.
- F. Private property, landscape areas, shall not be used for storage purposes without written permission of ENGINEER or other person in possession or control of such premises.
- G. The CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- H. Do not open manufacturers' containers or packaging until time of installation unless recommended by the manufacturer or otherwise specified. CONTRACTOR shall cover and protect all open containers or packages of materials that are not being used.
- I. Do not store products in structures being constructed unless approved in writing by ENGINEER.

1.2 Uncovered Storage

- A. The following types of materials may be stored out-of-doors without cover:
 - 1. Piping
 - 2. Concrete reinforcement steel
 - 3. Precast concrete items
 - 4. Castings
- B. Store the above materials on wood blocking so there is no contact with the ground.
- C. Cover all openings to prevent entry by animals, water, or foreign objects during storage.

1.3 Covered Storage

- A. The following types of materials may be stored out-of-doors with weather-protective covers:
 - 1. Large mechanical equipment packages.
 - 2. Building materials sensitive to moisture (e.g. bentonite).
- B. Tie down covers with rope and slope to prevent accumulation of water on covers. Maintain covers to provide continuous protection from damage. Seal all openings to prevent entry by animals, water, or foreign objects during storage.
- C. Store roll materials on wood blocking in a manner to prevent damage to roll ends.
- D. Store sack materials on wood blocking to prevent contact with run-off or standing water.

1.4 Fully Protected Storage

- A. Store all products not named above in temporary buildings or trailers that have a sealed floor, a roof, and fully closed walls on all sides.
- B. Provide heating or cooling for storage spaces for materials that would be damaged by extreme ambient temperatures.
- C. Protect mechanical and electrical equipment from contact with dust, dirt and moisture.

1.5 Maintenance of Storage

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide required conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Products exposed to elements are not adversely affected.

1.6 Protection After Installation

- A. Provide protection of installed products to prevent entry by foreign objects or damage from subsequent operations. Remove protection when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment, materials, and surfaces.

1.7 Security

- A. County assumes no responsibility for security of the CONTRACTOR's trailers, sheds, materials or equipment on the property at any time.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 Summary

- A. Section Includes: General requirements for materials and equipment including handling, transportation, and storage thereof.

1.2 Related Sections

- A. Section 01 45 00 (Quality Control)

1.3 Quality of Materials

- A. Materials and equipment provided shall be new, except as may be indicated in the Specifications or the Construction Drawings.
- B. The materials and equipment shall be manufactured, handled, transported, stored, and used in accordance with the requirements of the manufacturer and to ensure completed work meets the requirements of the Contract Documents.

1.4 Handling and Transportation

- A. Handling:
 - 1. Avoid bending, scraping, or overstressing materials and equipment. Protect projecting parts by blocking with wood, by providing bracing, or by other approved methods.
 - 2. Materials and equipment shall be protected from soiling and moisture by wrapping or by other approved means.
 - 3. Small parts of equipment and accessories shall be packaged in containers such as boxes, crates, or barrels to avoid dispersal and loss. Firmly secure an itemized list and description of contents to each such container.
- B. Loading, transporting, unloading, and storage of all materials and equipment shall be conducted such that they are kept clean and free from damage.

1.5 Storage and Protection

- A. Provide sheltered, weather-tight or heated weather-tight storage as required for materials and equipment subject to weather damage.
- B. Provide blockage, platforms or skids for materials and equipment subject to damage by contact with ground.
- C. Store packaged materials in their original unbroken package or container.
- D. Protect materials and equipment from damage during warehousing operations.

PART 2 - PRODUCTS

2.1 Sole Source Products

- A. The following sole source items have been approved for the Work. Substitutions will not be allowed.
1. 2-inch QED Vertical wellhead, Model ORP215M 6-inch
 2. 2-inch QED Horizontal wellhead, Model ORP215MHL 6-inch
 3. QED Vertical Orifice Plate Kit, Model 40640
 4. QED Horizontal Orifice Plate Kit, Model 40690
 5. QED Stabilizer™ well cap, Model GWC62
 6. 2-inch QED Solarguard™ flex hose (100-foot roll), Model 40946
 7. QED high strength stainless steel hose band kit for Solarguard™ Flex Hose, Model 40979
 8. Real Environmental Products Auto Sump 7000-I-24/36-DC with Viridian VP4-BL submersible pump
 9. Real Environmental Products Infa-just pipe supports/anchors 6000 Series
 10. 6-inch by 2-inch Fernco Flexseal coupling, Model 1056-62
 11. 2-inch Fernco Flexseal coupling, Model 1056-215

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 75 16
START-UP PROCEDURES

PART 1 - GENERAL

1.1 Summary

- A. This section describes the Start-Up and Demonstration of the landfill gas system components after full completion of system construction. Unless otherwise stipulated, the CONTRACTOR shall notify the ENGINEER of the pending completion of construction and readiness for commencement of the Start-Up and Demonstration Period.

1.2 Definitions

- A. Start-Up Demonstration and Period shall be conducted for two (2) consecutive days during which the ENGINEER and CONTRACTOR operate all facility systems and prove functional integrity of those systems by virtue of experiencing no operational failures within the designated demonstration time interval.
- B. Post Demonstration Period shall be the period of time after successful completion of the Start-Up and Demonstration Period, but before final acceptance of the Project during which the CONTRACTOR completes all punch list items and Project close-out procedures.

1.3 Landfill Gas Collection and Control System (LFGCCS)

- A. Except those elements which are specifically excluded elsewhere, the LFGCCS shall include:
 - 1. Vertical Landfill Gas Extraction Wells
 - 2. Horizontal Landfill Gas Collectors
 - 3. Landfill Gas Header and Lateral Piping
 - 4. Condensate Sumps
 - 5. Leachate Collection and Removal System

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Start-Up and Demonstration Period

- A. The Start-Up and Demonstration Period is intended to demonstrate the reliability and performance of equipment under full operational conditions. The ENGINEER reserves the right to simulate operational variables including, but not necessarily

limited to equipment failures and routine maintenance scenarios, etc. to verify the operational integrity of automatic and manual control systems and alternate operating modes.

- B. Ensure Work is complete before start-up of any unit or system.
- C. The OWNER will provide qualified personnel for operation of the landfill gas system components.
- D. The Start-Up and Demonstration Period will be performed with the entire landfill gas system operational and will not be allowed to be tested on a system-by-system basis.
- E. The OWNER shall provide all labor, supervision, chemicals, equipment, vehicles or any other items necessary to operate and demonstrate the operation of the landfill gas system components.
- F. The CONTRACTOR and his SUBCONTRACTORS shall be onsite during the entire Start-Up and Demonstration period to address any system problems that are found during initial operation. Problems that may be encountered include, but are not limited to leaks in pipes, equipment malfunctions, etc.
- G. Length of Start-Up and Demonstration Period shall be 48 hours of continuous operation with no malfunctions.

3.2 Post Demonstration Period

- A. If the facility and all systems are substantially complete as defined in the Standard Specifications, the OWNER will assume operation after the successful completion of the Start-Up and Demonstration Period. If the facility and all systems are not substantially complete, the CONTRACTOR will finalize construction and the system will be retested.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Startup and Demonstration shall be considered incidental to the contract.

*** END OF SECTION ***

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 Summary

- A. This section includes preparation, maintenance, completion, and submission of all project record drawings, specifications, and related documents.
- B. The requirements specified herein are in addition to any requirements for record documents specified elsewhere in these Specifications.

1.2 Maintenance of Record Documents

- A. The CONTRACTOR shall maintain at the job site one copy of the following Project Documents for record purposes:
 - 1. Construction Drawings
 - 2. Specifications
 - 3. Change Orders
 - 4. ENGINEER's Field Orders
 - 5. Reviewed Shop Drawings
 - 6. Clarifications or Explanatory Drawings and Specifications
 - 7. Inspection Reports
 - 8. Laboratory Test Records
 - 9. Field Test Records

1.3 Record Drawings

- A. Construction Drawings:
 - 1. The CONTRACTOR shall maintain "as-built" 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. 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 this reproducible set.
 - 3. 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 Construction Drawings shall be shown in detail. All main alignments, whether piping, conduit, ductwork, or drain lines shall be located, in addition, by dimension and elevation.

4. No work shall be permanently concealed by the CONTRACTOR until the required information has been recorded on the record drawing and verified by the ENGINEER.
5. CONTRACTOR shall provide as-built drawings and necessary correction to the as-builts as deemed necessary by the ENGINEER in electronic portable document format within 40 working days after construction completion. CONTRACTOR will be subject to \$100 per day for each and every calendar day's delay in submitting these documents in excess of the number of working days prescribed above.
6. The ENGINEER/OWNER will provide one copy of the final Record Drawings to the CONTRACTOR for record keeping purposes.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

* * * END OF SECTION * * *

SECTION 23 09 13
VALVES AND VALVE BOXES

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall furnish valves (including nuts and bolts), valve boxes, other materials, all labor, tools, supervision, transportation, equipment and incidentals necessary to install valves and valve boxes of the type and size and at the locations shown on the Construction Drawings and as needed for a complete and proper operation.
- B. The work shall be carried out in accordance with these Specifications and with the Construction Drawings.

1.2 Related Sections

- 1. Section 31 23 33 - Trenching and Backfilling
- 2. Section 33 51 16.13 - High Density Polyethylene (HDPE) Landfill Piping
- 3. Section 33 51 23 - Landfill Gas Extraction Wellheads
- 4. Section 33 53 23 - Horizontal Landfill Gas Extraction Wellheads
- 5. Section 44 42 53 - Landfill Gas Condensate Sump

1.3 Submittals

- A. Product Data: Before shipping, the CONTRACTOR shall submit
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's Specifications, catalog cuts, and other data needed to prove compliance with the specified requirements.
 - 3. Manufacturer's recommended installation procedures which, when approved by the ENGINEER, will become the basis for accepting or rejecting actual installation procedures used on the Work.
- B. If materials proposed to be provided under this Section are shipped prior to ENGINEER's conditional approval or approval, it will be at the CONTRACTOR's risk.

1.4 Warranty

- A. The CONTRACTOR shall assign to the OWNER the warranties of the manufacturers of any of the valves used.

PART 2 - PRODUCTS

2.1 General

- A. All valves shall be complete with all necessary operators, actuators, 2-inch square nut, worm and gear operators, wrenches, and other accessories or appurtenances, which are required for the proper completion of work, included under this Section.
- B. Valves shall be suitable for the intended service. Renewable parts, including discs, packing, and seats, shall be of types recommended by valve manufacturer for intended service, but not of lower quality than specified herein.
- C. Valves and operators shall be suitable for the exposure they are subjected to, enclosed in valve chamber or exposed, as applicable.
- D. All valves shall have the name of the manufacturer and sizes cast on the body or bonnet or shown on a permanently attached plate in raised letters.
- E. For the purpose of designating the type and grade of valve desired, a manufacturer's name is given in the following specifications. Valves of equal quality by other manufacturers will be acceptable.

2.2 Butterfly Valves

- A. Unless otherwise specified, butterfly valves used in the landfill gas collection system shall be lug-style, gear assisted, ductile-iron body with flat-faced flanged ends with Type 316 stainless steel disk and stem with spacers for proper valve operation, Viton seal and seat, and position indicator, rated for 350 psi.
- B. All bolting for valves installed above grade shall be Type 316 stainless steel.
- C. Unless specified otherwise on the Construction Drawings, below grade valves shall have a gear operator and 2-inch square nut.
- D. Unless specified otherwise on the Construction Drawings, above grade valves shall have a gear operator and handwheel.
- E. All valves and gear operators shall be right hand close.

2.3 Ball Valves

- A. Ball valves shall have Type 316 stainless steel body and ball with glass-filled PTFE seats and PTFE seals unless specified otherwise in the Construction Drawings. Valves shall be rated for 1,000 psi at 200° F maximum pressure, 28.95 inches Hg vacuum, and a temperature range of 0 to 450° F.
- B. Valve connections shall be NPT female at the sizes shown unless specified otherwise on the Construction Drawings.
- C. Unless specified otherwise on the Construction Drawings, valves under 6-inches will have a 2-inch square nut.

2.4 Check Valves

- A. Check valves shall be swing check type, flanged ends, ethylene propylene diene monomer (EPDM) seals, and spring-assist closure, rated at 150 psi, by Asahi, or equal. Any metal components shall be Type 316 stainless steel.

2.5 Valve Boxes

- A. Valve boxes shall be Jensen W-2436 series precast concrete with vault spring assisted access lid, of the size and type shown on the Construction Drawings, or approved equal. Boxes shall be stackable for extra depth, as needed. Valve boxes and lids shall be HS-20 traffic rated.
- B. The lid for header control valve boxes shall be hinged, spring assisted, double- door, HS-20 rated and set to allow operation of below-grade valves from the ground surface using a valve key.
- C. Vault box penetrations shall be cleanly cored and sealed with a rubber boot as manufactured by Kor-N-Seal, or equal.

2.6 Accessories

- A. Tagging: Provide 1 1/2-inch diameter heavy brass or stainless steel tag attached with No. 16 solid brass or stainless steel jack chain for each valve bearing the valve tag number. Get tag numbers from the ENGINEER.
- B. T-Handle Operating Rod (below-grade service): Provide an 8-foot long steel operating rod.

PART 3 - EXECUTION

3.1 Preparation

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Notify the ENGINEER of such conditions and proposed corrective actions before correcting unsatisfactory conditions. Do not proceed until unsatisfactory conditions are corrected.
- B. Adjoining pipe, couplings and fittings shall be cleaned of all foreign material such as dirt, grease, oil, or moisture prior to valve installation.

3.2 Valve Installation

- A. Valves of the size and type shown on the Construction Drawings shall be set plumb and installed at the locations indicated on the Construction Drawings. Valves shall be installed in accordance with manufacturer's recommended installation procedures and with the details shown on the Construction Drawings.
- B. Valves shall be installed such that they are supported properly in their respective positions, free from distortion and strain. Valves shall be installed such that their weight is not borne by blowers and equipment that are not designed to support the weight of the valve.
- C. Valves shall be carefully inspected during installation; they shall be opened wide and then tightly closed and the various nuts and bolts shall be tested for tightness. Special care shall be taken to prevent any foreign matter from becoming lodged in the valve seat. Check and adjust all valves for smooth operation.

- D. Clean iron flanges by wire brushing before installing flanged valves. Clean flange bolts and nuts by wire brushing, lubricate threads with oil or graphite, and tighten nuts uniformly and progressively. Clean threaded joints by wire brushing or swabbing. Apply Teflon joint compound or Teflon tape to pipe threads before installing threaded valves. Joints shall be airtight.
- E. Install valves with the operating stem in either horizontal or vertical position. When possible, all butterfly valves shall be installed so that the disk rotates on the vertical axis. Below grade butterfly valves without gear operator shall be installed with their axis in the vertical direction.
- F. The inside diameter of HDPE pipe flange adapters may be smaller than the diameter of the disk on a butterfly valve. If the inside diameter of the flange adapter interferes with full operation of the disk, the CONTRACTOR shall at his option install 2-inch HDPE valve spacers on both sides of the valves or may remove by machining excess material from the ID of the HDPE flange adapter.
- G. Locate and arrange valves to allow sufficient clearance around the valve operator for proper operation and to provide complete adjustment between fully open to fully closed position.
- H. Install where shown on the Construction Drawings.
- I. Locate valves for easy accessibility and maintenance.
- J. Install valves in closed position.

3.3 Valve Box Installation

- A. Valve boxes of the size and type shown on the Construction Drawings shall be set plumb and installed at the locations indicated on the Construction Drawings. Valve boxes shall be installed in accordance with manufacturer's recommended installation procedures and with the details shown on the Construction Drawings.
- B. Trenching and backfilling shall conform to the requirements of Section 31 23 16.

3.4 Testing

- A. Valves shall be tested at the same time that the adjacent pipeline is tested. Joints shall show no visible leakage under test. Joints that show signs of leakage shall be repaired prior to final acceptance. If there are any special parts of control systems or operators that might be damaged by the pipeline test, they shall be properly protected. The CONTRACTOR will be held responsible for any damage caused by the testing.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 31 22 00

GRADING

PART 1 - GENERAL

1.1 Summary

- A. Provide all rough and finish grading as necessary to complete the Project.

1.2 Related Sections

- A. Section 31 23 16 - Excavation
- B. Section 31 23 26 - Structural Fill
- C. Section 31 23 33 - Trenching and Backfilling

1.3 Description

- A. Work in this section includes the rough and finish grading of the following areas:
 - 1. Landfill access roads disturbed as part of the Work.
 - 2. Landfill surfaces disturbed as part of the Work.
 - 3. Landfill surfaces along the header and/or lateral lines to provide a minimum slope as indicated in the Construction Drawings.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Topsoil

- A. Provide topsoil that is free from waste, rocks greater than 1-inch, rubble, and other deleterious material that shall be used for finish grading of the landfill surface and other non-driving areas as shown on the Construction Drawings.

PART 3 - EXECUTION

3.1 General

- A. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.

- B. The CONTRACTOR shall grade to the lines and grades shown on the Construction Drawings and as staked in the field. Excess material shall be stockpiled at the locations as identified by the ENGINEER.
- C. The CONTRACTOR is responsible for securing, purchasing, hauling, and placement of fill material to complete the grading as specified on the Construction Drawings and in these Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Project. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of Existing Utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Section, immediately notify the ENGINEER and request their instructions.
 - 5. Do not proceed with permanent relocation of the work until written instructions are received from the ENGINEER.
 - 6. Exposed utilities shall be properly supported at all times if undermined.
- B. Protection of Persons and Property:
 - 1. Barricade open holes and depressions occurring as part of the Project, and post warning lights on property adjacent to or with public access.
 - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- C. Dewatering:
1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or to the existing leachate management system.
 2. Keep site construction area free from water.
 3. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.
- D. Use means necessary to prevent dust from becoming a nuisance to the public, to neighbors and to other work being performed on or near the site.
- E. Maintain access to adjacent areas at all times.

3.5 Access Road Grading

- A. Access roads disturbed as part of construction shall be graded to the original grades shown on the Construction Drawings.
- B. Structural fill shall be placed under the road surface as shown on the Construction Drawings and as specified in Section 31 23 26 - Structural Fill.

3.6 Vegetated Surface Grading

- A. Vegetated areas including the landfill surface and any other areas disturbed as part of the Work shall be graded as follows:
 1. Place a minimum of 6 inches of topsoil conforming to the requirements of this Section to the grades shown on the Construction Drawings and in the field.
 2. Topsoil shall be free from clods and large objects.

3.7 Maintenance

- A. Protection of newly graded areas:
 1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds.
 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.
- B. Where completed graded areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, and reshape as necessary to comply with the Specifications.

3.8 Field Quality Control

- A. The CONTRACOTR shall test areas receiving compacted crushed aggregate material using a nuclear density moisture gauge in accordance with ASTM D 6938 and submit results to the ENGINEER.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Grading

- A. Grading shall be considered incidental to the Bid Items for piping.

*** END OF SECTION ***

SECTION 31 23 16

EXCAVATION

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall excavate to the lines and grades shown on the plans and as staked by the CONTRACTOR in the field.

1.2 Related Sections

- A. Section 31 23 26 - Structural Fill
- B. Section 31 23 33 - Trenching and Backfilling

1.3 Description

- A. Work in this section includes but is not necessarily limited to the following items:
 - 1. Excavation inside the limits of waste.
 - 2. Excavation outside the limits of waste.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Other Materials

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and approved by the OWNER and ENGINEER.

PART 3 - EXECUTION

3.1 General

- A. The CONTRACTOR shall excavate the areas shown on the Construction Drawings.
- B. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.
- C. The CONTRACTOR shall excavate to the lines and grades shown on the Construction Drawings. Excavated material shall be stockpiled at the locations shown on the Construction Drawings. Before commencing any fill or compaction

operations, each excavation shall be observed and approved by the ENGINEER. The cost of filling inadvertent over-excavation shall be borne by the CONTRACTOR.

- D. Surplus excavated materials unsatisfactory for backfill shall be disposed of at the landfill working face.
- E. The CONTRACTOR is responsible for securing, purchasing, hauling and placement of fill material meeting the requirements of the Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of existing utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Contract, immediately notify ENGINEER and request their instructions. Maintain a minimum 12-inch horizontal and vertical separation from existing utilities and the facilities being constructed under this Contract.
 - 5. Do not proceed with permanent relocation of the Work until written instructions are received from the ENGINEER.
 - 6. Exposed utilities shall be properly supported at all times if undermined.

B. Protection of Persons and Property:

1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
2. Excavations shall be clearly marked if left open overnight. The CONTRACTOR shall supply barricades, warning lights, fencing or other OSHA approved devices to clearly mark and delineate open excavations.

C. Protection of Geomembrane Liner

1. The CONTRACTOR shall exercise caution when excavating near the geomembrane liner system. Areas of the landfill with a geomembrane liner system in place are shown on the Construction Drawings.
2. If during excavation the CONTRACTOR penetrates the geomembrane liner, work shall cease immediately, and the CONTRACTOR shall notify the ENGINEER.
3. The damage to the geomembrane liner system will be assessed by the ENGINEER to determine the extent of the repairs that will be necessary.
4. The CONTRACTOR will be responsible for the cost of all repairs and documentation of repairs required if the geomembrane liner is penetrated by the CONTRACTOR.

D. Dewatering:

1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or to the existing leachate management system.
2. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.

E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors and to other work being performed on or near the site. Use of wet sprays is recommended to minimize fugitive dust emissions.

F. CONTRACTOR shall be responsible for ensuring that fugitive litter resulting from construction is collected before the end of each construction day. Use of wet sprays is recommended to minimize fugitive litter.

G. Maintain access to adjacent areas at all times.

3.5 Excavation

A. Perform excavations of every type of material encountered within the limits of the Project to the lines, grades, and dimensions indicated on the Construction Drawings and specified herein.

B. Satisfactory excavated materials shall be transported to and placed in stockpiles or fill areas within the limits of the Project identified by the OWNER.

- C. If unsatisfactory materials are encountered above or at the design depth of the excavation, excavate the unsatisfactory materials to three (3) feet below the design depth and replace with compacted fill meeting the requirements of the Specifications.
- D. Excavate in a manner and sequence that will provide proper drainage at all times. The CONTRACTOR shall provide dewatering equipment if necessary.
- E. Dispose of unsatisfactory excavated material at the landfill working face, and surplus satisfactory excavated material, away from the work area as identified by the OWNER.
- F. Any waste excavated shall be disposed of at the working face of the landfill at no cost to the CONTRACTOR. Exposed waste not delivered to the working face prior to closure shall be covered either with 6 inches of earthen material or by fire retardant tarpaulins that are secured to prevent being carried off by heavy winds.
- G. Unauthorized Excavation:
 - 1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions as shown on the Construction Drawings.
 - 2. Backfill and compact unauthorized excavations as specified for authorized excavations.
- H. Stability of Excavations:
 - 1. Sides of excavations shall be cut back in accordance with 29 CFR 1910 OSHA standards.
 - 2. Shore and brace excavations where slope cut-backs are not practical because of space restrictions or stability of the materials being excavated.
 - 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- I. Shoring and Bracing:
 - 1. Provide all labor and materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 - 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
 - 3. Remove shoring and bracing as excavation progresses.

3.6 Field Quality Control

- A. Secure the ENGINEER's observation and approval of subgrade before subsequent construction is permitted thereon.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Excavation

A. Excavation shall be considered incidental to the Bid Items for piping.

*** END OF SECTION ***

SECTION 31 23 26

STRUCTURAL FILL

PART 1 - GENERAL

1.1 Summary

- A. CONTRACTOR shall place and compact structural fill in the locations shown on the Construction Drawings.

1.2 Related Sections

- A. Section 31 23 16 - Excavation
- B. Section 31 23 33 - Trenching and Backfilling

1.3 Description

- A. Work in this section includes but is not necessarily limited to the following items:
 - 1. Placement of structural fill in the access roads and access road crossing.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Structural Fill Materials

- A. CONTRACTOR shall provide sand, a mixture of sand and gravel, crushed gravel, crushed stone, crushed concrete, or other fragmented mineral material free from organic matter, waste, boulders and other deleterious material for use as Structural Fill or as specified in the Construction Drawings

2.3 Other Materials

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and approved by the OWNER and ENGINEER.

PART 3 - EXECUTION

3.1 General

- A. The areas shown on the Construction Drawings that require compacted structural fill shall be excavated in accordance with Section 31 23 16 - Excavation, backfilled and compacted.
- B. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.
- C. The CONTRACTOR is responsible for securing, purchasing, hauling and placement of fill material meeting the requirements of the Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of Existing Utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Contract, immediately notify the OWNER and ENGINEER and request their instructions. Maintain a minimum 12-inch horizontal and vertical separation from existing utilities and the facilities being constructed under this contract.
 - 5. Do not proceed with permanent relocation of the work until written instructions are received from the OWNER/ENGINEER.

6. Exposed utilities shall be properly supported at all times if undermined.
- B. Protection of Persons and Property:
 1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
 - C. Dewatering:
 1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or in the existing leachate management system.
 2. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.
 - D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors and to other work being performed on or near the site.
 - E. Maintain access to adjacent areas at all times.

3.5 Structural Fill Placement

- A. Structural fill shall be placed at all road crossings, over buried piping, and around condensate sumps, as otherwise indicated on the Construction Drawings.
- B. Ground Surface Preparation:
 1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of structural fill.
- C. Structural Fill Placement and Compaction:
 1. Place backfill and fill materials in lifts not more than 8 inches in loose thickness.
 2. Compact structural fill using suitable mechanical equipment until no noticeable deformation is observed.
 3. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 4. Place backfill and fill materials evenly adjacent to structures to required elevations.
 5. Hydraulic compaction utilizing water to consolidate soils shall not be allowed.

3.6 Maintenance

- A. Protection of Structural Fill Areas:
 1. Protect structural fill areas from traffic and erosion, and keep free from trash and weeds.
 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.

- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Structural Fill

- A. Structural fill placement and compaction shall be considered incidental to the associated Bid Items.

*** END OF SECTION ***

SECTION 31 23 33
TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall provide all trenching and backfilling of trenches necessary to complete the Work specified herein.

1.2 Related Sections

- A. Section 31 23 16 - Excavation
- B. Section 31 23 26 - Structural Fill

1.3 Description

- A. Work in this Section includes, but is not necessarily limited to the following:
 - 1. Trenching in active waste disposal area and areas with intermediate cover.
 - 2. Trenching across and within access roads.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Trench Backfill Materials

- A. Trenches located in active waste disposal area and areas with intermediate cover:
 - 1. The CONTRACTOR shall backfill trenches in waste with cover soils obtained as a result of initial trench excavation and as detailed on the Construction Drawings.
- B. Trenches located in access roads and other areas outside of the limits of waste:
 - 1. The CONTRACTOR shall backfill trenches with pipe bedding material and clean soil fill as detailed on the Construction Drawings.

2. Stockpile shall be sand clear of organic matter and meeting the following gradation:

<u>U.S. Sieve Size</u>	<u>Range of Percent Passing</u>
No. 4	95 to 100
No. 16	60 to 95
No. 50	0 to 50
No. 100	0 to 20
No. 200	0 to 5

- a. The CONTRACTOR shall supply the ENGINEER with laboratory testing results demonstrating that the pipe bedding meets the requirements of this Section.
- b. The CONTRACTOR shall bear all costs associated with securing the material and providing the sampling and testing required to demonstrate compliance with this section.

2.3 Other Materials

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and approved by the ENGINEER.

PART 3 - EXECUTION

3.1 General

- A. The CONTRACTOR shall provide trenching at all locations shown on the Construction Drawings for landfill gas piping and associated structures.
- B. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.
- C. The CONTRACTOR shall excavate trenches to the lines and grades shown on the Construction Drawings. Excavated material shall be stockpiled at the locations identified by the ENGINEER. Before commencing any fill or compaction operations, each excavation shall be observed and approved by the ENGINEER. The cost of filling inadvertent over-excavation shall be borne by the CONTRACTOR.
- D. Surplus excavated materials unsatisfactory for backfill shall be disposed of at the landfill working face at no cost to the CONTRACTOR. Exposed waste not delivered to the working face prior to closure shall be covered either with 6 inches of earthen material or by fire retardant tarpaulins that are secured to prevent being carried off by heavy winds.
- E. The CONTRACTOR is responsible for securing, purchasing, hauling and placement of fill material meeting the requirements of the Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

A. Protection of Existing Utilities:

1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
4. If existing utilities are found to interfere with the facilities being constructed under this Contract, immediately notify ENGINEER and request their instructions. Maintain a minimum 12-inch horizontal and vertical separation from existing utilities and the facilities being constructed under this Contract.
5. Do not proceed with permanent relocation of the work until written instructions are received from the ENGINEER.
6. Exposed utilities shall be properly supported at all times if undermined.

B. Protection of Persons and Property:

1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
2. Trenches shall be clearly marked if left open overnight. The CONTRACTOR shall supply barricades, warning lights, fencing or other OSHA approved devices to clearly mark and delineate open excavations.

C. Protection of Geomembrane Liner

1. The CONTRACTOR shall exercise caution when excavating near the geomembrane liner system. Areas of the landfill with a geomembrane liner system in place are shown on the Construction Drawings.

2. If during excavation the CONTRACTOR penetrates the geomembrane liner, work shall cease immediately and the CONTRACTOR shall notify the ENGINEER.
 3. The damage to the geomembrane liner system will be assessed by the ENGINEER to determine the extent of the repairs that will be necessary.
 4. The CONTRACTOR will be responsible for the cost of all repairs required if the geomembrane liner is penetrated by the CONTRACTOR.
- D. Dewatering:
1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or in the existing leachate management system.
 2. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.
- E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors and to other work being performed on or near the site. Use of wet sprays is recommended to minimize fugitive dust emissions.
- F. CONTRACTOR shall be responsible for ensuring that fugitive litter resulting from construction is collected before the end of each construction day. Use of wet sprays is recommended to minimize fugitive litter.
- G. Maintain access to adjacent areas at all times.

3.5 Trenching

- A. Perform trenching of every type of material encountered within the limits of the Work to the lines, grades, and dimensions indicated on the Construction Drawings and specified herein.
- B. Satisfactory excavated materials shall be transported to, and placed in stockpiles or fill areas within the limits of the Work as identified by the ENGINEER.
- C. If unsatisfactory materials are encountered above or at the design depth of the trench, excavate the unsatisfactory materials to three (3) feet below the design depth and replace with compacted structural fill meeting the requirements of the specifications.
- D. Trench in a manner and sequence that will provide proper drainage at all times. The CONTRACTOR shall provide dewatering equipment if necessary.
- E. Dispose of unsatisfactory excavated material, and surplus satisfactory excavated material, away from the work area as shown on Construction Drawings.
- F. Waste shall be disposed of at the working face of the landfill.
- G. Unauthorized Excavation:

1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions as shown on the Construction Drawings.
 2. Backfill and compact unauthorized excavations as specified for authorized excavations.
- H. Trenching Safety:
1. Trenching shall be completed in accordance with 29 CFR 1910 OSHA regulations.
 2. Trench boxes, shoring and bracing shall be placed in trenches in accordance with 29 CFR 1910 if personnel are to enter the trench or if the trench is susceptible to cave in.
 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- I. Shoring and Bracing:
1. Provide all labor and materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 2. Maintain shoring and bracing in trenches regardless of the time period excavations will be open.
 3. Remove shoring and bracing as trenching progresses.

3.6 Backfilling

- A. Backfilling shall be completed in accordance with the location of the trench as shown on the Construction Drawings.
- B. Pipe bedding outside of the limits of waste shall be compacted until no noticeable deformation is observed.
- C. Backfill in dual containment areas shall be completed in accordance with these Specifications and placed in the areas shown on the Construction Drawings.
- D. Conduct air monitoring to confirm lack of surface emissions after completion of backfill. If emissions are detected, rework cover soils and cover system and recomplete air monitoring until passing per the project documents.

3.7 Field Quality Control

- A. The ENGINEER shall observe all trenching as part of the Work.
- B. Backfill shall not be placed in trenches until the ENGINEER has observed the placement of the piping and verified that the line and grade have been met.

- C. The ENGINEER shall observe and document air monitoring results following completion of backfill.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Trenching and Backfilling

- A. Trenching and Backfilling shall be considered incidental to the Bid Items for piping.

*** END OF SECTION ***

SECTION 33 42 13
CORRUGATED STEEL PIPE

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall furnish all labor, materials, tools, supervision, transportation, equipment and incidentals necessary to install corrugated steel pipe as specified herein, as shown on the Construction Drawings and as needed for complete and properly functioning culverts and pipe sleeves, all with necessary fittings.
- B. The work shall be carried out in accordance with these Specifications and with the Construction Drawings.

1.2 Related Sections

- A. Section 31 23 33 – Trenching and Backfilling
Section 33 51 16.13 – High Density Polyethylene (HDPE) Landfill Piping

1.3 Submittals

- A. In accordance with Section 01 33 00, the CONTRACTOR shall submit, prior to shipping, manufacturer's specifications stating that the piping meets or exceeds the requirements presented in this Specification and as shown on the Construction Drawings.
- B. If materials proposed to be provided under this Section are shipped prior to ENGINEER's conditional approval or approval, it will be at the CONTRACTOR's risk.

PART 2 - PRODUCTS

- A. Corrugated steel pipe shall have dimensions and thicknesses that are nominal and must comply with AASHTO M 36 for corrugated steel pipe and AASHTO M 196 for corrugated aluminum pipe. The nominal sheet thickness for corrugated metal pipe must be equal to or greater than the nominal thickness described. Lapped longitudinal seams of riveted pipe arches must be placed in the top arch and must be staggered so as to alternate on each side of the center of the top arch at least 3 inches.
- B. Where coating, lining, or paving is shown, pipes must be protected with bituminous coating or bituminous lining, or have the invert paved with one or more of the following materials:
 - 1. Bituminous coating
 - 2. Polymeric sheet coating
 - 3. Bituminous lining

4. Bituminous invert paving
- C. Coupling bands for corrugated steel pipe must comply with AASHTO M 36. Coupling bands for corrugated aluminum pipe must comply with AASHTO M 196. If channel or wing channel coupling bands are used, the interior bend radii of the pipe flange and the channel must be at least the thickness of the metal of which they are formed. Joints for siphons must consist of connections made with coupling bands shown for positive joints. Do not use universal coupling bands. Joints for siphons and joints for pipes shown as watertight must be watertight under pressure and all conditions of expansion, contraction, and settlement, and must comply with section 61-2.01D(1)(a) for water tightness.
- D. Corrugated steel pipe shall be galvanized and a minimum of 16 gauge, or as shown on the Construction Drawings.

PART 3 - EXECUTION

- A. Trench excavation, bedding and backfill shall comply with Section 31 23 33 of these Specifications.
- B. Lay helical corrugated pipe in a trench with separate sections spaced not more than 1-1/2 inches apart and then firmly jointed together with corrugations in alignment.
- C. Corrugations or projections on the coupler must properly engage the corrugations of the pipe section before bolts are tightened.
- D. Wherever pipes are connected to inlet and outlet structures, place the ends of the pipes flush or cut them off flush with the structure face.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 51 16.13

HIGH DENSITY POLYETHYLENE (HDPE) LANDFILL PIPING

PART 1 - GENERAL

1.1 Summary

- A. This Section includes material and installation specifications for high density polyethylene (HDPE) pipe and fittings.

1.2 References

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D-638-95 - Test Method for Tensile Properties of Plastics.
 2. ASTM D-790-86 - Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 3. ASTM D-1238-88 - Test Method for Flow Rates of Thermoplastic by Extrusion Plastometer.
 4. ASTM D-1248-84 - Specification for Polyethylene Plastics Molding and Extrusion Materials.
 5. ASTM D-1505-85 - Test Method for Density of Plastics by Density-Gradient Technique.
 6. ASTM D-1693-70 - Test Method for Environmental Stress - Cracking of Ethylene Plastics.
 7. ASTM D-2122-88 - Test Method of Determining Dimensions of Thermoplastic Pipe and Fittings.
 8. ASTM D-2513-95(c) - Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings.
 9. ASTM D-2837-88 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.
 10. ASTM D-3261-88 - Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
 11. ASTM D-3350-84 - Polyethylene Plastic Pipe and Fittings Material.
 12. ASTM F-1055-95 - Electrofusion Type Polyethylene Fittings.

1.3 Related Sections

- A. Section 01 45 23.13 - Testing Piping Systems
- B. Section 33 51 19.13 - Vertical Landfill Gas Wells
- C. Section 33 51 23 - Landfill Gas Extraction Wellheads
- D. Section 33 53 10 - Horizontal Landfill Gas Collectors

1.4 Submittals

- A. Provide manufacturing test specification data listing resin type, cell classification, stock density, melt flow, flexural modulus, tensile strength, and coloration.
- B. Include results of tests with shipment of materials, with two (2) additional copies of test results furnished to ENGINEER.

1.5 Quality Assurance

- A. Source Quality Control:
 - 1. If Manufacturer's test data is inadequate or unavailable, ENGINEER reserves the right to reject or require additional tests to satisfy material requirements. Costs of these tests shall be borne by CONTRACTOR.
- B. Work shall comply with appropriate codes and standards of organizations for handling, fusion, and underground installation of low pressure polyethylene pipe, including but not limited to:
 - 1. AGA
 - 2. ANSI
 - 3. ASME
 - 4. ASTM
 - 5. PPI

1.6 Deliveries, Storage, and Handling

- A. Pipe Storage:
 - 1. Store or stack pipe to prevent damage from marring, crushing, or puncture. Limit maximum stacking height to six (6) feet or manufacturer's maximum recommended height, whichever is less.
 - 2. Store in accordance with manufacturer's recommendations.
- B. Pipe handling:
 - 1. Protect pipe from excessive heat or harmful chemicals.

PART 2 - PRODUCTS

2.1 Physical Properties of HDPE Pipe Resin

- A. Density: ASTM D-1505, not less than 0.941 - 0.955 gm/cu cm.
- B. Melt Flow: ASTM D-1238 - Condition E, not greater than 0.15.
- C. Flexural Modulus: ASTM D-790, 110,000 to less than 160,000 psi.
- D. Tensile Strength at Yield: ASTM D-638, 3,000 to less than 3,500 psi.
- E. Environmental Stress Crack Resistance (ESCR): ASTM D-1693 - Condition C, shall be in excess of 5,000 hrs with zero failure.

F. Hydrostatic Design Basis: ASTM D-2837, 1600 psi at 23°C.

2.2 HDPE Pipe

- A. High performance, high molecular weight, high density polyethylene pipe (type PE 3408 resin).
1. ASTM D-1248 (Type III, Class C, Category 5, P34).
 2. ASTM D-3350, minimum cell classification value 345434C.
 3. Standard dimension ratio: See Drawings.
 4. Marking: Intervals of 5 ft or less
 - a. Manufacturer's name or trademark.
 - b. Nominal pipe size.
 - c. Type of plastic resin (i.e., PE 3408).
 - d. Standard dimension ratio (i.e., SDR-17).
 - e. ASTM D-2513.
 - f. Extrusion date, period of manufacture or lot, or batch number.
- B. Dimensions:
1. Conform to standard dimensions and tolerances of ASTM D-2513.

2.3 HDPE Fittings

- A. Fittings from polyethylene compound having cell classification equal to or exceeding compound used in pipe to insure compatibility of polyethylene resins.
- B. Polyethylene fittings shall be molded for sizes 12-inch and smaller and shall be fabricated from polyethylene pipe for sizes 14-inch and larger by means of thermal butt-fusion. Extrusion welds on fittings will not be allowed. The ends of the fabricated fittings shall not be trimmed to match the pipe section to which they are going to be joined. All polyethylene fittings shall have the same or higher pressure rating as the pipe when installed in accordance with the latest technical specifications.
- C. Joints
1. Joints shall be thermal butt-fusion, except where connecting to unions, valves, and equipment with connections that may require future disassembly.
 2. No mechanical couplings shall be used unless shown on the Drawings.
 3. Extrusion welds will not be allowed.
- D. Flange Connections:
1. 150-lb carbon steel or convoluted epoxy coated ductile iron backup rings for flanged connections as recommended by manufacturer.
 2. Type 316 stainless steel hex head nuts and bolts, and accompanying flat washers.
 3. Viton full-face flange gaskets.

4. Flanges and bolt patterns consistent with ANSI B16.5/AWWA C207/ASTM A536, as recommended by manufacturer.
- E. Dimensions of fittings conform to standard dimensions and tolerances according to ASTM D-3261.
- F. Markings:
 1. Manufacturer's name or trademark.
 2. Nominal size.
 3. Type of plastic resin (i.e. PE 3408).
 4. Standard dimension ratio (i.e., SDR-17).
 5. ASTM D-2513.
 6. Extrusion date, lot number, or batch number.
- G. Pressure rating of fittings shall be equal to or greater than pressure rating of pipe.
- H. Branch saddle connections are strictly prohibited unless specified by the Construction Drawings or approved by the ENGINEER.

PART 3 - EXECUTION

3.1 Field Quality Control

- A. Pipe may be rejected for failure to conform to Specifications, or for:
 1. Fractures or cracks passing through pipe wall, except single crack not exceeding two (2) inches in length at either end of pipe which could be cut off and discarded. Pipes within one shipment will be rejected if defects exist in more than 5 percent of shipment or delivery.
 2. Cracks sufficient to impair strength, durability, or serviceability of pipe.
 3. Defects indicating improper proportioning, mixing, and molding.
 4. Damaged ends, where such damage would prevent making satisfactory joints.
- B. Acceptance of fittings, stubs, or other specifically fabricated pipe sections shall be based on visual observation by the ENGINEER at the Project site and documentation that they conform to these Specifications.

3.2 Installation

- A. General:
 1. Perform trenching and backfilling in accordance with Section 31 23 33 Trenching and Backfilling.
 2. Pipes and fittings shall be carefully lowered into trench to limit stress to pipes, fittings, and joints.

3. Pipe and fittings shall be installed so that there will be no deviation at the joints and so that inverts present a smooth surface. Pipe and fittings that do not fit together to form a tight fitting joint are not permitted.
 4. Pipes shall be installed at the locations and to the required lines and grades shown in the Construction Drawings and provided in these Specifications, using an approved method of control. The ENGINEER has the authority to order the removal or relaying of pipe laid contrary to the specifications, her/his instructions, or during her/his absence.
 5. Excavations shall be maintained free of water during the progress of the work. No pipes shall be laid in water nor shall there be any joints made up in water. All slides or cave-ins of the trenches or cuts shall be remedied to the satisfaction of the ENGINEER.
 6. Cleanliness of installed pipe and fitting interiors shall be maintained throughout the Work. Cap pipe sections longer than single joint on both ends during placement, except during fusing operations.
 7. All adjustments to the line and grade of pipe laid on earth foundation shall be done by scraping away or placing compacted fill under the barrel of the pipe, and not by blocking or wedging the pipe. In all cases, the trench under the joint shall be excavated to permit an even bearing surface for the barrel of the pipe.
 8. Fittings shall be installed as required and in accordance with the Construction Drawings and Specifications. The installation of fittings after the pipeline has been laid will not be permitted without written approval from the ENGINEER. In such cases, complete details pertaining to the proposed type of fittings and the installation procedure shall be submitted by the CONTRACTOR to the ENGINEER for review before approval will be considered.
 9. Approval by the ENGINEER is required prior to changing the location of any of the Project due to field conditions. Changes in pipe sizes are prohibited without a written consent from the ENGINEER.
 10. All installed pipe shall form completely connected systems, including connections to valves and appurtenances specified in other sections, to result in a satisfactorily operating installation.
- B. Heat Fusion of HDPE Piping:
1. HDPE pipe shall be joined by butt fusion methods, having a uniform and monolithic pipe interior according to the fusion joining procedures as instructed by the manufacturer, except within the structures, as shown in the Construction Drawings.
 2. Each individual performing fusion joining shall have at least one (1) year of experience and provide current certification in the use of the fusion procedure.
 3. Join pipe sections at ground level to a maximum length of 400 feet, or a length recommended by the manufacturer such that maximum allowable stress, when pulling the pipe into position alongside the trench, is not exceeded. Use appropriate materials and equipment, as recommended by the HDPE pipe

manufacturer, when pulling butt fused pipe sections alongside the trench to prevent pipe damage.

4. For summertime installations it may be necessary to provide a slightly longer length of HDPE pipe when connections are to be made between two fixed points or structures to compensate for contraction of the pipe in a cooler trench bottom. The additional pipe length requirements shall be in accordance with the HDPE pipe manufacturer's instructions.
 5. For cleaning pipe ends, solutions such as detergents and solvents, when required, shall be used in accordance with manufacturer's recommendations.
 6. Do not bend pipe to greater degree than minimum radius recommended by manufacturer for type and grade.
 7. Do not subject pipe to strains that will overstress or buckle pipe or impose excessive stress on joints.
 8. Before butt fusing pipe, each length shall be observed for presence of dirt, sand, mud, shavings, and other debris or animals. Remove all materials from the inside of the pipe.
 9. At end of each working day, cover open ends of fused pipe. Cap to prevent entry by animals or debris.
 10. Use compatible fusion techniques when polyethylene pipes of different melt indexes are fused together. Refer to manufacturer's specifications for compatible fusion.
- C. Flange Joining:
1. Use on flanged pipe connection sections.
 2. Connect slip-on backup flanges with nuts and bolts.
 3. Butt fuse flange adapters to pipe.
 4. Observe the following precautions when connecting flanged joints.
 - a. Align flanges or flange/valve connections to provide a tight seal. Viton full-face gaskets are required for flange/valve connections.
 - b. Place U.S. Standard round washers as may be required on some flanges per manufacturer's recommendations. Bolts shall be lubricated in accordance with manufacturer's recommendations.
 - c. Tighten flange bolts in sequence and in accordance with manufacturer's recommendations. CAUTION: Do not over-torque the bolts. CONTRACTOR shall be required to use a torque wrench to secure flanged connections.
 5. Pull bolt down by degrees to uniform torque in accordance with manufacturer's recommendations.

D. Pipe Placement:

1. Grade control equipment shall accurately maintain design grades and slopes during installation of pipe. Slope may not vary by more than 0.1 percent from the design slope.
2. Maximum lengths of fused pipe to be handled as one section shall be placed according to manufacturer's recommendations as to pipe size, pipe SDR, and topography so as to not cause excessive gouging or surface abrasion, but not to exceed 400 feet.
3. Notify ENGINEER prior to installing pipe into trench and allow time for ENGINEER's observation.
 - a. Correct irregularities found during inspection.
4. Complete connections within trench whenever possible to prevent overstressed connections.
5. Allow pipe sufficient time to adjust to trench temperature prior to any testing, segment connections, or backfilling activity.
6. Install reducers adjacent to laterals or tees.
7. Place in trench by allowing at least 12 inches per 100 feet for thermal contraction and expansion.
8. Install above ground piping in snaking alignment per Construction Drawings.
9. Coordinate construction of header lines near access roads with OWNER to limit interruptions to normal landfill operations.

3.3 Pipe Testing

- A. Test pipe sections in accordance with Section 01 45 23.13 - Testing Piping Systems.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. All HDPE piping shall be paid for on the installed linear foot basis. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 51 19.13
VERTICAL LANDFILL GAS EXTRACTION WELLS

PART 1 - GENERAL

1.1 Summary

- A. This section includes drilling and installation of Vertical Landfill Gas Extraction Wells.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- B. Section 33 51 23 - Landfill Gas Extraction Wellheads

1.3 Quality Assurance

- A. Vertical Landfill Gas Extraction Well CONTRACTOR Qualifications:
 - 1. CONTRACTOR, or its site foreman, shall have had previous experience with the installation of similar vertical landfill gas extraction wells.
 - 2. Well driller must possess a C-57 Well Drilling License, valid in the State of California.
 - 3. CONTRACTOR shall prepare final vertical landfill gas extraction well drilling logs and construction diagrams, and they shall be signed by a person of responsible charge. Field supervision of drilling, logging and installation activities shall be performed by trained, experienced personnel.

1.4 Vertical Landfill Gas Extraction Well Submittals

- A. CONTRACTOR shall submit one copy of the following Landfill Gas (LFG) Collection Well Data on a weekly basis, and upon completion of drilling.
 - 1. CONTRACTOR will provide copies of proposed detailed LFG Well installation procedures and material submittals for review and approval by the ENGINEER prior to initiation of well construction.
 - 2. Daily drilling report: During the drilling of the well, maintain daily drilling report that includes at a minimum, but not limited to:
 - a. Date;
 - b. Location;
 - c. Boring identification number;
 - d. Weather conditions;
 - e. Daily activities;
 - f. Equipment used;

- g. Drilling crew;
 - h. Time (rig time, down time, stand-by, etc.);
 - i. Footage drilled;
 - j. Materials used;
 - k. Well construction (materials used, type, quantity, etc.);
 - l. Air monitoring conducted and results; and
 - m. Relevant notations and verification of activities.
3. LFG Well Log: During the drilling of the well the CONTRACTOR will complete a well log report that includes at a minimum, but not limited to:
- a. Logger's Name;
 - b. Date Begun;
 - c. Date Completed;
 - d. Location;
 - e. Boring identification number;
 - f. Weather conditions;
 - g. Equipment used;
 - h. Drilling crew;
 - i. Time (time to depth, down time, stand-by, etc.);
 - j. Footage (total depth, well depth);
 - k. General descriptions of strata encountered;
 - l. Depth and thickness of intermediate covers/soil layers;
 - m. General soils descriptions, estimates of moisture content, notation of wet or saturated zones; and
 - n. Relevant notations and verification of activities.
4. LFG Well Installation Log: Upon completion of the well the CONTRACTOR will complete a well installation report that includes at a minimum, but not limited to:
- a. Installer's Name;
 - b. Date Begun;
 - c. Date Completed;
 - d. Location;
 - e. Boring identification number;
 - f. Equipment used;
 - g. Installation crew;
 - h. Time (time to depth, down time, stand-by, etc.);

- i. Footage (total depth, well depth);
 - j. Well construction materials used (materials used, type, dimensions, quantity, etc.);
 - k. Size and depth of pipe;
 - l. Length of perforated and solid casing;
 - m. Depth and type of gravel pack;
 - n. Depth and thickness of bentonite seal(s);
 - o. Depth and thickness of backfill materials(s);
 - p. Type and thickness of surface seal,
 - q. Casing elevation;
 - r. Air monitoring conducted and results; and
 - s. Relevant notations and verification of activities.
5. CONTRACTOR will provide copies of Driller's Reports, LFG Well Logs, and LFG Well Installation Logs for review and approval by the ENGINEER upon well construction.
 6. ENGINEER will review and confirm all CONTRACTOR submitted reports.

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and equipment to fabricate and install LFG recovery wells shall be as listed below:
 1. Well casing and fittings shall be 6-inch HDPE SDR-11 factory drilled 1/2-inch diameter perforated well casing with a 6-inch HDPE SDR-11 end cap. Solid pipe shall be installed to the depths shown on the Construction Drawings. CONTRACTOR shall supply temporary SCH 40 PVC end cap with lag screws or approved equal on top of the solid pipe in accordance with the Construction Drawings and Specifications.
 2. Well casing will be equipped with Energyneering Solutions well centralizer or approved equal every 20 feet
 3. Gravel shall be a well sorted washed and clean of fines 1"-2" river rock.
 4. Bentonite seal(s) shall be per the Construction Drawings using Baroid Benseal and CETCO Insta-Vis Plus Polyment or approved equals.
 - a. CONTRACTOR shall assume an application rate of eight (8) 50 pound bags of bentonite chips per foot.
 - b. Bentonite seals shall be hydrated at a minimum rate of 25 gallons of water per foot of bentonite.

5. Soil shall be of a fine material that has good compaction characteristics and shall conform to cover materials on-site or as designated in the Construction Drawings, and as approved by the OWNER or ENGINEER.
- B. Vertical Landfill Gas Extraction Well Design:
1. The CONTRACTOR shall install the vertical landfill gas extraction wells at the locations noted on the Construction Drawings and/or where staked in the field, or as approved by the OWNER or ENGINEER.
 2. The Vertical Landfill Gas Extraction Well boring will be as noted in the drawings. The drilled boring shall extend to a depth of no more than 15 feet of the bottom of refuse unless otherwise noted on the Construction Drawings. The CONTRACTOR shall be responsible for determining the final well depth with the ENGINEER based upon the available information at the time of drilling. In no instance will well bores be advanced and/or completed into the liner system of the landfill. Wells shall be constructed in accordance with the details shown on the Construction Drawings and as noted in the Specifications.

PART 3 - EXECUTION

3.1 Installation

- A. Vertical Landfill Gas Extraction Wells:
1. CONTRACTOR shall fabricate the well casings in accordance with the Construction Drawings and Specifications. The well casing shall be perforated in accordance with the Construction Drawings. Well casings shall be capped at the surface connection prior to installation of the wellhead to prevent gas from escaping and to prevent backfill material from entering the pipe.
 2. No pressure tests are required for the Vertical Landfill Gas Extraction Well casings.
 3. CONTRACTOR shall drill the Vertical Landfill Gas Extraction Well bores using an appropriate drilling unit capable of boring to the depths and diameters indicated in the Construction Drawings and Specifications. Drilling methods using liquids are prohibited. CONTRACTOR shall not perform any drilling until the ENGINEER has verified the location and elevation.
 4. The Vertical Landfill Gas Extraction Well boring will be as noted in the Construction Drawings. The drilled boring shall extend to a depth within 15 feet of the bottom of the refuse unless otherwise noted on the Construction Drawings. In no case shall the borings be advanced through the bottom of refuse of landfill liner system. Should the liner system be encountered during drilling, all drilling operations on that well shall cease and the ENGINEER shall be immediately notified. Final casing depths shall be adjusted at the completion of drilling to accommodate any deviation from specified depths.
 5. A steel safety grate or similar barrier shall be placed over the borehole at all times that drilling activities are not taking place. At no time are open well borings to be left uncovered and/or unattended.

6. Well casings shall be set and the annular space backfilled in accordance with Construction Drawings. Well casings shall be installed immediately after completion of the holes by lifting the casing with the drill rig cable hoist, in sections if required, and lower the casing into the hole. The casing shall be suspended at the surface and centered in the boring at all times during backfilling. Initial gravel backfilling operations shall be completed while the well casing is suspended at a minimum of one foot above the bottom of the hole. When the pipe is "supported" by the gravel in the hole, then the drill rig can be moved to the next location. Wells shall be completely backfilled with the designated amounts and levels of gravel, soil and bentonite. The bentonite shall be allowed to hydrate thoroughly prior to addition of clean backfill. Placement of backfill material in the boring shall be done in a manner to limit bridging of backfill in the borehole.
 7. No well boring shall remain unfinished at the end of the workday. At no time are open well borings to be left uncovered and/or unattended.
 8. All refuse removed from drilling operations must be removed and disposed of at the landfill working face at no cost to the CONTRACTOR. Litter that is blown away from the work area is the responsibility of the CONTRACTOR.
 9. CONTRACTOR shall be responsible for any grading, leveling, towing and/or restoration that may be necessary for movement of the drill rig on the landfill property.
 10. CONTRACTOR shall conduct air monitoring to confirm lack of surface emissions after completion of each well. If emissions are detected, rework cover soils and cover system and recomplete air monitoring until passing per the project documents.
- B. Any settlement shall be backfilled within 3 weeks after placement of backfill from the level of the subsidence to 6 inches above existing grade with the appropriate cover materials.
- C. If there is a drilling obstruction encountered in the landfill that, despite the best reasonable efforts of the CONTRACTOR, cannot be penetrated, the CONTRACTOR shall request relief from the ENGINEER from completion of the well. If an obstruction is encountered, the following tasks may be completed depending on the depth encountered.
1. The hole shall be abandoned. The CONTRACTOR shall backfill the well to the predrilled condition. The CONTRACTOR shall be compensated for the drilling and backfilling of the well, but not its completion.
 2. The well shall be accepted at the obstructed depth. The well shall be completed at this new depth. Compensation shall be for the modified footage of the well.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 51 23

VERTICAL LANDFILL GAS EXTRACTION WELLHEADS

PART 1 - GENERAL

1.1 Summary

- A. This section includes the installation of Vertical Landfill Gas Extraction Wellheads.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- B. Section 33 51 19.13 - Vertical Landfill Gas Extraction Wells.

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and Equipment to fabricate and install Vertical Landfill Gas Extraction Wellheads shall be as listed below and as shown on the Construction Drawings:
 - 1. 2-inch Vertical Wellhead Assembly (QED Environmental Systems, Model ORP215M).
 - 2. 2-inch hose (Solarguard Flex Hose), 100-foot roll (Model 40946).
 - 3. 6-inch by 2-inch QED well cap (Model GWC62).
 - 4. 6-inch by 2-inch Fernco flexseal coupling (Model 1056-62).
 - 5. 2-inch Fernco flexseal coupling (Model 1056-215).
 - 6. QED High Strength stainless steel hose clamps for Solarguard Flex Hose, Flex Hose band kit (Model 40979).
 - 7. 1/8-inch flow, 1/4-inch National pipe Thread (NPT) quick disconnect tubes.
 - 8. QED Orifice plate kit (Model 40640).

PART 3 - EXECUTION

3.1 Installation

- A. Landfill Gas Extraction Wellheads:
 - 1. Remove temporary cap from previously installed collectors.
 - 2. Install 6-inch by 2-inch Fernco Flexseal coupling or approved equal.
 - 3. Install wellhead according to Manufacturer's Specifications.
 - 4. Install 2-inch hose using stainless steel clamps.
 - 5. Install HDPE reducing fittings to connect well to lateral riser.

6. The wellhead shall be installed at a manageable elevation (approximately four feet above existing grade) to support maintenance and monitoring operations.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 53 10
HORIZONTAL LANDFILL GAS COLLECTORS

PART 1 - GENERAL

1.1 Summary

- A. This section includes trenching and installation of Horizontal Landfill Gas Collectors.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 31 23 16 - Excavation
- B. Section 31 23 33 - Trenching and Backfilling
- C. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- D. Section 33 53 23 - Horizontal Landfill Gas Collector Wellheads

1.3 Quality Assurance

- A. Horizontal Landfill Gas Collector CONTRACTOR Qualifications:
 - 1. CONTRACTOR, or its site foreman, shall have had previous experience with the installation of similar horizontal landfill gas collectors.

1.4 Horizontal Landfill Gas Collector Submittals

- A. CONTRACTOR shall submit one copy of the following Landfill Gas (LFG) Collector Data on a weekly basis, and upon completion of each of the horizontal collectors.
 - 1. Horizontal LFG Collector Log: During the trenching of the horizontal collector the CONTRACTOR will complete a collector trenching report that includes at a minimum, but not limited to:
 - a. Date Begun;
 - b. Date Completed;
 - c. Location;
 - d. Collector identification number;
 - e. Weather conditions;
 - f. Equipment used;
 - g. Footage (total length, width, and depth);
 - h. General descriptions of strata encountered;
 - i. Depth and thickness of intermediate covers/soil layers;
 - j. General soils descriptions, estimates of moisture content, notation of wet or saturated zones;

- k. Horizontal collector construction (materials used, type, etc.);
 - l. Length of perforated and solid casing;
 - m. Backfill materials placement (type, depth, thicknesses, etc.);
 - n. Air monitoring conducted and results; and
 - o. Relevant notations and record of activities.
2. CONTRACTOR will provide copies of Horizontal LFG Collector Log for review and approval by the OWNER or ENGINEER upon collector construction.
 3. ENGINEER will review and confirm all CONTRACTOR submitted reports.

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and equipment to fabricate and install LFG recovery collectors shall be as listed below:
 1. Well casing shall consist of both 6-inch HDPE SDR-11 factory drilled ½-inch diameter perforated pipe and 6-inch HDPE SDR-11 solid pipe as shown on the Construction Drawings. Piping shall be installed to the depths shown on the Construction Drawings. CONTRACTOR shall install a horizontal stub out with a 6-inch PVC blind flange in accordance with the Construction Drawings and Specifications.
 2. Gravel shall be a well sorted non-calcareous ¾-inch crushed rock or gravel.
 3. Bentonite seal(s) shall be per the Construction Drawings using Baroid Benseal and CETCO Insta-Vis Plus polymer or approved equal.
 - a. CONTRACTOR shall assume an application rate of eight (8) 50 pound bags of bentonite chips per foot.
 - b. Bentonite seals shall be hydrated at a minimum rate of 25 gallons of water per foot of bentonite.
 4. Soil shall be of a fine material that has good compaction characteristics and shall conform to cover materials on-site or as designated in the Construction Drawings, and as approved by ENGINEER.
 5. A 16-ounce SY non-woven geotextile shall be per the Construction Drawings cut into the length of the rock plus bentonite.
- B. Horizontal Landfill Gas Collector Design:
 1. The CONTRACTOR shall install the horizontal landfill gas collectors at the locations noted on the Construction Drawings and/or where staked in the field, or as approved by the ENGINEER.
 2. The Horizontal Landfill Gas Collector trench will be as noted in the drawings. Collectors shall be constructed in accordance with the details shown on the Construction Drawings and as noted in the Specifications.

PART 3 - EXECUTION

3.1 Installation

A. Horizontal Landfill Gas Collectors:

1. CONTRACTOR shall fabricate the well casings in accordance with the Construction Drawings and Specifications. The well casing shall be perforated in accordance with the Details and Specifications. Well casings shall be capped at the surface connection prior to installation of the wellhead to prevent gas from escaping and to prevent backfill material from entering the pipe.
 2. No pressure tests are required for the Horizontal Landfill Gas Collector casings.
 3. CONTRACTOR shall excavate the Horizontal Landfill Gas Collector trenches using an appropriate excavating unit capable of excavating to the lengths and widths indicated in the Construction Drawings and Specifications. CONTRACTOR shall not perform any excavating unless the ENGINEER has verified the location and elevation.
 4. The Horizontal Landfill Gas Collector trench will be as noted in the Construction Drawings. Excavate to the lines and grades shown on the drawings.
 5. At no time are open collector trenches to be left uncovered and/or unattended.
 6. Well casings shall be set and the annular space backfilled in accordance with Construction Drawings and Specifications. Well casings shall be installed immediately after completion of the trench by lifting the casing with the excavator, in sections if required, and lower the casing into the trench. The casing shall be placed onto the bed of gravel and centered in the trench at all times during backfilling. Collector trenches shall be completely backfilled with the designated amounts and levels of gravel, soil and bentonite. The bentonite shall be allowed to hydrate thoroughly prior to addition of clean backfill. Placement of backfill material in the trench shall be done in a manner to limit bridging of backfill in the trench.
 7. No collector trench shall remain unfinished at the end of the workday. At no time are open collector trenches to be left uncovered and/or unattended.
 8. All refuse removed from excavating operations must be removed and disposed of at the landfill working face at no cost to the CONTRACTOR. Litter that is blown away from the work area is the responsibility of the CONTRACTOR.
 9. CONTRACTOR shall conduct air monitoring to confirm lack of surface emissions after completion of each collector. If emissions are detected, rework cover soils and cover system and recomplete air monitoring until passing per the project documents.
- B. Any settlement shall be backfilled within 3 weeks after placement of backfill from the level of the subsidence to 6 inches above existing grade with the appropriate cover materials.

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 53 23

HORIZONTAL LANDFILL GAS COLLECTOR WELLHEADS

PART 1 - GENERAL

1.1 Summary

- A. This section includes the installation of Horizontal Landfill Gas Collector Wellheads.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- B. Section 33 53 10 - Horizontal Landfill Gas Collectors

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and Equipment to fabricate and install QED Horizontal Landfill Gas Collector Wellheads shall be as listed below and as shown on the Construction Drawings:
 - 1. 2-inch Horizontal Wellhead Assembly (QED Environmental Systems, Model ORP215MHL).
 - 2. 2-inch hose (Solarguard Flex Hose), 100-foot roll (Model 40946).
 - 3. 6-inch to 4-inch HDPE SDR-11 concentric reducer fitting.
 - 4. 4-inch to 2-inch HDPE SDR-11 concentric reducer fitting.
 - 5. 2-inch Fernco flexseal coupling (Model 1056-215).
 - 6. QED High strength stainless steel hose bands for Solarguard Flex Hose (Model 40979).
 - 7. 1/8-inch flow 1/4-inch National Pipe Thread (NPT) quick-disconnect tube coupling.
 - 8. QED Orifice plate kit (Model 40690)

PART 3 - EXECUTION

3.1 Installation

- A. Horizontal Landfill Gas Collector Wellheads:
 - 1. Assemble wellhead as shown on the Construction Drawings.
 - 2. Remove temporary cap from previously installed horizontal collector.
 - 3. Install the 6-inch to 4-inch and 4-inch to 2-inch reducer fittings.

4. Connect the orifice plate end of the wellhead to the reducer fittings on the horizontal collector with the 2-inch Fernco adapter fitting.
5. Install 2-inch hose using stainless steel clamps on the end of the wellhead to be connected to the lateral.
6. The wellhead shall be installed at the ground surface elevation to support maintenance and monitoring operations.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Horizontal Landfill Gas Collector Wellheads will be paid by the total quantity installed and shall include all items described in the specification and shown on the Construction Drawings. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 44 42 53
LANDFILL GAS CONDENSATE SUMP

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall furnish all labor, materials, tools, supervision, transportation, equipment and incidentals necessary to install a condensate liquid sump and automatic electrical pump system as shown on the Construction Drawings and as needed for a complete and proper operation.
- B. The work shall be carried out in accordance with these Specifications and with the Construction Drawings.

1.2 Related Sections

- A. Section 31 23 33 - Trenching and Backfilling
- B. Section 33 51 16.13 - High Density Polyethylene (HDPE) Landfill Piping

1.3 Submittal

- A. Product Data: The CONTRACTOR shall submit
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications, catalog cuts, and other data needed to prove compliance with the specified requirements.
 - 3. Manufacturer's pressure test results.
 - 4. Manufacturer's recommended installation procedures which, when approved by the ENGINEER, will become the basis for accepting or rejecting actual installation procedures used on the Work.
 - 5. Manufacturer's operations and maintenance guidelines including startup procedures.
- B. If materials proposed to be provided under this Section are shipped prior to ENGINEER's conditional approval or approval, it will be at the CONTRACTOR's risk.

PART 2 - PRODUCTS

2.1 Condensate Sump

- A. The landfill gas condensate sump shall be a Real Environmental Products 7000-I-24/36 DC Auto-Sump with a Viridian America VP4-BL submersible pneumatic pump.
- B. The landfill gas condensate sump shall be a 24-inch diameter condensate liquid

sump. The sump shall be a welded single walled, liquid and gas tight assembly constructed from high-density polyethylene (HDPE) pipe, SDR-17. The sump shall have a 36-inch diameter HDPE pipe, SDR-17 secondary containment. Thicker HDPE wall thicknesses are acceptable.

- C. The sump shall be designed to withstand vacuum of 80 Inches of Water Column and be pressure tested by the manufacturer prior to delivery.
- D. The sump shall have a 6-inch deep solids settling area. The sump shall include an isolation well through which the pump will be installed for solids separation.
- E. The sump shall drain correctly and continuously maintain a clear LFG header under a header vacuum application of 80 inches water column (in. w.c.).

2.2 Vault

- A. All operating components of the condensate pump and control assembly shall be located in a concrete vault with spring-assisted cover.
- B. Service connections, including the liquid discharge, and pressure balance line, shall be stainless steel hydraulic quick connects and shall be bulkhead mounted through a standard quick release cap on top of the sump, and through a common wall of the vault.

2.3 Connections

- A. The sump shall have the following connection sizes and types:

<u>Service</u>	<u>Size Connection</u>	<u>Furnished Supplied Connection</u>
Condensate Discharge	¾ inch	FNPT
Air Inlet	½ inch	FNPT
Balance Line	½ inch	FNPT

- B. The condensate discharge line and header equalization pipe inside the sump shall be constructed of SDR-11 HDPE.
- C. The condensate discharge line and header equalization pipe inside the sump shall include Type 316 stainless steel or HDPE isolation valves.
- D. The condensate discharge line shall include a stainless steel Type 304 check valve to prevent liquid back flow to the sump.

2.4 Liquid Pump

- A. An integral, pneumatic submersible pump (Viridian America VP4-BL) shall be

- included as part of the landfill gas condensate sump and shall be used to transfer LFG condensate from the sump.
- B. Provide only equipment that is new, and of the type and quality specified.
 - C. The pump shall be rated for service in harsh and explosive environments.

PART 3 - EXECUTION

3.1 Source Quality Control

- A. Bubble test pump at 10 pounds per square inch (psi) for 30 minutes in a tank operated by control panel.

3.2 Installation

- A. Landfill gas condensate sump shall be installed by a qualified trained installer in accordance with the manufacturer's recommendations.

3.3 Warranty

- A. Sump pump, control panel and accessories installed as a complete system shall be warranted for a period of 30 months from date of manufacturer.
- B. Manufacturer to submit warranty with any required "as built shop drawings" and Operation and Maintenance Manuals.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

Project Details



Facility # C-3115
AMERICAN AVENUE LANDFILL
2220 TULARE ST, 6TH FLOOR
ATTN: RESOURCES MANAGER
FRESNO, CA 93721

Notice of Permit Issuance

The enclosed permit unit requirements authorize the operation of the equipment as described. These permit unit requirements supersede any and all previous permits for the specified equipment.* Please insert these documents into the Facility Permit to Operate, and post copies on or near the equipment as required by District Rule 2010.

Please contact any of our Small Business Assistance (SBA) staff at the numbers below if you have any questions:

Modesto:	(209) 557-6446
Fresno:	(559) 230-5888
Bakersfield:	(661) 392-5665

*Failure to comply with the permit unit requirements may result in enforcement action.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



Permit to Operate

FACILITY: C-3115

EXPIRATION DATE: 07/31/2021

LEGAL OWNER OR OPERATOR:
MAILING ADDRESS:

AMERICAN AVENUE LANDFILL
2220 TULARE ST, 6TH FLOOR
ATTN: RESOURCES MANAGER
FRESNO, CA 93721

FACILITY LOCATION:

18950 W AMERICAN AVE
KERMAN, CA

FACILITY DESCRIPTION:

LANDFILL (EG SOURCE)

The Facility's Permit to Operate may include Facility-wide Requirements as well as requirements that apply to specific permit units.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require prior District approval. This permit shall be posted as prescribed in District Rule 2010.

Seyed Sadredin
Executive Director / APCO

Arnaud Marjollet
Director of Permit Services

San Joaquin Valley Air Pollution Control District

FACILITY: C-3115-0-3

EXPIRATION DATE: 07/31/2021

FACILITY-WIDE REQUIREMENTS

1. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100] Federally Enforceable Through Title V Permit
2. The District shall be notified in writing within ten days following the correction of any breakdown condition.. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100] Federally Enforceable Through Title V Permit
3. The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160] Federally Enforceable Through Title V Permit
4. Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rules 2010 and 2020] Federally Enforceable Through Title V Permit
5. The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 2080 and 2520] Federally Enforceable Through Title V Permit
6. A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. Every application for a permit required under Rule 2010 (12/17/92) (Permits Required) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
8. The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520] Federally Enforceable Through Title V Permit
9. The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520] Federally Enforceable Through Title V Permit
10. The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: AMERICAN AVENUE LANDFILL
Location: 18950 W AMERICAN AVE, KERMAN, CA
C-3115-0-3 Jun 23 2016 10 41AM - LOWELES

11. Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520(6/21/01). [District Rules 2520 and 1100] Federally Enforceable Through Title V Permit
12. If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520] Federally Enforceable Through Title V Permit
13. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
14. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520] Federally Enforceable Through Title V Permit
15. The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520] Federally Enforceable Through Title V Permit
16. The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520] Federally Enforceable Through Title V Permit
17. The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520] Federally Enforceable Through Title V Permit
18. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
19. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
20. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
21. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
22. No air contaminants shall be discharged into the atmosphere from any source operation (as defined in District Rule 1020) for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (2/17/05), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

23. No person shall supply, sell, solicit or apply any architectural coating, except specialty coatings, that contains more than 250 grams of VOC per liter of coating (less water and exempt compounds, and excluding any colorant added to tint bases), or manufacture, blend, or repackage such coating with more than 250 grams of VOC per liter (less water and exempt compounds, and excluding any colorant added to tint bases) for use within the District, unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
24. No person shall apply, sell, solicit, or offer for sale any specialty architectural coating listed in the Table of Standards (District Rule 4601, Table 1 (12/17/09)), nor manufacture, blend, or repackage such coating for use within the District, which contains VOCs (less water and exempt compounds, excluding any colorant added to tint bases) in excess of the specified limits listed in Table 1 of Rule 4601 (12/17/09), unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
25. All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired, unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
26. A person shall not use VOCs for the cleanup of spray equipment unless equipment for collection of the cleaning compounds and minimizing its evaporation to the atmosphere is used, unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
27. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.2 (12/17/09), unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
28. With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520] Federally Enforceable Through Title V Permit
29. If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
30. If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit
31. Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8021 and 8011] Federally Enforceable Through Title V Permit
32. Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8031 and 8011] Federally Enforceable Through Title V Permit
33. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8041 and 8011] Federally Enforceable Through Title V Permit
34. Whenever open areas are disturbed or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/04) or Rule 8011 (8/19/04) [District Rule 8051 and 8011] Federally Enforceable Through Title V Permit
35. Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8061 and 8011] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

36. Any unpaved vehicle/equipment area that anticipates more than 75 vehicle trips per day shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 100 vehicle trips per day shall comply with the requirements of Section 5.1.2 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/04) or Rule 8011 (8/19/04). [District Rule 8071 and 8011] Federally Enforceable Through Title V Permit
37. Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit
38. The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520] Federally Enforceable Through Title V Permit
39. Any Title V permittee shall submit an application permit renewal to the District at least six months, but not greater than 18 months, prior to the Title V permit expiration date. [District Rule 2520] Federally Enforceable Through Title V Permit
40. When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permit shall apply. [District Rule 2520] Federally Enforceable Through Title V Permit
41. The reporting periods for the Report of Required Monitoring and the Compliance Certification Report begin July 1 of every year, unless alternative dates are approved by the District Compliance Division. These reports are due within 30 days after the end of the reporting period. [District Rule 2520] Federally Enforceable Through Title V Permit
42. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-3115-2-14

EXPIRATION DATE: 07/31/2021

EQUIPMENT DESCRIPTION:

44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY ONE 51 MMBTU/HR AND ONE 99 MMBTU/HR ENCLOSED GROUND FLARE USING AN LPG PILOT

PERMIT UNIT REQUIREMENTS

1. Annual amount of soil used for covering shall not exceed 5,920,933 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for covering. [District Rule 2201] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201 and 40 CFR Part 60.752(b)(2)(iii)(B)(2) and (b)(2)(iv), and 62.14353(b)] Federally Enforceable Through Title V Permit
3. All equipment shall be constructed, calibrated, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201 and 40 CFR 60.755(d), 60.756(b), 62.14354(b) and 40 CFR part 64] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged from the flare into the atmosphere for a period or periods aggregating more than five minutes in any two hours which is as dark as, or darker than, Ringelmann 1/4 or 5% opacity. [40 CFR 60.18(c)(1)] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide). [District Rule 4301] Federally Enforceable Through Title V Permit
6. Landfill gas condensate can be injected into the enclosed flares. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The enclosed flares shall be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201 and 17 CCR 95464] Federally Enforceable Through Title V Permit
8. VOC emissions from this landfill operation controlled with the 51 MMBtu/hr and 99 MMBtu/hr enclosed flares shall not exceed 804.3 lb/day (includes landfill fugitive, flare landfill gas, flare pilot, and flare condensate emissions). [District Rule 2201] Federally Enforceable Through Title V Permit
9. The enclosed flares shall either reduce VOC by 98 weight percent or reduce the outlet VOC concentration to less than 20 parts per million by volume, dry basis as methane at 3 percent oxygen. [District Rules 2201 and 4102, and 40 CFR 60.752(b)(2)(iii)(B) and 62.14353(b)] Federally Enforceable Through Title V Permit
10. The methane destruction efficiency for the enclosed flares shall be at least 99% by weight. [17 CCR 95464]
11. The landfill gas consumption rate for the 51 MMBtu/hr enclosed flare shall not exceed 51 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

12. The landfill gas consumption rate for the 99 MMBtu/hr enclosed flare shall not exceed 99 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201] Federally Enforceable Through Title V Permit
13. Emissions from the 51 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.05 lb-NO_x/MMBtu; 0.0178 lb-SO_x/MMBtu (46.9 ppmv of H₂S in fuel); 0.2 lb-CO/MMBtu; or 0.008 lb-PM₁₀/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions from the 99 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.057 lb-NO_x/MMBtu; 0.0178 lb-SO_x/MMBtu (46.9 ppmv of H₂S in fuel); 0.110 lb-CO/MMBtu; or 0.008 lb-PM₁₀/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Landfill design capacity shall not exceed 44.4 million cubic yards, or 367 acres, of solid waste. Annual amount of refuse received shall not exceed 1,300,000 ton/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The enclosed flares shall be equipped with an LPG fired pilot. [40 CFR 60.18(c)(2) and (f)(2)] Federally Enforceable Through Title V Permit
17. Emissions from the flare LPG-fired pilot shall not exceed any of the following limits: 0.15 lb-NO_x/MMBtu, 0.0164 lb-SO_x/MMBtu, 0.0044 lb-PM₁₀/MMBtu, 0.021 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081] Federally Enforceable Through Title V Permit
19. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days after testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing to demonstrate compliance with VOC, NO_x, and CO emission limits and VOC control efficiency requirements shall be conducted at least once every 12 months for each flare. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Source testing for NO_x shall be conducted using EPA Test Method 7E or CARB Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing for CO shall be conducted using EPA Test Method 10 or 10B, CARB Methods 1-5 with 10 or CARB Test Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Gas combusted in the flares shall be tested for H₂S content on a quarterly basis using Draeger tubes. If compliance is shown for two consecutive quarters, the testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081] Federally Enforceable Through Title V Permit
24. VOC emissions shall be measured by USEPA Test Method 18, 25, 25A, or 25C. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit
25. The enclosed flares shall be equipped with a temperature indicator and recorder which measures and records the operating temperature. The temperature indicator and recorder must operate continuously. [40 CFR 60.756(b)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
26. The enclosed flare control devices shall be operated within the parameter ranges established during the initial or most recent performance test. [40 CFR 60.752(b)(2)(iii)(B)(2) and 62.14353(b) and 17 CCR 95464] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

27. Except during periods of startup, shutdown, and malfunction, the permittee shall continuously monitor and record combustion chamber temperature. The enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Upon detecting any temperature excursion lower than 28 degree C (50 degree F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), 62.14354(b), and 40 CFR part 64] Federally Enforceable Through Title V Permit
28. The owner or operator shall measure the gauge pressure in the gas collection header at each individual interior well on a monthly basis as provided in 60.755(a)(3). If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.755(a)(3), 60.756(a)(1), and 62.14354(b)] Federally Enforceable Through Title V Permit
29. The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)] Federally Enforceable Through Title V Permit
30. The operator shall record quarterly the surface emission tests including test time, weather conditions, precipitation records, areas sampled, calibration records, and test results. Corrective action shall be taken if required in accordance to 40 CFR 60.755(c). [District Rule 2201, 40 CFR 60.755(c), 60.756(f), and 62.14354(b)] Federally Enforceable Through Title V Permit
31. Permittee shall maintain continuous records of flare combustion temperature and volumetric gas flow rate. Permittee shall record and test the net heating value of landfill gas being combusted at least annually using ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201 and 40 CFR 60.756(b), 60.758(b)(2)(i), (c)(2) and (b)(2)(i), and 62.14354(b)] Federally Enforceable Through Title V Permit
32. Permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. [40 CFR 60.758(d) and 60.34(c)] Federally Enforceable Through Title V Permit
33. The operator shall record emission control device source tests including VOC destruction/treatment efficiency and emissions of CO, NOx, and SOx, in pounds per MMBtu heat input. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Records of the weight of materials received (tons) of Class II/III waste material shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
35. This operating permit may be cancelled upon District approval when the landfill is closed, is not otherwise subject to the requirements of 40 CFR part 70 or part 71, and if the landfill meets the conditions for control system removal specified in 40 CFR 60.752(b)(2)(v). [40 CFR 62.14352(f)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

36. An active collection system shall be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment, collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade, collect gas at a sufficient extraction rate, and be designed to minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A) and 62.14353(b)] Federally Enforceable Through Title V Permit
37. If the landfill is permanently closed, a closure notification shall be submitted to the APCO within 30 days of waste disposal cessation. A permanent closure must take place in accordance with 40 CFR 258.60. If a closure report has been submitted, no additional waste may be placed in the landfill without filing a notification of modification to the APCO, pursuant to 40 CFR 60.7(a)(4). [40 CFR 60.752(b)(1)(ii)(B), 60.757(d), and 62.14354(b)] Federally Enforceable Through Title V Permit
38. For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, owner or operator must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 62 subpart GGG, these alternatives can be used to comply with 40 CFR 63 subpart AAAA, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in subpart A of 40 CFR 63 as specified in Table 1 of 40 CFR 63 subpart AAAA and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6 month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average. [40 CFR 60.752(b)(2) and 63.1955(c)] Federally Enforceable Through Title V Permit
39. Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 60.757(f)(1); (2) At a wellhead within the immediate vicinity of filling; (3) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan; (4) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the APCO. [40 CFR 60.753(b) and 62.14354(b) and 17 CCR 95464, 17 CCR 95468] Federally Enforceable Through Title V Permit
40. Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 60.755(c)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
41. Compliance with the surface methane operational standard shall be demonstrated using the procedures outlined in 40 CFR 60.755(c) within 180 days of installation and startup of the collection and control system and quarterly thereafter. [40 CFR 60.753(d), 60.755(c), 62.14354(b), and 60.8] Federally Enforceable Through Title V Permit
42. Permittee shall operate the enclosed flares at all times when the collected gas is routed to it. [40 CFR 60.753(f) and 62.14354(b)] Federally Enforceable Through Title V Permit
43. Permittee shall operate the landfill gas collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: (1) five years or more if active; or (2) two years or more if closed or at final grade. [40 CFR 60.753(a) and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

44. Permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 C and with oxygen level less than 5 percent except under the following conditions: (1) A fire or increased well temperature; or (2) at a wellhead within the immediate vicinity of filling. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decompositions by killing methanogens. [40 CFR 60.753(c) and 62.14354(b)] Federally Enforceable Through Title V Permit
45. The collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill, and such that all collected gases are sent to a control system designed and operated in compliance with 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(d), (e), 60.755(c), and 62.14354(b)] Federally Enforceable Through Title V Permit
46. If monitoring demonstrates that the operational requirements are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3 - 5) or (c). [40 CFR 60.753(g) and 62.14354(b)] Federally Enforceable Through Title V Permit
47. For each interior wellhead, unless an alternative test method is established as allowed by 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by a Landtec GEM gas meter or equal, in accordance with the equipment requirements set forth in 40 CFR 60.753 for field measurement of temperature and oxygen or an oxygen meter using Method 3A or 3C except that: (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; (ii) A data recorder is not required; (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; (iv) A calibration error check is not required; (v) The allowable sample bias, zero drift, and calibration drift are +/-10 percent. [40 CFR 60.753(c)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
48. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i-v) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 60.753(d). [40 CFR 60.755(c)(3), (4) and 62.14354(b)] Federally Enforceable Through Title V Permit
49. Permittee shall calculate the NMOC emission rate for purposes of determining when the collection and control system can be removed as provided in 40 CFR 60.752(b)(2)(v) by using the equation found in 40 CFR 60.754(b). [40 CFR 60.754(b) and 62.14354(b)] Federally Enforceable Through Title V Permit
50. For the performance test required in 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A must be used to determine compliance with the 98 weight percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the APCO as provided by 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency: $(\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / \text{NMOC}_{\text{in}}$. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit
51. Each owner or operator shall place each well or design component as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more if active or 2) 2 years or more if closed or at final grade. [40 CFR 60.755(b) and 62.14354(b)] Federally Enforceable Through Title V Permit
52. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 60.752(b)(2)(ii)(A)(1), one of the equations in Section 60.755(a)(1)(i) or (ii) or (iii) shall be used. [40 CFR 60.755(a)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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53. For the purposes of determining sufficient density of gas collectors for compliance with 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the APCO, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
54. Owners or operators are not required to expand the system as required in paragraph 60.755(a)(3) during the first 180 days after gas collection system startup. [40 CFR 60.755(a)(4) and 62.14354(b)] Federally Enforceable Through Title V Permit
55. The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e) and 62.14354(b)] Federally Enforceable Through Title V Permit
56. Surface monitoring shall be performed on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [40 CFR 60.755(c)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
57. When performing surface monitoring, the background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR 60.755(c)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
58. Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [40 CFR 60.755(c)(5) and 40 CFR 62.14354(b)] Federally Enforceable Through Title V Permit
59. The portable analyzer shall meet the instrument specifications of Method 21, section 3 (except that "methane" shall replace all references to VOC). The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. To meet the performance evaluation requirements of Method 21, section 3.1.3, the instrument evaluation procedures of Method 21, section 4.4 shall be used. The calibration procedures provided in Method 21, section 4.2 shall be followed immediately before commencing a surface monitoring survey. The provisions of this condition apply at all times, except during periods of start-up, shutdown, or malfunction which shall not exceed 5 days for collections systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(d), (e) and 62.14354(b)] Federally Enforceable Through Title V Permit
60. Each wellhead shall have a sampling port and a thermometer, other temperature-measuring device, or an access port for temperature measurements. [40 CFR 60.756(a)] Federally Enforceable Through Title V Permit
61. The enclosed flares shall be equipped with a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. The temperature indicator and recorder must operate continuously. [District Rule 2201 and 40 CFR 60.756(b)(1) and 62.14354(b) and 40 CFR part 64] Federally Enforceable Through Title V Permit
62. The owner/operator shall install, calibrate, maintain, and operate a meter with a continuous recording device that measures and records the landfill gas flow rate into the flare at least once every 15 minutes. This meter shall also be capable of measuring the landfill gas flow rate that might bypass the flare in the event of equipment malfunction or maintenance. [40 CFR 60.754(b)(1), 60.756(b)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
63. When performing surface monitoring, any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. [40 CFR 60.756(f) and 62.14354(b)] Federally Enforceable Through Title V Permit
64. The operator shall monitor and record maintenance-related and other control system downtimes and individual well shutdowns. Exceedances defined under 60.758(c) shall be reported once every 180 days. [District Rule 4102 and 40 CFR 60.757(f), (g)(4) and 60.758(c) and (e), and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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65. Except as provided in 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs 60.758(b)(1) through (b)(4) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR 60.758(b) and 62.14354(b)] Federally Enforceable Through Title V Permit
66. Permittee shall keep the following records: (1)(i) the maximum expected gas generation flow rate as calculated in 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the APCO; (ii) the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 60.759(a)(1); (2)(i) the average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; (ii) the percent reduction of NMOC determined as specified in 60.752(b)(2)(iii)(B) achieved by the control device. [40 CFR 60.758(b)(1) and (2) and 62.14354(b)] Federally Enforceable Through Title V Permit
67. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. If applicable, permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as well as any nonproductive areas excluded from collection. [40 CFR 60.758(d), 62.14354(b), and 60.34(c)] Federally Enforceable Through Title V Permit
68. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e)] Federally Enforceable Through Title V Permit
69. The landfill is no longer required to comply with the requirements of 40 CFR Part 63 Subpart AAAA when it is no longer required to apply controls as specified in the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc. [40 CFR 63.1950] Federally Enforceable Through Title V Permit
70. The permittee shall comply with the general provisions specified in Table 1 of 40 CFR Part 63 Subpart AAAA and 63.1960 through 63.1985 starting on the date required to install the gas collection and control system. [40 CFR 63.1955(b)] Federally Enforceable Through Title V Permit
71. The permittee shall maintain a copy of the SSM plan written according to the provisions in 40 CFR 63.6(e)(3). Failure to maintain a copy of the SSM plan is a deviation from the requirements of this subpart. [40 CFR 63.1960] Federally Enforceable Through Title V Permit
72. The permittee shall keep records and reports as specified in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc. The annual report described in 40 CFR 60.757(f) must be submitted every 6 months. [40 CFR 63.1980(a)] Federally Enforceable Through Title V Permit
73. The permittee shall maintain records as specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports. [40 CFR 63.1980(b)] Federally Enforceable Through Title V Permit
74. The enclosed flare burner and its associated components and the vapor collection system shall be inspected on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR part 64] Federally Enforceable Through Title V Permit
75. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
76. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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77. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit
78. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and 40 CFR 60.758(a) and (b) and 62.14354(b)] Federally Enforceable Through Title V Permit
79. Permittee may use actual landfill gas generation values in future expansion designs of the gas collection and control system(GCCS). All records and recovery data shall be submitted with GCCS plans. [17 CCR 95468]
80. Landfill collection and control system must be operated such that methane emission from the landfill do not exceed instantaneous or integrated limit requirements. [17 CCR 95464]
81. Landfill gas collection system components downstream of blower have a leak limit of 500 ppmv as methane. Components must be checked quarterly. If compliance with the methane limit has been demonstrated for 4 consecutive quarters, then the component checking frequency shall be annually. If an annual test fails to show compliance, quarterly testing shall resume. [17 CCR 95464]
82. Landfill collection and control system must be operated such that landfill surface methane emissions shall not exceed instantaneous surface emission limit of 500 ppmv as methane or integrated surface emission limit of 25 ppmv as methane. [17 CCR 95464, 17 CCR 95465]
83. Instantaneous and integrated landfill surface emissions measurements shall be done quarterly. The landfill may monitor annually provided they comply with requirements of 17 CCR 95469 (a)(1). [17 CCR 95469]
84. Permittee shall keep records of all gas collection system downtime exceeding five days, including individual well shutdown and disconnection times and the reason for downtime. [17 CCR 95470]
85. Permittee shall keep records of all gas control system downtime in excess of one hour, the reason for the downtime and the length of time the gas control system was shutdown. [17 CCR 95470]
86. Permittee shall keep records of the expected gas generation flow rate calculated pursuant to section 95471(e). [17 CCR 95470]
87. Permittee shall keep records of all instantaneous surface readings of 200 ppmv or greater; all exceedances of the limits in sections 95464(b)(1)(B) or 95465, including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, and wind speed during surface sampling; and the installation date and location of each well installed as part of a gas collection system expansion. [17 CCR 95470]
88. Permittee shall keep records of any positive wellhead gauge pressure measurements, the date of the measurements, the well identification number, and the corrective action taken. [17 CCR 95470]
89. Permittee shall conduct surface emission monitoring using either the procedures specified in section 95471 or the Los Angeles County Sanitation District monitoring procedure. Permittee shall keep records of which procedure was used. [17 CCR 95468]
90. Permittee shall keep records of delays encountered during repair of leaks or repair of positive wellhead readings. Documentation of delays shall be submitted with the annual report. [17 CCR 95468]
91. Permittee shall keep records of alternate landfill gas collection system modifications being implemented to correct an exceedance in the landfill gas surface emissions or wellhead pressure. Any alternative to installing a new well shall be documented and submitted with the annual report. [17 CCR 95468]
92. Permittee shall identify areas which are dangerous and unable to be inspected. Areas shall be clearly identified on a map of the facility. A copy of the map shall be kept onsite as well as submitted with the annual report. [17 CCR 95468]
93. Permittee shall conduct monitoring of the landfill surface within 3 inches of the surface. The facility may monitor surface emissions with the probe tip at the height of the vegetation if there is vegetation and it is impractical to monitor at 3 inches from the landfill surface. [17 CCR 95468]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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94. Permittee shall terminate surface emission testing when the measured average wind speed is over 15 mph or the instantaneous wind speed is over 30 mph. [17 CCR 95468, 17 CCR 95471]
95. Permittee shall only conduct surface emission testing when precipitation has met the following requirements. It has been 24 hours since measured precipitation of 0.01 to 0.15 inches. It has been 48 hours since measured precipitation of 0.16 to 0.24 inches. It has been 72 hours since measured precipitation of 0.25 or more inches. [17 CCR 95468]
96. Permittee shall keep records of the annual solid waste acceptance rate and the current amount of waste-in-place. [17 CCR 95470]
97. Permittee shall keep records of the nature, location, amount, and date of deposition of non-degradable waste for any landfill areas excluded from the collection system. [17 CCR 95470]
98. Permittee shall keep records of any source tests conducted pursuant to section 95464(b)(4). [17 CCR 95470]
99. Permittee shall keep records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere during the following activities: 1. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment; 2. During repairs or the temporary shutdown of gas collection system components; or, 3. When solid waste was excavated and moved. [17 CCR 95470]
100. Permittee shall keep records of any construction activities pursuant to section 95466. The records must contain the following information: 1. A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions. 2. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components. 3. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [17 CCR 95470]
101. Permittee shall keep records of the equipment operating parameters specified to be monitored under section 95469(b)(1) as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded. The records must include the following information: 1. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent source test at which compliance with sections 95464(b)(2) was determined and a gas flow rate device which must record the flow to the control device at least every 15 minutes. [17 CCR 95470]
102. Permittee shall submit the following reports as required in section 95470(b): Closure notification, Equipment removal report and Annual report. All reports must be accompanied by a certification of truth, accuracy, and completeness signed by a responsible official. [17 CCR 95470]
103. Permittee may comply with the CARB regulation for landfill methane control measures by using approved alternative compliance options. The permittee shall obtain written District approval for the use of any alternative compliance options not approved by this permit. Changes to the approved alternate compliance options must be made and approved in writing. Documentation of approved alternative compliance options shall be available for inspection upon request. [17 CCR 95468]

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-3115-3-2

EXPIRATION DATE: 07/31/2021

EQUIPMENT DESCRIPTION:

755 BHP CUMMINS MODEL QSX15-69 DIESEL-FIRED EMERGENCY IC ENGINE POWERING AN ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

1. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
3. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702, 17 CCR 93115, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
5. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] Federally Enforceable Through Title V Permit
6. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702] Federally Enforceable Through Title V Permit
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
8. During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
9. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702, 17 CCR 93115, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
10. Operation of this engine for all purposes combined shall not exceed 10 hours per day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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12. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
13. Emissions from this engine shall not exceed any of the following limits: 5.7 g-NO_x/hp-hr, 0.4 g-CO/hp/hr or 0.14 g-VOC/hp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The PM₁₀ emissions rate shall not exceed 0.08 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]
16. The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] Federally Enforceable Through Title V Permit
17. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. For units at unstaffed sites or operated remotely, records may be maintained and retained at a District-approved off-site location. [District Rule 4702, 17 CCR 93115, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. The engine's oil and filter shall be changed every 500 hours of operation or every 12 months, whichever comes first. [40 CFR Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
20. The engine's air filter shall be inspected every 1,000 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
21. The engine's hoses and belts shall be inspected every 500 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
22. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of action taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
23. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

SELF-DEALING TRANSACTION DISCLOSURE FORM

(1) Company Board Member Information:

Name: _____ Date: _____

Job Title: _____

(2) Company/Agency Name and Address:

(3) Disclosure (Please describe the nature of the self-dealing transaction you are a party to)

(4) Explain why this self-dealing transaction is consistent with the requirements of Corporations Code 5233 (a)

(5) Authorized Signature

Signature: _____ Date: _____

SELF-DEALING TRANSACTION DISCLOSURE FORM INSTRUCTIONS

In order to conduct business with the County of Fresno (hereinafter referred to as “County”), members of a contractor’s board of directors (hereinafter referred to as “County Contractor”), must disclose any self-dealing transactions that they are a party to while providing goods, performing services, or both for the County. A self-dealing transaction is defined below:

“A self-dealing transaction means a transaction to which the corporation is a party and which one or more of its directors has a material financial interest”

The definition above will be utilized for purposes of completing the disclosure form.

- (1) Enter board member’s name, job title (if applicable), and date this disclosure is being made.
- (2) Enter the board member’s company/agency name and address.
- (3) Describe in detail the nature of the self-dealing transaction that is being disclosed to the County. At a minimum, include a description of the following:
 - a. The name of the agency/company with which the corporation has the transaction; and
 - b. The nature of the material financial interest in the Corporation’s transaction that the board member has.
- (4) Describe in detail why the self-dealing transaction is appropriate based on applicable provisions of the Corporations Codes.
- (5) Form must be signed by the board member that is involved in the self-dealing transaction described in Sections (3) and (4).

expression, age, sexual orientation, or military and veteran status. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.

2. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, § 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code, §§ 11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article.
3. Contractor or recipient shall permit access by representatives of the Department of Fair Employment and Housing and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause.
4. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
5. The contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

Under 2 CA Code of Regs § 11122:

STANDARD CALIFORNIA NONDISCRIMINATION CONSTRUCTION CONTRACT SPECIFICATIONS (GOV. CODE SECTION 12990)

These specifications are applicable to all state contractors and subcontractors having a construction contract or subcontract of \$5,000 or more.

1. As used in the specifications:
 - a. "Act" means the Fair Employment and Housing Act.
 - b. "Administrator" means Administrator, Office of Compliance Programs, California Department of Fair Employment and Housing, or any person to whom the Administrator delegates authority;
2. Whenever the contractor or any subcontractor subcontracts a portion of the work, it shall include in each subcontract of \$5,000 or more the nondiscrimination clause in this contract directly or through incorporation by reference. Any subcontract for work involving a construction trade shall also include the Standard California Construction Contract Specifications, either directly or through incorporation by reference.
3. The contractor shall implement the specific nondiscrimination standards provided in paragraphs 6(a) through (e) of these specifications.
4. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer members of any group protected by the Act shall excuse the contractor's obligations under these specifications, Government Code section 12990, or the regulations promulgated pursuant thereto.5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
6. The contractor shall take specific actions to implement its nondiscrimination program. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor must be able to demonstrate fully its efforts under steps a. through e. below:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and at all facilities at which the contractor's employees are assigned to work. The contractor shall specifically ensure that all foremen, superintendents, and other on-site

- supervisory personnel are aware of and carry out the contractor's obligations to maintain such a working environment.
- b. Provide written notification within seven days to the director of the DFEH when the referral process of the union or unions with which the contractor has a collective bargaining agreement has impeded the contractor's efforts to meet its obligations.
 - c. Disseminate the contractor's equal employment opportunity policy by providing notice of the policy to unions and training, recruitment and outreach programs and requesting their cooperation in assisting the contractor to meet its obligations; and by posting the company policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - d. Ensure all personnel making management and employment decisions regarding hiring, assignment, layoff, termination, conditions of work, training, rates of pay or other employment decisions, including all supervisory personnel, superintendents, general foremen, on-site foremen, etc., are aware of the contractor's equal employment opportunity policy and obligations, and discharge their responsibilities accordingly.
 - e. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the equal employment opportunity policy and the contractor's obligations under these specifications are being carried out.
7. Contractors are encouraged to participate in voluntary associations that assist in fulfilling their equal employment opportunity obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on equal employment opportunity in the industry, ensures that the concrete benefits of the program are reflected in the contractor's workforce participation, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's.
 8. The contractor is required to provide equal employment opportunity for all persons. Consequently, the contractor may be in violation of the Fair Employment and Housing Act (Government Code section 12990 et seq.) if a particular group is employed in a substantially disparate manner.
 9. The contractor shall not use the nondiscrimination standards to discriminate against any person because race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status.
 10. The contractor shall not enter into any subcontract with any person or firm decertified from state contracts pursuant to Government Code section 12990.
 11. The contractor shall carry out such sanctions and penalties for violation of these specifications and the nondiscrimination clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Government Code section 12990 and its implementing regulations by the awarding agency. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Government Code section 12990.
 12. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company equal employment opportunity policy is being carried out, to submit reports relating to the provisions hereof as may be required by OCP and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, status, (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in any easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

Add to the end of the 2nd sentence in the 1st paragraph of section 7-1.02K(1):

, and hauling and delivery of ready-mixed concrete.

04-22-16

To prevent encroachment onto the traveled way where the useable shoulder area is less than 15 feet wide, you may use a smaller message panel with at least 12-inch-high characters.

The message displayed on the sign must be visible from a distance of 1,500 feet and legible from a distance of 750 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20.

The characters on a sign panel may be 10 inches in height if:

1. PCMS is mounted on a service patrol truck or other incident response vehicle or used for traffic control operations on a highway facility where the posted speed limit is less than 40 mph
2. Message is legible from a distance of at least 650 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20

A matrix sign must provide a complete alphanumeric selection.

A PCMS must automatically adjust its brightness under varying light conditions to maintain the legibility of the message. The sign must be equipped with an automatic-dimming mode that automatically compensates for the influence of temporary light sources or abnormal lighting conditions. The sign must have 3 or more manual dimming modes of different intensities.

During the hours of darkness, a matrix sign not using lamps must be either internally or externally illuminated.

The controller must be an all solid-state unit containing the necessary circuitry for the storage of at least 5 preprogrammed messages. The controller must be installed at a location that allows the operator to perform all functions from a single position. The controller must have a keyboard entry system that allows the operator to generate an infinite number of additional messages in addition to the preprogrammed stored messages. The keyboard must be equipped with a security lockout feature to prevent unauthorized use of the controller.

The controller must have:

1. Nonvolatile memory that stores keyboard-created messages during periods when the power is not activated
2. Variable display rate that allows the operator to match the information display to the speed of approaching traffic
3. Screen upon which messages may be reviewed before being displayed on the sign

The flashing-off time must be adjustable from within the control cabinet.

12-3.32C Construction

Place a PCMS as far from the traveled way as practicable where it is legible to approaching traffic without encroaching on the traveled way. Where the vertical roadway curvature restricts the sight distance of approaching traffic, place the sign on or before the crest of the curvature where it is most visible to the approaching traffic. Where the horizontal roadway curvature restricts the sight distance of approaching traffic, place the sign at or before the curve where it is most visible to approaching traffic. Where practicable, place the sign behind guardrail or Type K temporary railing.

Make a taper consisting of 9 traffic cones placed 25 feet apart to delineate the location of a PCMS except where the sign is placed behind guardrail or Type K temporary railing.

When in full operation, the bottom of a sign must be at least 7 feet above the roadway in areas where pedestrians are anticipated and 5 feet above the roadway elsewhere, and the top of the sign must be not more than 14.5 feet above the roadway.

Operate the PCMS under the manufacturer's instructions.

Keep the PCMS clean to provide maximum visibility.

If multiple signs are needed, place each sign on the same side of the road at least 1,000 feet apart on freeways and expressways and at least 500 feet apart on other types of highways.

If more than one PCMS is simultaneously visible to traffic, only 1 sign may display a sequential message at any time. Do not use dynamic message displays, such as animation, rapid flashing, dissolving, exploding, scrolling, horizontal movement, or vertical movement of messages. The message must be centered within each line of the display.

You may use an additional PCMS if more than 2 phases are needed to display a message.

Display only messages shown or ordered.

Repeat the entire message continuously in not more than 2 phases of at least 3 seconds per phase. The sum of the display times for both of the phases must be a maximum of 8 seconds. If more than 2 phases are needed to display a message, use an additional PCMS.

You must be available by cell phone during activities that require a sign. Be prepared to immediately change the displayed message if ordered. You may operate the sign with a 24-hour timer control or remote control if authorized.

After the initial placement, move a sign from location to location as ordered.

When a PCMS is not in use, move it to an area at least 15 feet from the edge of the traveled way or remove it from the job site away from traffic.

12-3.32D Payment

Not Used

Add between the 1st sentence and 2nd sentences in the 1st paragraph of section 12-4.02A(3)(a):

07-15-16

For a project in District 7, submit the request at least 15 days before the proposed closure date.

Replace section 12-4.02C(2) with:

01-15-16

12-4.02C(2) Lane Closure System

12-4.02C(2)(a) General

The Department provides LCS training. Request the LCS training at least 30 days before submitting the 1st closure request. The Department provides the training within 15 days after your request.

LCS training is web-based or held at a time and location agreed upon by you and the Engineer. For web-based training, the Engineer provides you the website address to access the training.

With 5 business days after completion of the training, the Department provides LCS accounts and user IDs to your assigned, trained representatives.

Each representative must maintain a unique password and current user information in the LCS.

04-15-16

The project is not accessible in LCS after Contract acceptance.

01-15-16

12-4.02C(2)(b) Status Updates for Authorized Closures

Update the status of authorized closures using the LCS Mobile web page.

For a stationary closure, use code:

1. 10-97 immediately before you place the 1st advance warning sign
2. 10-98 immediately after you remove all of the advance warning signs

For a moving closure, use code:

1. 10-97 immediately before the actual start time of the closure
2. 10-98 immediately after the actual end time of the closure

Cancel an authorized closure by using code 10-22 within 2 hours after the authorized start time.

If you are unable to access the LCS Mobile web page, immediately notify the Engineer of the closure's status.

Replace the 1st sentence in the 3rd paragraph of section 12-6.03A with:

07-15-16

When the Engineer determines the temporary pavement delineation is no longer required for the direction of traffic, remove the temporary pavement delineation, including any underlying adhesive for temporary pavement markers, from the final layer of surfacing and from the pavement to remain in place.

^^

13 WATER POLLUTION CONTROL

09-02-16

Replace *General Industrial Permit* in the 2nd item in the list in the paragraph of section 13-1.01C(3) with:

05-06-16

Industrial General Permit

Replace the 2nd paragraph of section 13-1.01D(2) with:

05-06-16

Discharges from manufacturing facilities, such as batch plants and crushing plants, must comply with the discharge requirements in the NPDES General Permit for Storm Water Discharges Associated with Industrial Activities; Order No. 2014-0057-DWQ, CAS000001 (Industrial General Permit), issued by the SWRCB. For the Industrial General Permit, go to the SWRCB website.

Replace *General Industrial Permit* in the 3rd paragraph of section 13-1.01D(2) with:

05-06-16

Industrial General Permit

Replace the 2nd paragraph of section 13-3.01D(2) with:

09-02-16

For a project in the Lake Tahoe Hydrologic Unit, discharges of stormwater from the project must comply with the NPDES General Permit for General Waste Discharge Requirements and National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer, (Order No. R6T-2016-0010 and NPDES No. CAG616002). You may view the General Permit for the Lake Tahoe Hydrologic Unit at the Construction Storm Water Program page of the SWRCB website.

Replace the 2nd paragraph of section 13-8.01D(2) with:

09-02-16

For a project within the Lake Tahoe Hydrologic Unit, the design, installation, operation, and monitoring of the temporary ATS and monitoring of the treated effluent must comply with Attachment E of the NPDES General Permit for General Waste Discharge Requirements and National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer, (Order No. R6T-2016-0010 and NPDES No. CAG616002). You may view the General Permit for the Lake Tahoe Hydrologic Unit at the Construction Storm Water Program page of the SWRCB website.

AA

16 TEMPORARY FACILITIES

04-15-16

Add between the 1st and 2nd sentences of section 16-2.03A(1):

04-15-16

Constructing a high-visibility fence includes the installation of any signs specified in the special provisions.

BID BOOK

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

18950 W American Ave, Kerman, CA 93630

BUDGET / ACCOUNT: 9026 / 8150



Department of Public Works and Planning

CONTRACT NUMBER 20-18-SW

BID BOOK TABLE OF CONTENTS

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION CONTRACT NUMBER 20-18-SW

PROPOSAL NUMBER(S)	TITLE
NOT APPLICABLE	INSTRUCTIONS FOR COMPLETING THE BID BOOK
1	PROPOSAL TO THE BOARD OF SUPERVISORS OF THE COUNTY OF FRESNO
2	BID ITEM LIST
3	EVALUATION OF BID ITEM LIST
4	BID SECURITY
5	NON-COLLUSION DECLARATION
6	PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT
7	PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE AND PUBLIC CONTRACT CODE 10232 STATEMENT
8(A) – 8(I)	SUBCONTRACTORS
9 - 16	NOT USED
17	GUARANTY

INSTRUCTIONS FOR COMPLETING THE BID BOOK FOR NON-FEDERAL AID PROJECTS

General

Complete forms in the *Bid* book.

Submit an electronic bid online at <http://www.BidExpress.com> (Section 2-1.33D) or submit a hardcopy bid:

1. Under sealed cover addressed to the Department and labeled with the name of the bidder, the name of the project and the statement 'Do Not Open Until The Time Of Bid Opening.'
2. Marked as a bid
3. Identifying the contract number and the bid opening date

Certain bid forms must be submitted with the bid and properly executed.

Certain other forms and information must be submitted either with the bid or within the prescribed period after bid opening as specified elsewhere in these special provisions.

Failure to submit the forms and information as specified results in a nonresponsive bid.

If an agent other than the authorized corporation officer or a partnership member signs the bid, file a Power of Attorney with the Department either before opening bids or with the bid. Otherwise, the bid may be nonresponsive.

Bid Item List and Bid Comparison

Submit a bid based on the bid item quantities the Department shows on the Bid Item List. Bids will be evaluated and the low bidder determined as indicated in the *Notice to Bidders*.

Bid Document Completion

Proposal items are identified by title and by the word "Proposal" followed by the number assigned to the proposal item in question. Proposal items are included in the *Bid Book*.

Proposal to the Board of Supervisors of Fresno County – Proposal 1

Provided for information.

Bid Item List – Proposal 2

One or more sheet(s) or list(s) upon which the bidder completes the bid.

Fill out completely including a unit price and total for each unit price-based item and a total for each lump sum item.

Do not make any additions such as "plus tax", "plus freight", or conditions such as "less 2% if paid by 15th".

Use ink or typewriter for paper bids.

Evaluation of Bid Item List – Proposal 3

Describes how inconsistencies and irregularities are evaluated and corrected when Design Services reviews the Bid Item List.

Bid Security and Signature – Proposal 4

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

- Cash
- Cashier's check
- Certified check
- Signed bidder's bond by an admitted surety insurer

Indicate type of bid security provided.

- Cash – Acceptable but not recommended. Cash is deposited in a clearing account and is returned to bidders by County warrant. This process may take several weeks.
- Cashier's or Certified Checks. This type of security is held until the bid is no longer under consideration. If submitted by a potential awardee, they will be returned when the contract is fully executed by the bidder and bonds and insurance have been approved.
- Bid Bonds - Must be signed by the bidder and by the attorney-in-fact for the bonding company. Provide notarized signature of attorney-in-fact accompanied by bonding company's affidavit authorizing attorney-in-fact to execute bonds. An unsigned bid bond will be cause for rejection.

Acknowledge Addenda

Provide contractor's license information.

State business name and if business is a:

- Corporation - list officers
- Partnership - list partners
- Joint Venture - list members; if members are corporations or partnerships, list their officers or partners.
- Individual - list Owner's name and firm name style

Signature of Bidder - the following lists types of companies and corresponding authorized signers.

- Corporation - by an officer
- Partnership - by a partner
- Joint Venture - by a member
- Individual - by the Owner

If signature is by a Branch Manager, Estimator, Agent, etc., the bid must be accompanied by a power of attorney authorizing the individual to sign the bid in question or to sign bids more generally, otherwise the bid may be rejected.

- Business Address - Firm's Street Address
- Mailing Address - P.O. Box or Street Address
- Complete, sign, and return with bid.

Noncollusion Declaration – Proposal 5

Must be completed, signed, and returned with bid.

Public Contract Code Section 10285.1 Statement – Proposal 6

Select “has” or “has not” in accordance with instructions on form, return with completed for with bid. Note that signing the bid constitutes signing this statement.

Public Contract Code Section 10162 Questionnaire And Public Contract Code 10232 Statement – Proposal 7

Select “yes” or “no” accordance with instructions on form, include explanation if “yes” is selected. Return completed form with bid. Note that signing the bid constitutes signing this questionnaire and statement.

Subcontractors – Proposal 8(a) through Proposal 8(f)

Sheet(s) or spaces where bidders list subcontractors. List each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid (Pub Cont Code § 4100 et seq.).

The *Subcontractor List* submitted with the bid must show the name, location of business, work portions to be performed, and the contractor’s license number for each subcontractor listed.

- Use subcontractor’s business name style as registered with the License Board.
- Specify the city in which the subcontractor’s business is located and the state if other than California.
- Description of the work to be performed by the subcontractor. Indicate with bid item numbers from the bid item list and/or work descriptions similar to those on bid item list.
- List license number for each subcontractor.

Upon request from Design Services, provide the following additional information within 24 hours of bid opening if not included on the *Subcontractor List* submitted with the bid:

- Complete physical address for each subcontractor listed.
- Percentage of the total bid or dollar amount associated with each subcontractor listed.
- Department of Industrial Relations registration number.

Proposal 9 - Proposal 16 – Not Used

Guaranty - Proposal 17

Does not need to be signed with the bid. Part of the contract which must be signed by the contractor when contract is executed.

General Info

Total:

\$1,998,421.00

Number	Description
20-18-SW American Avenue Disposal Site Phase III Modules 3-8 Landfill Gas Collection and Control System Expansion	The work to be done consists, in general, of installing 23 new single depth Landfill Gas (LFG) vertical extraction wells and 15 LFG horizontal extraction wells; installing header and lateral piping to connect new extraction wells to the collection system; furnishing, installing and testing 6 condensate sumps, associated pumps and furnishing all appurtenances and performing all incidental work to effectuate the planned expansion of the site's landfill gas collection and control system
Deadline	Allows zero unit prices and labor
03/11/2021 10:00 PM UTC	Yes
Vendor	Allows negative unit prices and labor
BSE GENERAL ENGINEERING, INC.	Yes
Submitted	
03/11/2021 12:05 AM UTC	
Signed by	
TERRI SONN Account Holder Terri Sonn	
Opened	
03/11/2021 10:03 PM UTC By jgeddert@fresnocountyca.gov	

Attachment List

Project Website
RFC form, bid opening details, any Supplemental Information including RFC responses, prebid conference information, etc.

Specifications (4 MB)
Specifications (4 MB)

Plans (7 MB)
Plans (7 MB)

Proposal to the Board of Supervisors of the County of Fresno - Proposal 1

The work embraced herein shall be done in accordance with the 2015 Standard Specifications and with the 2015 Standard Plans, of the State of California, Department of Transportation insofar as the same may apply and in accordance with these special provisions.

Except to the extent that they may conflict with these special provisions, revised Standard Specifications apply to the extent included in the section entitled "Project Details" of the book entitled "Specifications."

The work to be done is shown on a set of Plans, Department File No. 11307, entitled: "American Avenue Disposal Site Phase III Modules 3-8 Landfill Gas Collection and Control System (LFGCCS) Expansion".

The undersigned, as bidder, declares that the only persons, or parties interested in this proposal as principals are those named herein, that this proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes and agrees if this proposal is accepted, that he will contract with the Owner to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefor the following unit prices, to-wit:

Bid Item List - Proposal 2

\$1,998,421.00

Item No.	F, S	Quantity	Unit	Item Description	Item Price	Extension
1	0	1	LS	SUPPLEMENTAL WORK	\$50,000.00	\$50,000.00
2	0	1	LS	MOBILIZATION/DEMOBILIZATION	\$122,700.00	\$122,700.00
3	0	1	LS	TRAFFIC CONTROL	\$78,673.28	\$78,673.28
4	0	1	LS	CONSTRUCTION SITE MANAGEMENT	\$62,545.74	\$62,545.74
5	0	1	LS	GRADE CHECKING	\$44,297.65	\$44,297.65
6	0	1,126	LF	VERTICAL LANDFILL GAS WELL DRILLING	\$64.78	\$72,942.28
7	0	1,195	LF	VERTICAL LANDFILL GAS EXTRACTION WELL INSTALLATION AND BACKFILL	\$58.08	\$69,405.60
8	0	15,400	LF	HORIZONTAL LANDFILL GAS WELL INSTALLATION AND BACKFILL	\$34.43	\$530,222.00
9	0	38	EA	VERTICAL AND HORIZONTAL LANDFILL GAS EXTRACTION	\$996.53	\$37,868.14
Total:						\$1,998,421.00

Item No.	F, S	Quantity	Unit	Item Description	Item Price	Extension
				WELL WELLHEAD INSTALLATION AND CONNECTION TO LATERAL		
10	0	113	LF	LANDFILL GAS EXTRACTION WELL, DRILL TO REFUSAL AND BACKFILL	\$56.18	\$6,348.34
11	0	3,500	LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-9 AIR SUPPLY PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS	\$2.50	\$8,750.00
12	0	3,500	LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-11 CONDENSATE FORCE MAIN PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS	\$2.45	\$8,575.00
13	0	6,600	LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 6-INCH FITTINGS	\$21.57	\$142,362.00
14	0	1,400	LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 6-INCH FITTINGS	\$24.26	\$33,964.00
15	0	500	LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 12-INCH FITTINGS	\$50.72	\$25,360.00
16	0	220	LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 12-INCH FITTINGS	\$81.38	\$17,903.60
17	0	620	LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING, WITH GUIDES (ABOVE GRADE) AND 18-INCH FITTINGS	\$109.39	\$67,821.80
18	0	2,600	LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 18-INCH FITTINGS	\$103.67	\$269,542.00
19	0	24	EA	PROVIDE AND INSTALL 6-INCH VALVES	\$881.07	\$21,145.68
20	0	1	EA	PROVIDE AND INSTALL 12-INCH VALVES	\$2,475.32	\$2,475.32
21	0	4	EA	PROVIDE AND INSTALL 18-INCH VALVES	\$8,719.75	\$34,879.00
22	0	320	LF	PROVIDE AND INSTALL 12-INCH CORRUGATED STEEL PIPE (CSP) AND ROAD CROSSINGS	\$28.42	\$9,094.40
23	0	40	LF	PROVIDE AND INSTALL 18-INCH CSP AND ROAD CROSSINGS	\$49.75	\$1,990.00
24	0	5	EA	CONNECT EXISTING LEACHATE COLLECTION AND REMOVAL SYSTEM (LCRS) RISER 10-INCH LFG LATERALS TO 18-INCH HEADER, WITH WELLHEAD, FITTINGS, AND	\$3,105.14	\$15,525.70
Total:						\$1,998,421.00

Item No.	F, S	Quantity	Unit	Item Description	Item Price	Extension
OTHER APPURTENANCES						
25	0	6	EA	PROVIDE AND INSTALL NEW CONDENSATE SUMP WITH FITTINGS AND OTHER APPURTENANCES	\$43,508.79	\$261,052.74
26	0	1	EA	CONNECT LFG HEADER DRAIN TO EXISTING CONDENSATE SUMP	\$2,976.73	\$2,976.73
Total:						\$1,998,421.00

Evaluation of Bid Item List - Proposal 3

Abbreviations used in the bid proposal sheet are identified in Section 1-1.06, "Abbreviations," of these special provisions.

Bids are required for the entire work. Bids will be compared on the basis indicated in the Notice to Bidders. The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;
- (b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentage-wise the unit price or item total in the Owner's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise, if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the Owner, and that discretion will be exercised in the manner deemed by the Owner to best protect the public interest in the prompt and economical completion of the work. The decision of the Owner respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this proposal shall be accepted and the undersigned shall fail to contract, as aforesaid, and to give the two bonds in the sums to be determined as aforesaid, with surety satisfactory to the Owner, within eight (8) days not including Saturdays, Sundays and legal holidays, after the bidder has received notice of award of the contract, the Owner, at its option, may determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void, and the

forfeiture of such security accompanying this proposal shall operate and the same shall be the property of the Owner.

Bidder Signature - Proposal 4

Business Name *

BSE GENERAL ENGINEERING, INC.

IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer and manager thereof; if a copartnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last name in full.

Type of Business *

Corporation - list Officers

List additional type of business information below. *

BOB SONN, CEO, PRESIDENT
TERRI SONN, CFO, TREASURER
JEFFREY SONN, SECRETARY

Licensed in accordance with an act providing for the registration of Contractors,

Class *

A

Contractor License Number *

361295

Expires *

5/31/2021

DIR Registration Number *

1000050709

Signature of Bidder *

Terri Sonn

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if bidder is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the co-partnership; and if bidder is an individual, his signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Owner prior to opening bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

Business Address *

26132 OLD HIGHWAY 80, DESCANSO, CA 91916-9797

Mailing Address

Business Phone *

(619) 473-1000

Fax Number

Email Address *

tsonnbse@gmail.com

Bid Security - Proposal 4

Bond Percentage

10.00%

Guarantee Method *

Cash, Cashier's Check,
Certified Check, Paper Bid
Bond

Cash, Cashier's Check, Certified Check, Paper Bid Bond

Confirmation *

I have provided a Paper Bid Bond for the Bid Security Amount above prior to the solicitation deadline.

You must either attach an electronic bid bond here or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening.

Note: While it is strongly encouraged that you comply with the above bidding requirement if at all possible, it is acknowledged that this bid opening is occurring during the COVID-19 State of Emergency in Fresno County, the impact of which is immense. If, as a result of the emergency, you are unable to provide the original bid security or electronic bid bond prior to the bid opening (and if your bid is otherwise appropriately responsive to bid requirements), then staff will request that the Board of Supervisors consider exercising its discretion to waive the bidding irregularity (regarding the time of delivery of the bid security) IF you: (1) attach a scanned copy of the original bid security to the Bid; and (2) provide for hand-delivery of the original bid security to the County within 24 hours of the bid opening.

Addendum Acknowledgement - Proposal 4

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:**

(Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

Type N/A if no addenda were issued. Click "+" to add additional fields.

Addendum No. *

N/A

Dated *

3/10/2021

Noncollusion Declaration - Proposal 5

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID*

The undersigned declares:

I am the (Choose one of the following options): *

Corporate Officer

If Corporate Officer please list Title:

CFO, TREASUER

of (Business Name): *

BSE GENERAL ENGINEERING, INC.

the party making the foregoing bid.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____, 2021,

Date: *

3/10/2021

at City, State: *

DESCANSO, CALIFORNIA

Signature: *

TERRI SONN

(See Title 23 United States Code Section 112; Calif Public Contract Code Section 7106)

*NOTE: Completing, signing, and returning the Non-Collusion Affidavit is a required part of the Proposal. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code - Proposal 6-7

Public Contract Code Section 10285.1 Statement - Proposal 6

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder

Choose an option: *

Has not been convicted

within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

The above Statement is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire - Proposal 7

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, 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?

Choose an option: *

No

If the answer is No, please type N/A. If the answer is Yes, explain the circumstances in the following space. *

N/A

Public Contract Code Section 10323 Statement - Proposal 7

In conformance with Public Contract Code Section 10322, the Contractor hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the

immediately preceding two-years period because of the Contractor's failure to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement and Questionnaire. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Subcontractors - Proposal 8(a)

The following named subcontractor(s) will perform with labor, or otherwise render services to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent of the total bid presented herewith. Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board. Submission of subcontractor's name, location of business and description of work, California contractor's license number and public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, all are REQUIRED, by Section 4104 of the California Public Contract Code, to be submitted prior to bid opening. (The "location of business" must specify the city in which the subcontractor's business is located, and the state if other than California.) All other requested information shall be submitted, either with the bid or within 24 hours after bid opening.

Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board.

FAILURE TO LIST SUBCONTRACTORS AS DIRECTED MAY RENDER THE BID NON-RESPONSIVE, OR MAY RESULT IN ASSESSMENT OF A PENALTY AGAINST THE BIDDER IN ACCORDANCE WITH SECTION 4110 OF THE CALIFORNIA PUBLIC CONTRACT CODE.

Subcontractor: To add more subcontractor listings, click the "+" to add additional fields.

Subcontractor: *

TBCO INC.

Business Address *

9657 MIZPAH LN. , DESCANSO, CA ., 91916-9726

Class

A and C57

License No. *

709037

DIR Registration No. *

1000028480

Item No. or Description of Work *

FUSING 12 " AND 18" HDPE

Dollar Amount:

OR

Percentage of Total Bid:

7%

Email Address:

travis726@cox.net

Subcontractors - Proposal 8(b)

Optional: Vendor is not required to complete.

Subcontractor: To add more subcontractor listings, click the "+" to add additional fields.

Subcontractor: *

SACRAMENTO DRILLING, INC.

Business Address *

1143 BLUMENFELD DRIVE, SUITE 100, SACRAMENTO, CA 95815

Class

A

License No. *

759193

DIR Registration No. *

1000004496

Item No. or Description of Work *

VERTICAL LANDFILL GAS WELL DRILLING

Dollar Amount:

OR

Percentage of Total Bid:

2.35%

Email Address:

Proposal 9 - 16

NOT USED

Guaranty - Proposal 17

Optional: Vendor is not required to complete.

(This guaranty shall be executed by the successful bidder in accordance with instructions in the special provisions. The bidder may execute the guaranty on this page at the time of submitting their bid.)

G U A R A N T Y

To the Owner: County of Fresno

C O N T R A C T N U M B E R

The undersigned guarantees the construction and installation of the following work included in this project: 20-18-SW

A L L W O R K

Should any of the materials or equipment prove defective or should the work as a whole prove defective, due to faulty workmanship, material furnished or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications, due to any of the above causes, all within twelve (12) months after date on which this contract is accepted by the Owner, the undersigned agrees to reimburse the Owner, upon demand, for its expenses incurred in restoring said work to the condition contemplated in said project, including the cost of any such equipment or materials replaced and the cost of removing and replacing any other work necessary to make such replacement or repairs, or, upon demand by the Owner, to replace any such material and to repair said work completely without cost to the Owner so that said work will function successfully as originally contemplated.

The Owner shall have the unqualified option to make any needed replacement or repairs itself or to have such replacements or repairs done by the undersigned. In the event the Owner elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the Owner.

Date: *

3/10/2021

Name (Printed): *

TERRI SONN

Signature: *

TERRI SONN

Title: *

CFO, TREASUER

Contractor: *

BSE GENERAL ENGINEERING, INC.

Additional Documents (Use if needed)

Name	Omission Terms	Submitted File
Optional: Vendor is not required to complete.		
Not Required Extra Space if needed	Extra space not needed	BID BOND.pdf
Not Required Extra Space if needed	Extra space not needed	I am not enclosing this document because the omission terms have been met.
Not Required Extra Space if needed	Extra space not needed	I am not enclosing this document because the omission terms have been met.
3 Required Documents		

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That We, **BSE General Engineering, Inc.**, as Principal, and the **U.S. Specialty Insurance Company**, a corporation organized and existing under the laws of the State of **California**, and authorized to do business in the State of **California** as Surety, are held and firmly bound unto the **County of Fresno**, as Obligee, in the sum of **Ten Percent of the Amount Bid** DOLLARS (**\$10% of Amount Bid**), lawful money of the United States of America, to the payment of which sum well and truly to be made, the said Principal and Surety bind themselves, their and each of their heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Obligee shall make any award to the Principal for:

**Contract 20-18-SW AADS Phase III Mod 3-8 Landfill
Gas Collection and Control System Expansion**

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with the **U.S. Specialty Insurance Company** as Surety or with other Surety or Sureties approved by the Obligee, or if the Principal shall, in case of failure so to do, pay to the Obligee the damages which the Obligee may suffer by reason of such failure not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

Signed, sealed and dated this **8th** day of **March 2021**.

BSE General Engineering, Inc.

(Principal)

(Seal)

By: 

U.S. Specialty Insurance Company

(Surety)

(Seal)

By: 

Janina Monroe/ Attorney-In-Fact



ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of Orange }

On MAR 08 2021 before me, M. Barreras, Notary Public
(Here insert name and title of the officer)

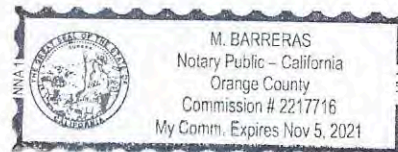
personally appeared Janina Monroe
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

M. Barreras
Notary Public Signature

(Notary Public Seal)



ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

_____ (Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they- is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Janina Monroe, Michelle Haase & Martha Barreras of Irvine, California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** ***** Fifty Million and 00/100 ***** Dollars (** \$50,000,000.00 **). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.


Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
 County of Los Angeles



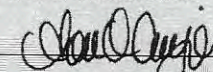
By: 
 Daniel P. Aguilar, Vice President

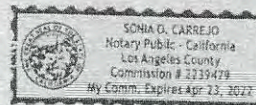
A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

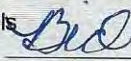
WITNESS my hand and official seal.

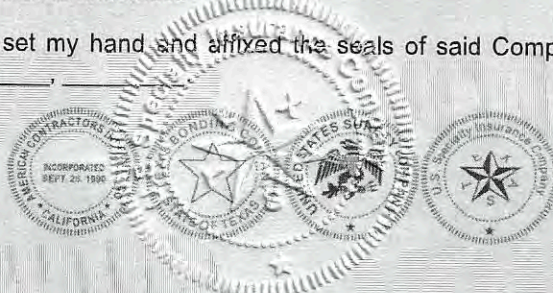
Signature  (seal)

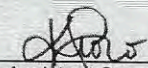


I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this _____ day of MAR 08 2021

Corporate Seal 
 Bond No. _____
 Agency No. 19268




 Kio Lo, Assistant Secretary

A G R E E M E N T

THIS AGREEMENT made at Fresno, in Fresno County, California, by and between BSE GENERAL ENGINEERING, INC. hereinafter called the Contractor, and the County of Fresno hereinafter called the Owner.

WITNESSETH: That the Contractor and the Owner, for the consideration hereinafter named, agree as follows:

ARTICLE I. The Contractor agrees to furnish all labor and materials, including tools, implements, and appliances required, but excluding such materials as are mentioned in the specifications to be furnished by the Owner, and to perform all the work in a good and workmanlike manner, free from any and all liens and claims of mechanics, materialmen, teamsters, subcontractors, artisans, machinists, and laborers required for:

**AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION
AND CONTROL SYSTEM (LFGCCS) EXPANSION**

**CONTRACT NUMBER
18950 W AMERICAN AVE, KERMAN, CA 93630**

CONTRACT NUMBER 20-18-SW

All in strict compliance with the plans, drawings and specifications therefor prepared by the Owner, and other contract documents relating thereto.

ARTICLE II. The Contractor and the Owner agree that the Notice to Bidders and Special Provisions, the Wage Scale (Prevailing Wages), the Plans and Drawings, Addenda and Bulletins thereto, and the Proposal (Bid Book) hereto attached, together with this Agreement, form the contract, and they are as fully a part of the contract as if hereto attached or herein repeated.

All portions of the Standard Specifications of the State of California, Department of Transportation, dated 2015, which are not in conflict with this contract shall be deemed a part of the specifications as though fully therein set forth; provided, however, that revisions to the said Standard Specifications shall apply only to the extent, if any, included in the Project Details of these specifications or as otherwise incorporated directly herein. No part of said specifications which is in conflict with any portion of this agreement, or which is not actually descriptive of the work to be done thereunder, or of the manner in which said work is to be executed, shall be considered as any part of this agreement, but shall be utterly null and void.

ARTICLE III. The Owner agrees to pay the Contractor in current funds for the performance of the contract the sum of ONE MILLION NINE HUNDRED AND NINETY EIGHT THOUSAND FOUR HUNDRED AND TWENTY ONE DOLLARS AND 00/100 (\$1,998,421.00) it being understood that said price is based upon the estimated quantities of materials to be used as set forth in the Proposal, except where provisions are made in the contract documents whereby the estimated quantities shall constitute the final quantity; that upon completion of the project the final contract prices shall be revised by change order, if necessary, to reflect the true quantities used at the stated unit price thereof as contained in the Contractor's Proposal hereto attached. Payments on account thereof will be made as set forth in the special provisions.

ARTICLE IV. If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should persistently violate any of the provisions of the

contract, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Engineer, then the Owner may, upon certificate of the Engineer when sufficient cause exists to justify such action, serve written notice upon the Contractor and his surety of its intention to terminate the contract, and unless within five days after the serving of such notice, such violations shall cease and satisfactory arrangements for correction thereof be made, the contract shall, upon the expiration of said five days, cease and terminate.

In the event of any such termination, the Owner shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the contract, provided, however, that if the surety within ten (10) days after the serving upon it of notice of termination does not give the Owner written notice of its intention to take over and perform the contract or does not commence performance thereof within the ten (10) days stated above from the date of the serving of such notice, the Owner may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may without liability for so doing, take possession of and utilize in completing the work such materials, appliances, plant and other property belonging to the Contractor as may be on the site of the work and necessary therefor. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expenses of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner, as herein provided and damage incurred through the Contractor's default, shall be certified by the Engineer.

ARTICLE V. To the fullest extent permitted by law, with respect to any work required to be done under this contract, the Contractor will indemnify and hold harmless the COUNTY OF FRESNO, STATE OF CALIFORNIA, CONSULTANTS TETRA TECH and all other participating public agencies, whether or not said agencies are named herein, who have jurisdiction within the areas in which the work is to be performed, and all officers and employees of the Owner, the County, the State, the United States and said other participating agencies, from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents or employees under this Agreement, and from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to any person, firm or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents or employees under this Agreement. In addition, CONTRACTOR agrees to indemnify COUNTY for Federal, State of California and/or local audit exceptions resulting from non-compliance herein on the part of CONTRACTOR.

CONTRACTOR agrees to indemnify, save, hold harmless, and at COUNTY'S request, defend the COUNTY, its officers, agents, and employees from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents, or employees under this Agreement, and from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to any person, firm, or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents, or employees under this Agreement.

The Certificate of Insurance shall be issued in duplicate, to the COUNTY OF FRESNO and all other participating agencies, whether or not said agencies are named herein, who contribute to the cost of the work or have jurisdiction over areas in which the work is to be performed and all officers and employees of said agencies while acting within the course and scope of their duties and responsibilities.

In the event CONTRACTOR fails to keep in effect at all times insurance coverage as herein provided, the COUNTY may, in addition to other remedies it may have, suspend or terminate this Agreement upon the occurrence of such event.

All policies shall be with admitted insurers licensed to do business in the State of California. Insurance purchased shall be purchased from companies possessing a current A.M Best Company rating of A FSC VII or better.

Without limiting the COUNTY’S right to obtain indemnification from CONTRACTOR or any third parties, CONTRACTOR, at its sole expense, shall maintain in full force and effect, the following insurance policies or a program of self-insurance, including but not limited to, an insurance pooling arrangement or Joint Powers Agreement (JPA) throughout the term of the Agreement:

A. Commercial General Liability

Commercial General Liability Insurance with limits not less than those shown in the following table:

Liability Insurance Requirements

Total bid	For each occurrence ^a	Aggregate for products/completed operation	General aggregate ^b	Umbrella or excess liability ^c
≤ \$1,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$5,000,000
> \$1,000,000				
≤ \$10,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$10,000,000
> \$10,000,000				
≤ \$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$15,000,000
> \$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$25,000,000

^aCombined single limit for bodily injury and property damage.

^bThis limit must apply separately to your work under this Contract.

^cThe umbrella or excess policy must contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

This policy shall be issued on a per occurrence basis. COUNTY may require specific coverages including completed operations, products liability, contractual liability, Explosion-Collapse-Underground, fire legal liability, or any other liability insurance deemed necessary because of the of the nature of this contract.

Such Commercial General Liability insurance shall name the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents and employees shall be excess only and not contributing with insurance provided under CONTRACTOR's policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to COUNTY. CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance policy naming COUNTY as an additional insured and providing for a thirty (30) day prior written notice of cancellation or change in terms or coverage.

Within eight (8) days from date CONTRACTOR executes this Agreement, CONTRACTOR shall provide certificates of insurance and endorsement as stated above for all of the foregoing policies, as required herein, to the County of Fresno, stating that such insurance coverages have been obtained and are in full force; that the County of Fresno, its officers, agents and employees will not be responsible for an premiums on the policies; that such Commercial General Liability insurance names the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only

insofar as the operations under this Agreement are concerned; that such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance shall not be cancelled or changed without a minimum of thirty (30) days advance, written notice given to COUNTY.

CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance naming the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents, and employees shall be excess only and not contributing with insurance provided under CONTRACTOR'S policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to COUNTY.

B. Automobile Liability

Comprehensive Automobile Liability Insurance with limits of not less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage. Coverage should include owned and non-owned vehicles used in connection with this Agreement and all applicable endorsements.

C. Professional Liability

If CONTRACTOR is a licensed professional or employs professional staff, (e.g., Architect, Engineer, Surveyor, etc.) in providing services, Professional Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per occurrence, Three Million Dollars (\$3,000,000.00) annual aggregate with a provision for 3 year tail coverage.

D. Worker's Compensation

A policy of Worker's Compensation insurance as may be required by the California Labor Code.

ARTICLE VI. Contractor represents that he has secured the payment of Worker's Compensation in compliance with the provisions of the Labor Code of the State of California and during the performance of the work contemplated herein will continue so to comply with said provisions of said Code. Contractor shall supply the Owner with certificates of insurance, in duplicate, evidencing that Worker's Compensation Insurance is in effect and providing that the Owner will receive ten days notice of cancellation. If Contractor self-insures Worker's Compensation, Certificate of Consent to Self-insure should be provided the Owner.

ARTICLE VII. The Contractor shall forthwith furnish in duplicate, a faithful performance bond in an amount equal to 100% of the contract price and a payment bond in an amount equal to 100% of the contract price, both bonds to be written by a surety company acceptable to the Owner and in the form prescribed by law.

The payment bond shall contain provisions such that if the Contractor or his subcontractors shall fail to pay (a) amounts due under the Unemployment Insurance Code with respect to work performed under the contract, or (b) any amounts required to be deducted, withheld and paid over to the Employment Development Department and to the Franchise Tax Board from the wages of the employees of the Contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, then the surety will pay these amounts. In case suit is brought upon the payment bond, the surety will pay a reasonable attorney's fee to be fixed by the court.

ARTICLE VIII. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Except as provided in Labor Code section 1725.5(f), no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

Except as provided in Labor Code section 1725.5(f), no contractor or subcontractor may be awarded a contract for public work on a public works project or engage in the performance of work on any public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

Contractor shall comply with all applicable laws and regulations relating to wages and employment, including all requirements imposed by the California Department of Industrial Relations (DIR). Contractor shall cooperate with County to furnish timely all information necessary for County's completion of the form required to be submitted by County when registering the Project on the DIR website; and County thereafter shall provide to Contractor the "Project ID Number" assigned by DIR in order to facilitate Contractor's submission to DIR of its certified payrolls for the Project, in the manner required and using such form as may be prescribed by DIR, in accordance with the provisions of Labor Code section 1771.4(a)(3).

ARTICLE IX: Governing Law – Venue for any action arising out of or relating to this Agreement shall be in Fresno County, California. This Agreement shall be governed by the laws of the State of California.

This Contract, **20-18-SW**, was awarded by the Board of Supervisors on April 13, 2021. It has been reviewed by the Department of Public Works and Planning and is in proper order for signature of the Chairman of the Board of Supervisors.

IN WITNESS WHEREOF, they have executed this Agreement this 11th day of

May, 2021

BSE GENERAL ENGINEERING, INC.
(CONTRACTOR)

82-0621648
(Taxpayer Federal I.D. No.)

By [Signature]

Title SENIOR VICE PRESIDENT, CFO

COUNTY OF FRESNO
(OWNER)

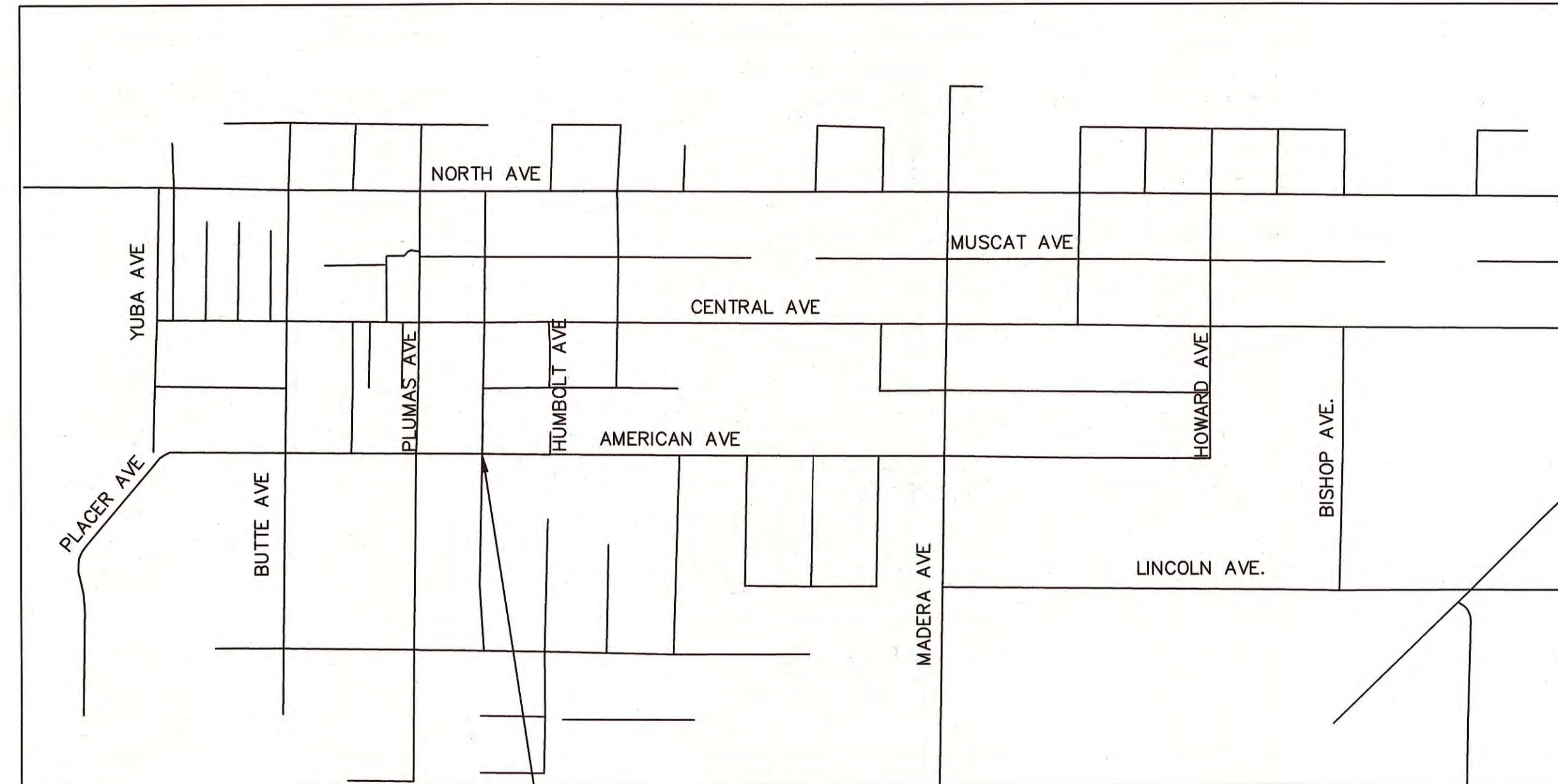
By [Signature]
Steve Brandau, Chairman
of the Board of Supervisors of the
County of Fresno

ATTEST:
Bernice E. Seidel
Clerk of the Board of Supervisors
County of Fresno, State of California

By [Signature]
Deputy

PLANS FOR CONSTRUCTION

AMERICAN AVE DISPOSAL SITE PHASE III - MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

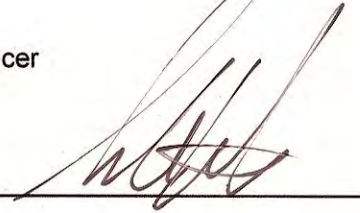


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SCALE IN MILES

INDEX OF SHEETS	
SHEET	DESCRIPTION
1	TITLE PAGE
2	ABBREVIATIONS
3	SITE PLAN/INDEX/SURVEY CONTROL PLAN
4	LFGCCS EXPANSION PLAN
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6	LFGCCS EXPANSION PLAN
7	LANDFILL BASE GRADES WITH PROPOSED WELLS
8	LFGCCS DETAILS
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14	LFGCCS DETAILS
15	LFGCCS DETAILS
16	CONDENSATE PUMP STATION DETAIL

Steve Brandau Chairman 2nd District
 Brian Pacheco Vice Chairman 1st District
 Sal Quintero 3rd District
 Buddy Mendes 4th District
 Nathan Magsig 5th District

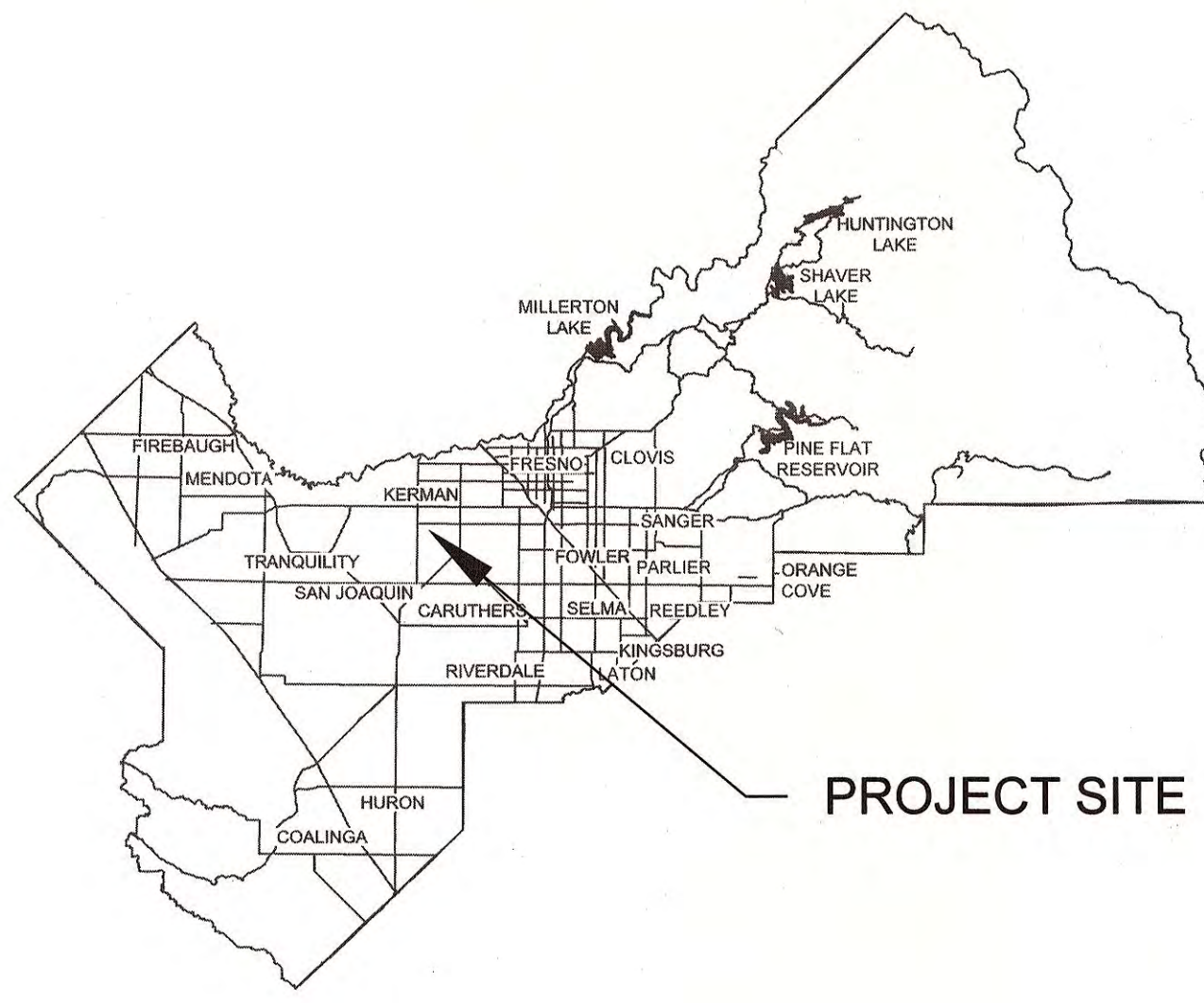
Jean M. Rousseau
 County Administrative Officer

APPROVED 

Steven E. White, Director
 Department of Public Works and Planning

CALIFORNIA CONTRACTOR'S LICENSES REQUIRED FOR THIS PROJECT					
CLASS A, GENERAL ENGINEERING					
DRAWING NO.	ROAD NO.	BRIDGE NO.	FISCAL YR.	SHEET NO.	TOTAL
11307	N/A	N/A	20/21	1	16
CONTRACT NO. 20-18-SW					

RECORD DRAWING		
DATE ADOPTED		
CONTRACTOR		
NAME		
ADDRESS		
CITY	STATE	ZIP
PHONE		
DATE AWARDED		
DATE STARTED		
DATE COMPLETED		
RESIDENT ENGINEER		
NAME	SIGNATURE	
NAME	SIGNATURE	



DEPARTMENT OF PUBLIC WORKS AND PLANNING

MISCELLANEOUS ABBREVIATIONS

A = ACTUATOR	FLT or F = FILTER	LAHH = LEVEL ALARM HIGH HIGH	OL = OVERLOAD	SYS = SYSTEM
AC or A/C = AIR CONDITIONER	FA = FLAME ARRESTER	LAL = LEVEL ALARM LOW	PDI = PRESSURE DIFFERENTIAL INDICATOR	T or TK = TANK
ACFM = ACTUAL CUBIC FEET PER MINUTE	FAH = FLOW ALARM HIGH	LALL = LEVEL ALARM LOW LOW	PMP or P = PUMP	TACH = TACHOMETER
ADS = AUTO DIALER SYSTEM	FAHH = FLOW ALARM HIGH HIGH	LC = LEVEL CONTROLLER	PB = PUSH BUTTON	TAH = TEMPERATURE ALARM HIGH
AF = AMPERE FRAME SIZE (CIRCUIT BREAKER)	FAL = FLOW ALARM LOW	LCH = LEVEL CONTROLLER HIGH	PA = PURGE AUTO	TAHH = TEMPERATURE ALARM HIGH HIGH
AFF = ABOVE FINISH FLOOR	FALL = FLOW ALARM LOW LOW	LCL = LEVEL CONTROLLER LOW	PAH = PRESSURE ALARM HIGH	TAL = TEMPERATURE ALARM LOW
AI = ANALOG INPUT	FBO = FURNISHED BY OTHERS	LCP = LOCAL CONTROL PANEL	PAHH = PRESSURE ALARM HIGH HIGH	TALL = TEMPERATURE ALARM LOW LOW
AIO = ANALOG INPUT OUTPUT	FC = FLOW CONTROLLER	LCR = LATCHING CONTROL RELAY	PAL = PRESSURE ALARM LOW	TB = TERMINAL BLOCK
AOUT = ANALOG OUTPUT	F.C. = FAIL CLOSE	LE = LEVEL ELEMENT	PALL = PRESSURE ALARM LOW LOW	TC = TEMPERATURE CONTROLLER
AL = ALUMINUM	FCV = FLOW CONTROL VALVE	LEL = LOWER EXPLOSIVE LIMIT	PC = PRESSURE CONTROLLER	TCV = TEMPERATURE CONTROL VALVE
AMP = AMPERES, AMPERAGE	FD = FUSED DISCONNECT	LFG = LANDFILL GAS	PCV = PRESSURE CONTROL VALVE	TCZ = TEMPERATURE CONTROLLER POSITIONER
AT = AMPERE TRIP	FDR = FEEDER	LFGCCS = LANDFILL GAS COLLECTION AND CONTROL SYSTEM	PDI = PRESSURE DIFFERENTIAL INDICATOR	TD or TDR = TIME DELAY RELAY
AUTO = AUTOMATIC	FE = FLOW ELEMENT (FLOW METER)	LG = LEVEL GAGE	PE = POLYETHYLENE	TE = TEMPERATURE ELEMENT (THERMOCOUPLE)
AWG = AMERICAN WIRE GAUGE	FFA = FLAME FAILURE ALARM	LI = LEVEL INDICATOR	PG = PILOT GAS	TEMP = TEMPERATURE
B = BLOWER	FG = FINISH GRADE	LMP = LAMP	PH = PHONE	TES = TEMPERATURE ELEMENT SWITCH
BALL = BURNER ALARM LOW LOW	FI = FLOW INDICATOR	LO = LUBE OIL	PI = PRESSURE INDICATOR	TEW = TEMPERATURE ELEMENT WELL
BATT = BATTERY	FIR = FLOW INDICATING RECORDER	LOC = LOCAL	P&ID = PIPING AND INSTRUMENTATION DIAGRAM	THERM = THERMOSTAT
BC = BARE COPPER	FIT = FLOW INDICATING TRANSMITTER	LOS = LOCK-OUT-STOP	PIC = PRESSURE INDICATING CONTROLLER	TI = TEMPERATURE INDICATOR
BG = BURNER GLASS	FL = FLOWLINE	LP = LOW POINT OR LIGHTING PANEL	PIR = PRESSURE INDICATING RECORDER	TIC = TEMPERATURE INDICATOR CONTROLLER
BE = BURNER ELEMENT (UV SCANNER)	FLA = FULL LOAD AMPS	LS = LEVEL SWITCH	PIT = PRESSURE INDICATING TRANSMITTER	TIR = TEMPERATURE INDICATOR RECORDER
BKR = BREAKER	FLR = FLARE	LSH = LEVEL SWITCH HIGH	PLC = PROGRAMMABLE LOGIC CONTROLLER	TIT = TEMPERATURE INDICATOR TRANSMITTER
BOM = BILL OF MATERIAL	FX or FLEX = FLEXIBLE HOSE	LSHH = LEVEL SWITCH HIGH HIGH	PLT = PILOT	TMR = TIMER
BPS = BUILDING PROTECTION SYSTEM	FLTP = PORT FILTER	LSL = LEVEL SWITCH LOW	PNL = PANEL	TR = TEMPERATURE RECORDER
BS = BURNER SWITCH (FLAME SAFEGUARD)	F.O. = FAIL OPEN	LSLL = LEVEL SWITCH LOW LOW	POS = POSITION, POSITIVE	TS = TEMPERATURE SWITCH OR TOP OF SLAB
BTM = BOTTOM	FOR = FORWARD	LT = LEVEL TRANSMITTER OR LIGHT(S)	POT = POTENTIOMETER	TSE = TEMPERATURE SAFETY ELEMENT
BTU = BRITISH THERMAL UNIT	FQI = FLOW TOTALIZER INDICATOR	LTG = LIGHTING	POZ = POSITIONER	TSH = TEMPERATURE SWITCH HIGH
C = CONDUIT	FR = FLOW RECORDER	LUB = LUBRICATOR	PP = POWER PANEL or POWER POLE	TSL = TEMPERATURE SWITCH LOW
CAH = CURRENT ALARM HIGH	FRG = FILTER REGULATOR	M = MOTOR	PS = PRESSURE SWITCH	TSO = TIGHT SHUTOFF
CAL = CURRENT ALARM LOW	FRL = FILTER/REGULATOR/LUBRICATOR	MA = MILLIAMPS	PSE = PRESSURE SAFETY ELEMENT	TSV = TEMPERATURE SAFETY VALVE
CBL = CABLE	FRP = FIBERGLASS REINFORCED PLASTIC	M.A. = METHANE ANALYZER	PSH = PRESSURE SWITCH HIGH	TT = TEMPERATURE TRANSMITTER
CC = CENTER TO CENTER	FS = FLOW SWITCH OR FINISH SURFACE	MAL = METHANE ALARM LOW	PSI = POUNDS PER SQUARE INCH	TV = TEMPERATURE VALVE
CGH = COMBUSTIBLE GAS HIGH	FSH = FLOW SWITCH HIGH	MALL = METHANE ALARM LOW LOW	PSL = PRESSURE SWITCH LOW	TYP = TYPICAL
CGHH = COMBUSTIBLE GAS HIGH HIGH	FSL = FLOW SWITCH LOW	MAG = MAGNETIC	PT = PRESSURE TRANSMITTER	UG = UNDERGROUND
CGI = COMBUSTIBLE GAS INDICATOR	FSV = FLOW SAFETY VALVE (CHECK VALVE)	MAN = MANWAY	PSV = PRESSURE RELIEF VALVE	UPS = UNINTERRUPTIBLE POWER SUPPLY
CGT = COMBUSTIBLE GAS TRANSMITTER	FT = FLOW TRANSMITTER	MAX = MAXIMUM	PVC = POLYVINYL CHLORIDE	UV = ULTRAVIOLET SCANNER
CH = CHANNEL	FU = FUSE	MCC = MOTOR CONTROL CENTER	PWR = POWER	V = VESSEL
CHR = CHART RECORDER	FUH = FUSE HOLDER	MCM = THOUSAND CIRCULAR MILS	QL = TOTALIZER	VA = VIBRATION ALARM
CI = CURRENT INDICATOR	FUT = FUTURE	MCP = MAIN CONTROL PANEL	REQD = REQUIRED	VAH = VIBRATION ALARM HIGH
CIR = CIRCUIT	FV = FLOW VALVE	MH = MANHOLE	RD = RUPTURE DISK	VAHH = VIBRATION ALARM HIGH HIGH
CNT = COUNTER	GAC = GRANULAR ACTIVATED CARBON	MI = METHANE INDICATOR	RDH = RUPTURE DISK ALARM HIGH	VFD = VARIABLE FREQUENCY DRIVE
CO = CONDUIT ONLY	GB = GRADE BREAK	MIR = METHANE INDICATING RECORDER	RDS = RUPTURE DISK SWITCH	VI = VIBRATION INDICATOR
COMM = COMMUNICATION	GCCS = GAS COLLECTION AND CONTROL SYSTEM	MIN = MINIMUM	RECEPT = RECEPTACLE	VIR = VIBRATION INDICATING RECORDER
CMP or COMP = COMPRESSOR	GF = GROUND FAULT	MIT = METHANE INDICATOR TRANSMITTER	RES = RESISTOR	VP = VAPOR PROOF
CP = CONTROL PANEL	GFI = GROUND FAULT INTERRUPTER	MMS = MANUAL MOTOR STARTER	RGS = RIGID GALVANIZED STEEL	VS = VIBRATION SWITCH
CPT = CONTROL POWER TRANSFORMER	GM = GAS MONITOR	MOD = MODEM	RM = RELAY MODULE	VSD = VARIABLE SPEED DRIVE
CPVC = CHLORINATED POLYVINYL CHLORIDE	GND or GRND = GROUND	MOT = MOTOR	RPM = REVOLUTIONS PER MINUTE	VSH = VIBRATION SWITCH HIGH
CS = CARBON STEEL	HDPE = HIGH DENSITY POLYETHYLENE	MOV = MOTOR OPERATED VALVE	RT = RETENTION TIME	VT = VIBRATION TRANSMITTER
CSH = CURRENT SWITCH HIGH	HOA = HAND-OFF-AUTO	MS = MOTOR STARTER	RTC = RETENTION TIME CALCULATOR	W = WATTS
CSL = CURRENT SWITCH LOW	HP = HORSEPOWER OR HIGH POINT	MSB = MAIN SWITCH BOARD	S = AIR STRIPPER	W.C. = WATER COLUMN
CSP = CORRUGATED STEEL PIPE	HS = HAND SWITCH	MTD = MOUNTED	SB = SPECTACLE BLIND	WP = WEATHER PROOF
CT = CONDENSATE TRAP OR CURRENT TRANSFORMER	HT = HEAT TRACE	M.W. = MANWAY	SCFM = STANDARD CUBIC FEET PER MINUTE	XFMR = TRANSFORMER
CU = COPPER	HTR = HEATER	NA = NON-AUTOMATIC	SCH = SCHEDULE	XP = EXPLOSION PROOF
CV = CONTROL VALVE (MODULATING)	HV = HAND VALVE	NBK = NEUTRAL BLOCK	SD = SHUTDOWN	YA = EVENT ALARM
D = DRYER	HVP = HAND VALVE PORT	N.C. = NORMALLY CLOSED	SD/O = SHUTDOWN OR ON	YI = EVENT INDICATOR
DI = DIGITAL INPUT	HZ = HERTZ	N.C.T.C. = NORMALLY CLOSED TIMED TO CLOSE	SDV = SHUTDOWN VALVE	YIC = EVENT INDICATOR CONTROLLER
DISTR = DISTRIBUTION	I = CURRENT	N.C.T.O. = NORMALLY CLOSED TIMED TO OPEN	SEC = SECONDARY, SECONDS	ZA = POSITION ALARM
DL = DAYLIGHT	II = CURRENT INDICATOR	NEG = NEGATIVE	SECT = SECTION	ZC = POSITION CONTROLLER
DP = DELTA OR DIFFERENTIAL PRESSURE	I/I = CURRENT TRANSFORMER	NIC = NOT IN CONTRACT	SEL = SELECTOR	ZI = POSITION INDICATOR
DPI = DIFFERENTIAL PRESSURE INDICATOR	IAH = CURRENT ALARM HIGH	N.O. = NORMALLY OPEN	SEQ = SEQUENCE, SEQUENCER	ZS = POSITION SWITCH
DPS = DIFFERENTIAL PRESSURE SWITCH	IAHH = CURRENT ALARM HIGH HIGH	N.O.T.C. = NORMALLY OPEN TIMED TO CLOSE	SF = SUPPLEMENTAL FUEL	ZSC = POSITION SWITCH CLOSED
DS = DISCONNECT SWITCH	IAL = CURRENT ALARM LOW	N.O.T.O. = NORMALLY OPEN TIMED TO OPEN	SFR = SENSOR FAILURE	ZSO = POSITION SWITCH OPENED
DWG = DRAWING	IALL = CURRENT ALARM LOW LOW	NP = NAMEPLATE	SG = SIGHT GLASS	
E = ELECTRICAL MOTOR	IAS = INSTRUMENT AIR SUPPLY	NTS = NOT TO SCALE	SHLD = SHIELD, SHIELDED	
E/E = VOLTAGE TRANSFORMER	IG or IGN = IGNITOR	NOX = OXIDES OF NITROGEN	SHT = SHEET	
EDP = ELECTRICAL DISTRIBUTION PANEL	IIR = CURRENT INDICATING RECORDER	O = OXYGEN	SI = SPEED INDICATOR	
EI = VOLTAGE INDICATOR	INST = INSTANTANEOUS	O/C = OPEN/CLOSE	SOV = SOLENOID VALVE	
EL OR ELEV = ELEVATION	INSTR = INSTRUMENT	O.C. = ON CENTER	SP = SAMPLE PORT	
EMER = EMERGENCY	INV = INVERT	OA = OXYGEN ANALYZER	SPECS = SPECIFICATION	
EMT = ELECTRICAL METALLIC TUBING	ISC = SHORT CIRCUIT CURRENT	OAH = OXYGEN ALARM HIGH	SS = STAINLESS STEEL	
ENCL = ENCLOSURE, ENCLOSED	IT = CURRENT TRANSMITTER	OAHH = OXYGEN ALARM HIGH HIGH	SSR = SURGE ARRESTOR	
EQPT = EQUIPMENT	ITC = INDUSTRIAL TECHNICAL CORPORATION	OE = OXYGEN ELEMENT	ST = SHUNT TRIP	
ETM = ELAPSED TIME METER	KI = TIME INDICATOR	OI = OXYGEN INDICATOR	STA = STATION	
EXH = EXHAUST	KV = KILOVOLTS	OIR = OXYGEN INDICATING RECORDER	STD = STANDARD	
EXIST = EXISTING	KVA = KILOVOLT AMPERES	OT = OXYGEN TRANSMITTER	STR = STRAINER	
EXP = EXPLOSION PROOF	KW = KILOWATTS	OIT = OXYGEN INDICATOR TRANSMITTER	SW = SWITCH	
°F = DEGREE FAHRENHEIT	LAH = LEVEL ALARM HIGH	OSF = OXYGEN SENSOR FAILURE		



21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

Angus Scott Friday, January 15, 2021 3:08:57 PM G:\DWG\AMERICAN AVENUE LANDFILL\GASPHASE 3 GGCS DESIGN\SHEET 02.DWG

DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE	 ENGINEER OF RECORD DATE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: SNA	01-2021	RESIDENT ENGINEER	NONE			AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION		ABBREVIATIONS
CHECKED: AMN/SHA	01-2021					ROAD NO. N/A BRIDGE NO. N/A		DRAWING NO. 11307 SHEET NO. 2 TOTAL 16

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

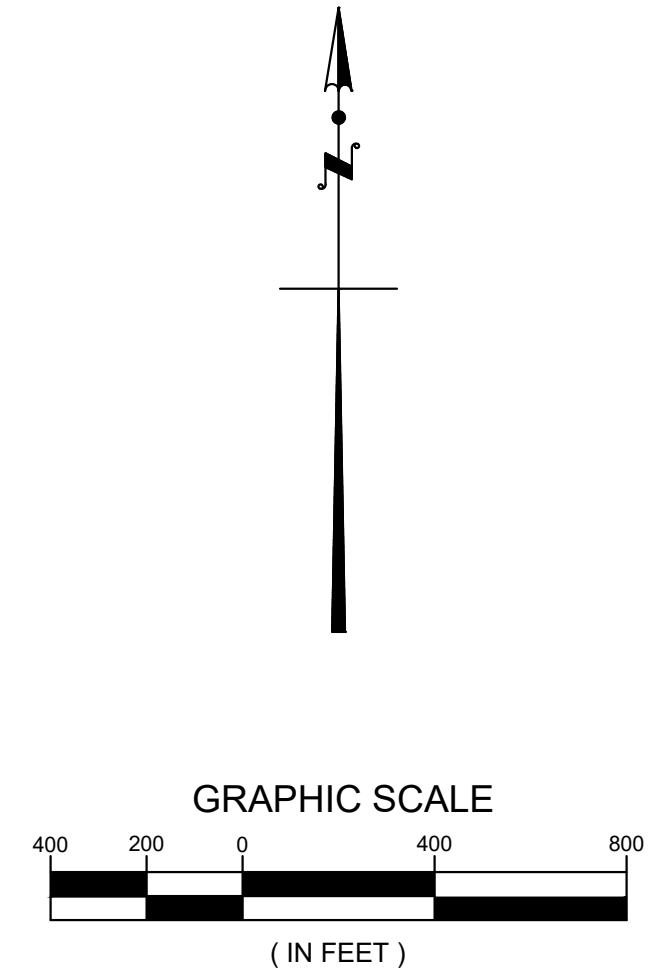
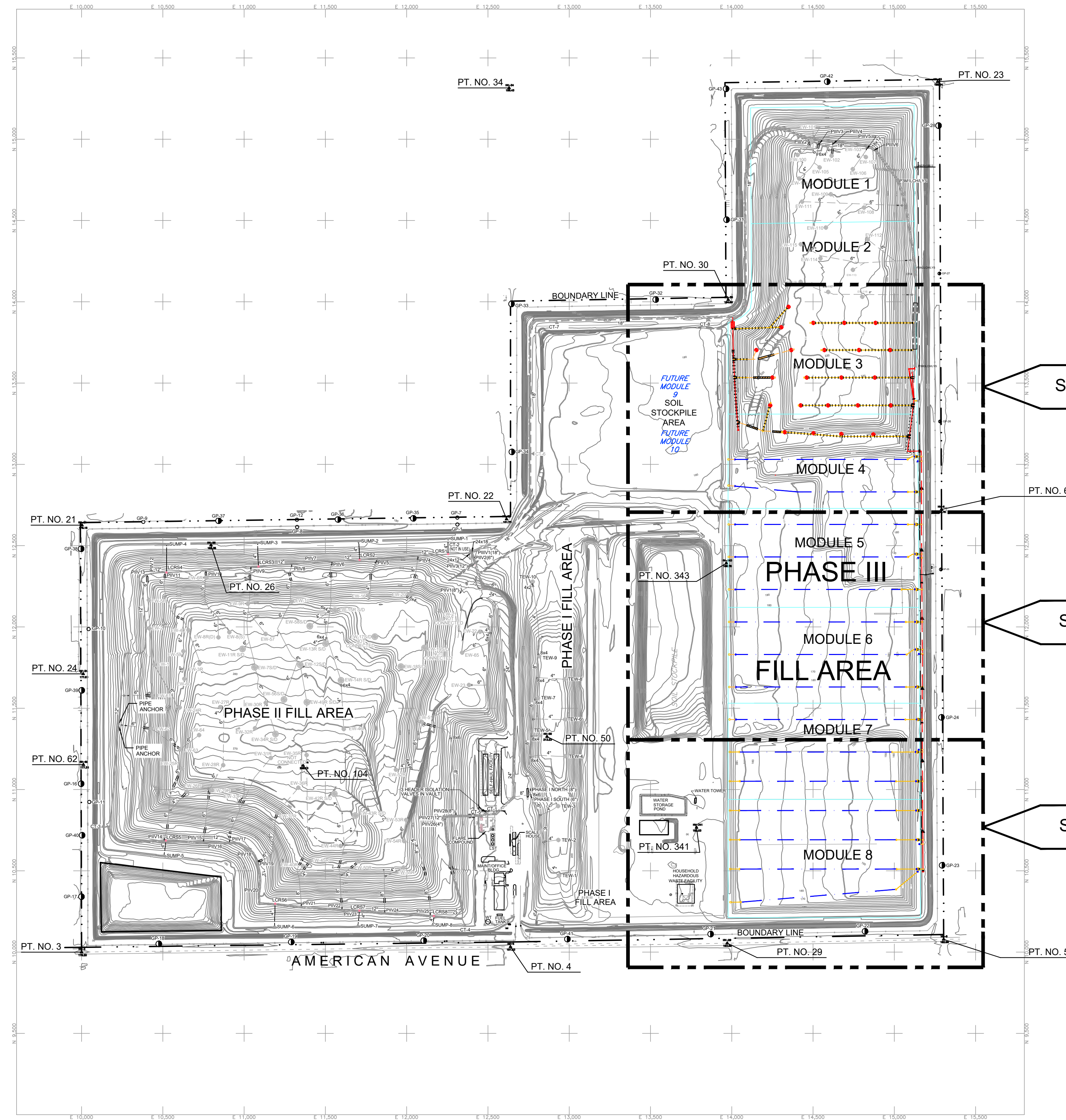
SURVEY NOTES:

BASIS OF BEARINGS
 THE LINE FROM THE N 1/4 CORNER OF SECTION 5, T.15.S., R.17.E. TO THE NW CORNER OF SECTION 3,T.15.S., R.17 W., M.D.B.&M., BEARS N 89°06'11" E PER FRESNO COUNTY SURVEYS AUTOCAD DRAWING "AMERICA MASTER DWG.DWG (12-12-03).

BASIS OF VERTICAL CONTROL
 FRESNO COUNTY BENCHMARK LH19B ON THE NORTHEAST CORNER OF AMERICAN AVENUE AND PLUMAS AVENUE HAS AN ELEVATION OF 177.208' (NGVD29) PER FRESNO COUNTY RECORDS.

**AMERICAN AVENUE LANDFILL
 FLIGHT PANEL DIAGRAM
 JUNE 2020**

PT. NO.	NORTHING	EASTING	DESCRIPTION	FLIGHT PANEL ELEVATION
3	9999.60	10000.16	N 1/4 SEC 5 15/17	178.24
4	10032.36	12638.45	NW COR SEC 4 15/17	181.11
5	10078.20	15303.66	N 1/4 SEC 4 15/17	182.85
6	12722.87	15290.48	C 1/4 SEC 33 14/17	185.78
21	12626.08	10002.48	COTTON SPINDLE ON PAVEMENT	179.10
22	12663.28	12614.41	COTTON SPINDLE ON PAVEMENT	181.71
23	15353.51	15266.08	COTTON SPINDLE ON PAVEMENT	188.83
24	11711.52	10009.91	PK NAIL IN PAVEMENT	177.50
26	12503.05	10796.16	TRAV PT (REBAR W/ F.C. CAP)	182.34
29	10055.08	13971.99	PK NAIL IN PAVEMENT	183.18
30	14013.08	13978.05	PK NAIL IN PAVEMENT	184.68
34	15315.79	12630.04	HUB & TACK	186.47
50	11325.27	12863.54	TRAV PT (REBAR W/ F.C. CAP)	213.15
62	11152.98	10011.34	PK NAIL IN PAVEMENT	177.28
104	11148.27	11362.64	HUB & TACK	267.55
341	10766.56	13783.20	TRAV PT (REBAR W/ F.C. CAP)	182.13
343	12391.99	13966.88	HUB & TACK	188.75



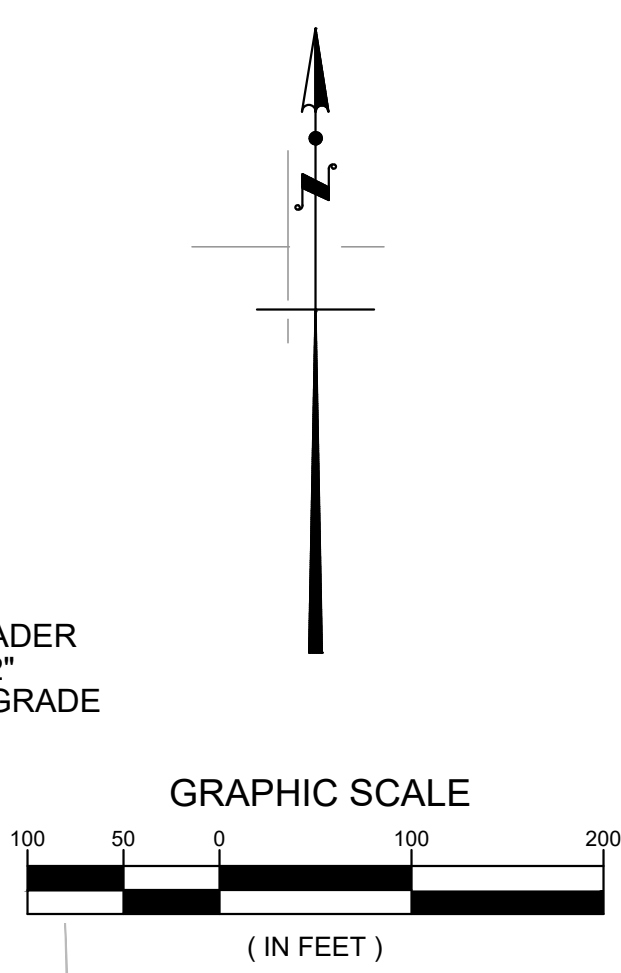
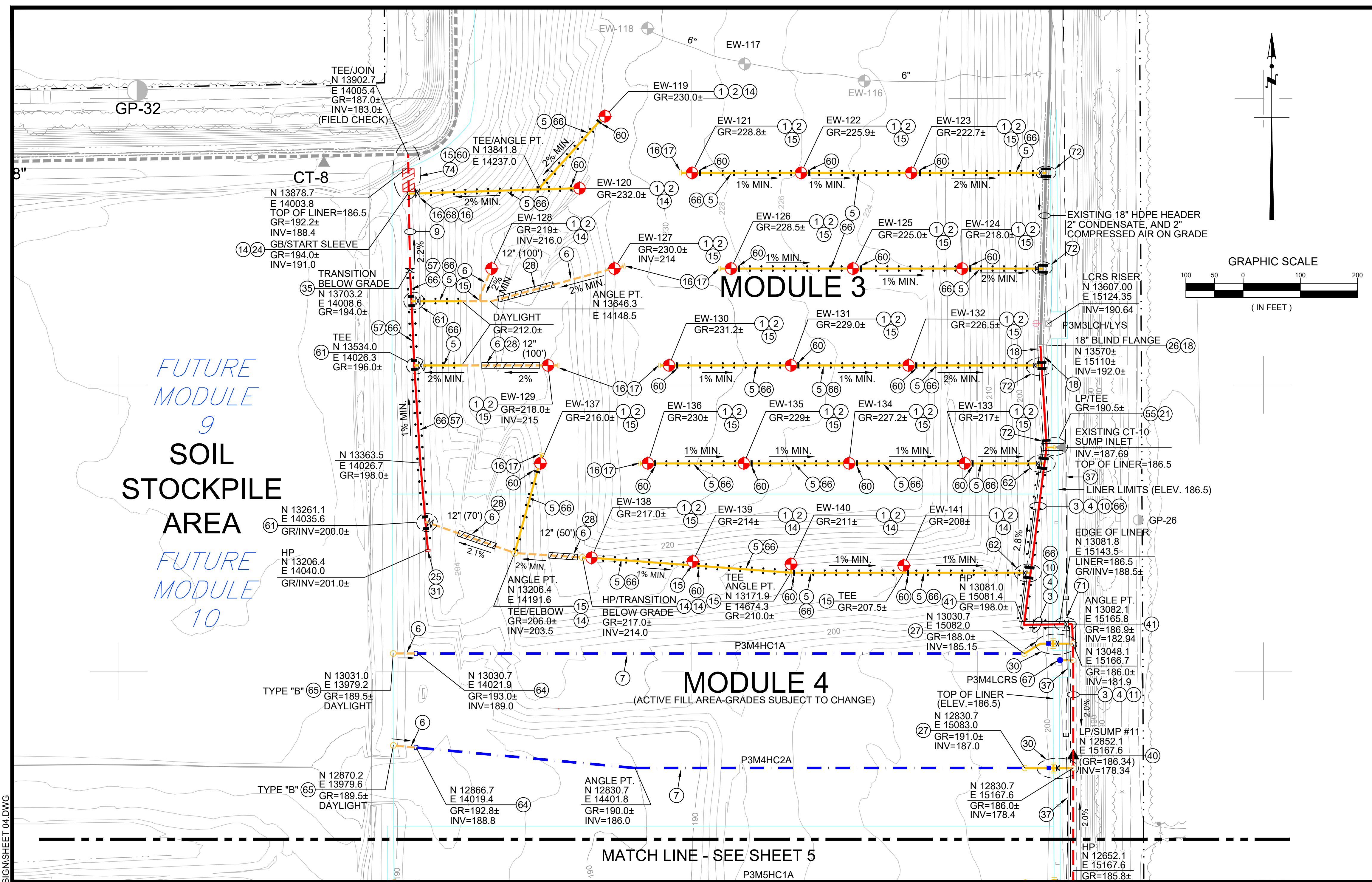
TETRA TECH
 21700 Copley Drive, Suite 200
 Diamond Bar, CA 91765
 TEL 909.860.7777 FAX 909.860.8017

DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE	 02/08/2021 ENGINEER OF RECORD DATE	PROJECT AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION	DEPARTMENT OF PUBLIC WORKS AND PLANNING SITE PLAN/INDEX/SURVEY CONTROL PLAN
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	AS NOTED			
CHECKED: AMN/SHA	DATE: 01-2021					
ROAD NO. N/A BRIDGE NO. N/A DRAWING NO. 11307 SHEET NO. 3 TOTAL 16						

Friday, January 15, 2021 3:10:16 PM
 C:\DWG\AMERICAN AVENUE LANDFILL\GAS\PHASE 3 GGCS DESIGN\SHEET 03.DWG

CONSTRUCTION NOTES:

- 1 INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
- 2 INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
- 3 INSTALL 2" SDR 11 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
- 4 INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
- 5 INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- 6 INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- 7 INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
- 8 INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
- 9 INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- 10 INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- 11 INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
- 12 INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
- 13 INSTALL 6" HDPE CROSS, SDR 11
- 14 INSTALL 6" 90° HDPE ELBOW, SDR 11
- 15 INSTALL 6" HDPE TEE, SDR 11
- 16 INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
- 17 INSTALL 6" HDPE BLIND FLANGE
- 18 JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
- 19 INSTALL 6" X 4" HDPE REDUCER
- 20 INSTALL 4" X 2" HDPE REDUCER
- 21 CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
- 22 INSTALL 12" X 8" HDPE REDUCER
- 23 INSTALL 8" X 6" HDPE REDUCER
- 24 INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
- 25 INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
- 26 INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
- 27 INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
- 28 INSTALL 12" CSP SLEEVE
- 29 INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
- 30 INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
- 31 INSTALL 12" HDPE BLIND FLANGE
- 32 INSTALL 18" HDPE BLIND FLANGE
- 33 INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
- 34 INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
- 35 INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
- 36 INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
- 37 PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
- 38 INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
- 39 INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
- 40 INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
- 41 INSTALL 18" HDPE ELBOW, SDR 11
- 42 INSTALL 2" FERNOCO PIPE ADAPTER
- 43 INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
- 44 INSTALL 4" HDPE ELBOW, SDR 11
- 45 INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
- 46 INSTALL 6" X 2" FERNOCO PIPE ADAPTER
- 47 INSTALL 2" SDR 11 HDPE PIPE
- 48 INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
- 49 INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
- 50 INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
- 51 INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
- 52 INSTALL 6" 45° HDPE ELBOW, SDR 11
- 53 INSTALL 4" X 2" HDPE TEE, SDR 11
- 54 INSTALL 1/2" STAINLESS STEEL BAND CLAMP
- 55 INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
- 56 INSTALL 6" SDR 11 HDPE END CAP
- 57 INSTALL 12" SDR 11 HDPE PIPE ON GRADE
- 58 INSTALL 18" CSP SLEEVE
- 59 INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
- 60 INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
- 61 INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
- 62 INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
- 63 INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
- 64 INSTALL 2" WIDE X 1.5' LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
- 65 INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
- 66 INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
- 67 INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
- 68 INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
- 69 INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1" STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
- 70 INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
- 71 INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
- 72 INSTALL 18" CONCRETE ANCHOR BLOCK/BRANCH CONNECTION PER DETAIL 4/SHEET 12
- 73 INSTALL 2" HDPE END CAP
- 74 INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
- 75 INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15



LEGEND

- PROPOSED COMPRESSED AIR LINE
- PROPOSED CONDENSATE CONVEYANCE LINE
- PROPOSED HORIZONTAL GAS COLLECTOR
- PROPOSED PIPE ANCHOR/GUIDES
- CONCRETE BLOCK, CAST-IN-PLACE CONCRETE ANCHOR OR INFA-JUST PIPE ANCHOR (PER DETAILS)
- #6 REBAR PIPE GUIDE
- PROPOSED LANDFILL GAS HEADER, ABOVE GRADE
- PROPOSED LANDFILL GAS HEADER, BELOW GRADE
- PROPOSED GAS LATERAL, ABOVE GRADE
- PROPOSED GAS LATERAL, BELOW GRADE
- ISOLATION VALVE (BUTTERFLY OR BALL VALVE)
- EXISTING VERTICAL GAS EXTRACTION WELL
- PROPOSED VERTICAL GAS EXTRACTION WELL
- ▲ PROPOSED CONDENSATE PUMP STATION
- PROPOSED REMOTE VERTICAL WELLHEAD LOCATION
- PROPOSED HORIZONTAL WELLHEAD LOCATION
- EXISTING LANDFILL GAS HEADER, ABOVE GRADE
- EXISTING LANDFILL GAS HEADER, BELOW GRADE
- ▲ EXISTING CONDENSATE PUMP STATION
- EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT



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Angus, Scott
Monday, February 01, 2021 4:18:51 PM
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DATE	RECORD DRAWING	SCALE
DESIGNED: SNA 01-2021	RESIDENT ENGINEER	DATE
DRAWN: SNA 01-2021		
CHECKED: AMN/SHA 01-2021		

Sauyan
ENGINEER OF RECORD
DATE 02/08/2021

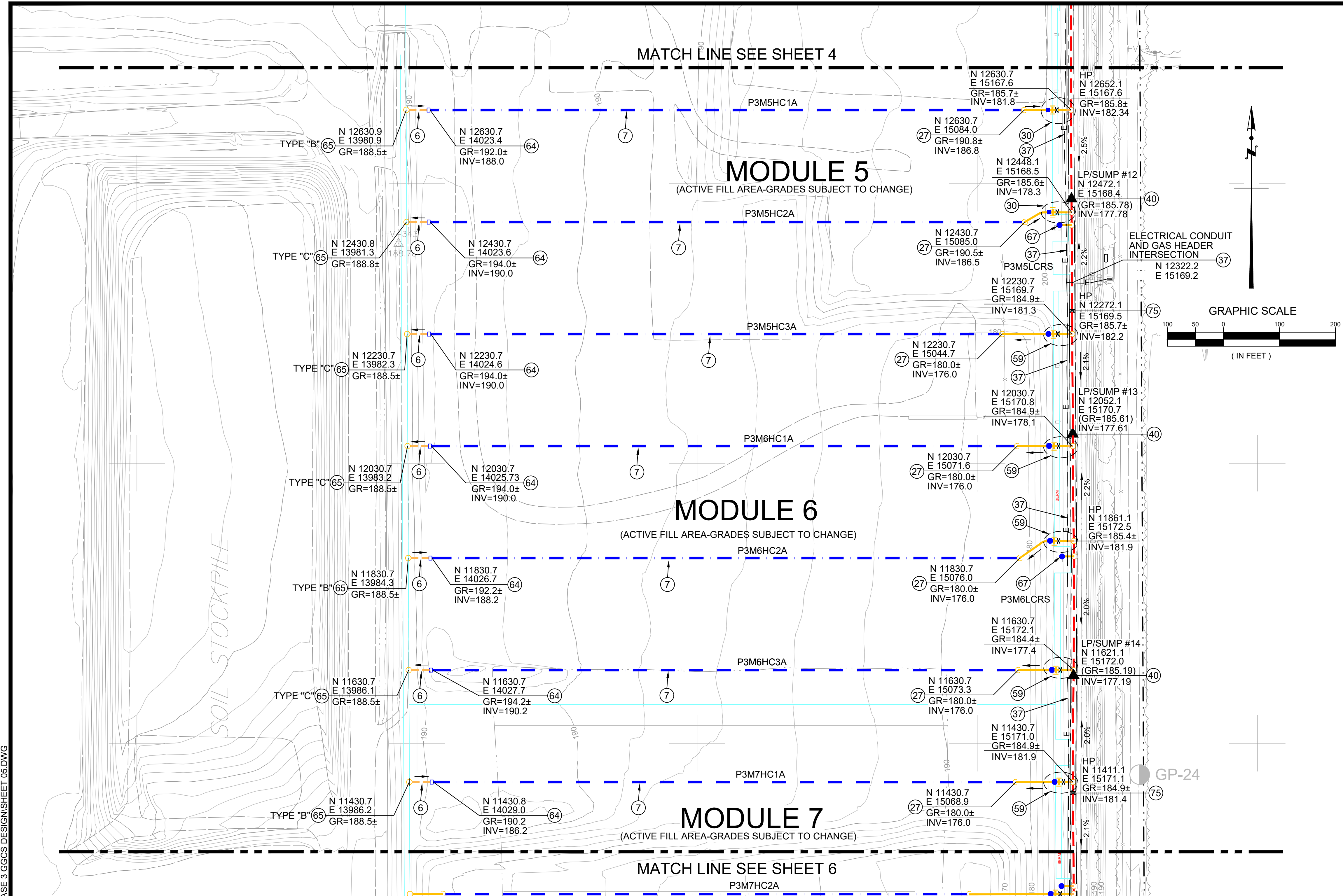


PROJECT
AMERICAN AVENUE LANDFILL PHASE III -
MODULES 3-8 LFGCCS EXPANSION



DEPARTMENT OF PUBLIC WORKS AND PLANNING
LFGCCS EXPANSION PLAN

DRAWING NO. 11307 SHEET NO. 4 TOTAL 16



CONSTRUCTION NOTES:

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TETRA TECH
 21700 Copley Drive, Suite 200
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 TEL 909.860.7777 FAX 909.860.8017

RECORD DRAWING	
DATE	RESIDENT ENGINEER
01-2021	
01-2021	
01-2021	

SCALE
AS NOTED

Saulyan
 02/08/2021
 ENGINEER OF RECORD DATE



PROJECT
**AMERICAN AVENUE LANDFILL PHASE III -
 MODULES 3-8 LFGCCS EXPANSION**

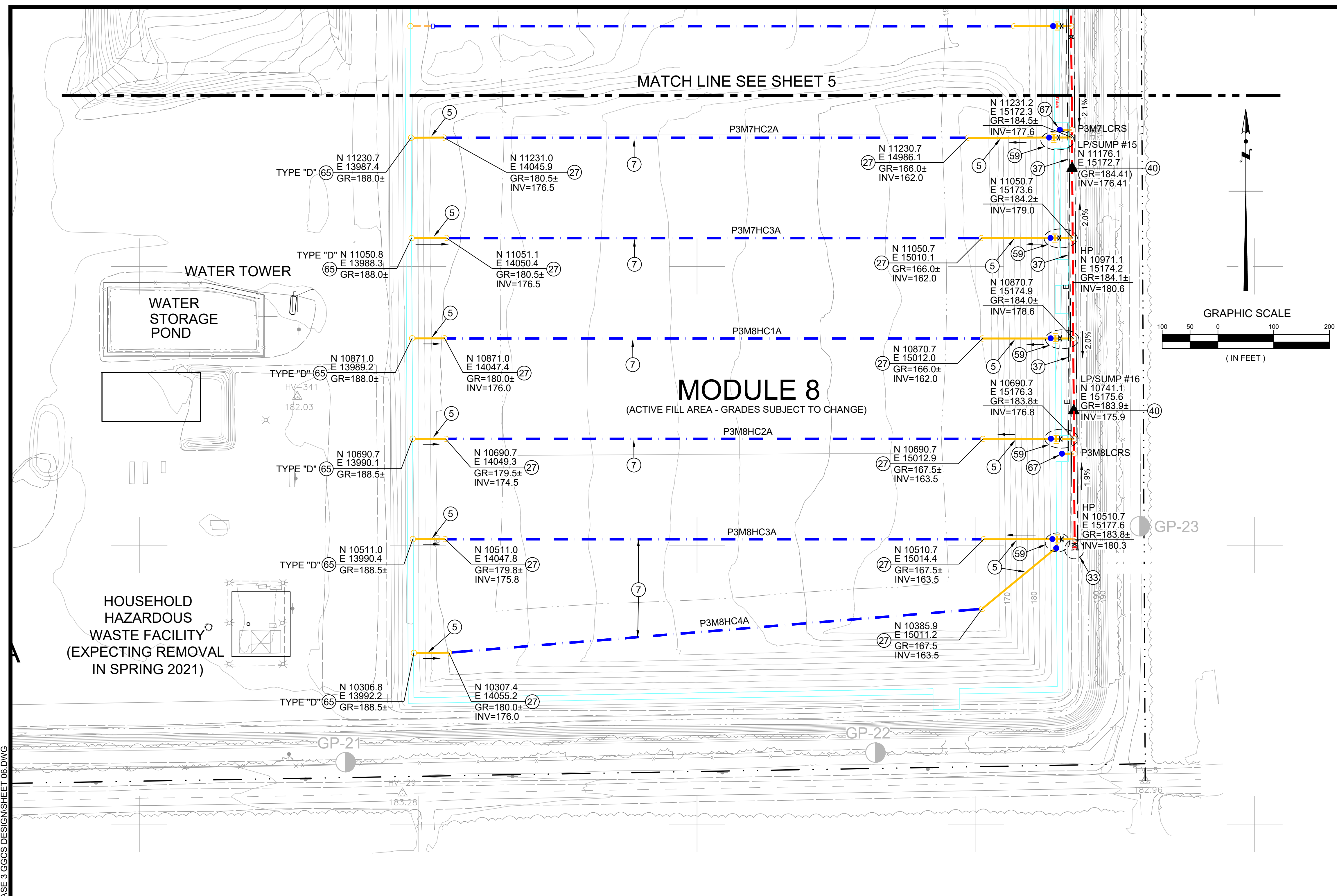


DEPARTMENT OF PUBLIC WORKS AND PLANNING
LFGCCS EXPANSION PLAN

August, Scott February 01, 2021 4:26:50 PM
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CONSTRUCTION NOTES:

- 1 INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
- 2 INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
- 3 INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
- 4 INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
- 5 INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- 6 INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- 7 INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
- 8 INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
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- 27 INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
- 28 INSTALL 12" CSP SLEEVE
- 29 INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
- 30 INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
- 31 INSTALL 12" HDPE BLIND FLANGE
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- 48 INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
- 49 INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
- 50 INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
- 51 INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
- 52 INSTALL 6" 45° HDPE ELBOW, SDR 11
- 53 INSTALL 4" X 2" HDPE TEE, SDR 11
- 54 INSTALL 1/2" STAINLESS STEEL BAND CLAMP
- 55 INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
- 56 INSTALL 6" SDR 11 HDPE END CAP
- 57 INSTALL 12" SDR 11 HDPE PIPE ON GRADE
- 58 INSTALL 18" CSP SLEEVE
- 59 INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
- 60 INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
- 61 INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
- 62 INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
- 63 INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
- 64 INSTALL 2" WIDE X 1.5' LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
- 65 INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
- 66 INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
- 67 INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
- 68 INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
- 69 INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1" STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
- 70 INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
- 71 INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
- 72 INSTALL 18" CONCRETE ANCHOR BLOCK BRANCH CONNECTION PER DETAIL 4/SHEET 12
- 73 INSTALL 2" HDPE END CAP
- 74 INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
- 75 INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15



LEGEND

- PROPOSED COMPRESSED AIR LINE
- PROPOSED CONDENSATE CONVEYANCE LINE
- PROPOSED HORIZONTAL GAS COLLECTOR
- PROPOSED PIPE ANCHOR/GUIDES
- CONCRETE BLOCK, CAST-IN-PLACE CONCRETE ANCHOR OR INFA-JUST PIPE ANCHOR (PER DETAILS)
- #6 REBAR PIPE GUIDE
- PROPOSED LANDFILL GAS HEADER, ABOVE GRADE
- PROPOSED LANDFILL GAS HEADER, BELOW GRADE
- PROPOSED GAS LATERAL, ABOVE GRADE
- PROPOSED GAS LATERAL, BELOW GRADE
- ISOLATION VALVE (BUTTERFLY OR BALL VALVE)
- EXISTING VERTICAL GAS EXTRACTION WELL
- PROPOSED VERTICAL GAS EXTRACTION WELL
- PROPOSED REMOTE VERTICAL WELLHEAD LOCATION
- PROPOSED HORIZONTAL WELLHEAD LOCATION
- EXISTING LANDFILL GAS HEADER, ABOVE GRADE
- EXISTING LANDFILL GAS HEADER, BELOW GRADE
- EXISTING CONDENSATE PUMP STATION
- EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT

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DATE		RECORD DRAWING	
DESIGNED: SNA	01-2021	RESIDENT ENGINEER	DATE
DRAWN: SNA	01-2021		
CHECKED: AMN/SHA	01-2021		

SCALE
AS NOTED

Saulyan
02/08/2021
ENGINEER OF RECORD DATE



PROJECT
AMERICAN AVENUE LANDFILL PHASE III -
MODULES 3-8 LFGCCS EXPANSION



DEPARTMENT OF PUBLIC WORKS AND PLANNING
LFGCCS EXPANSION PLAN

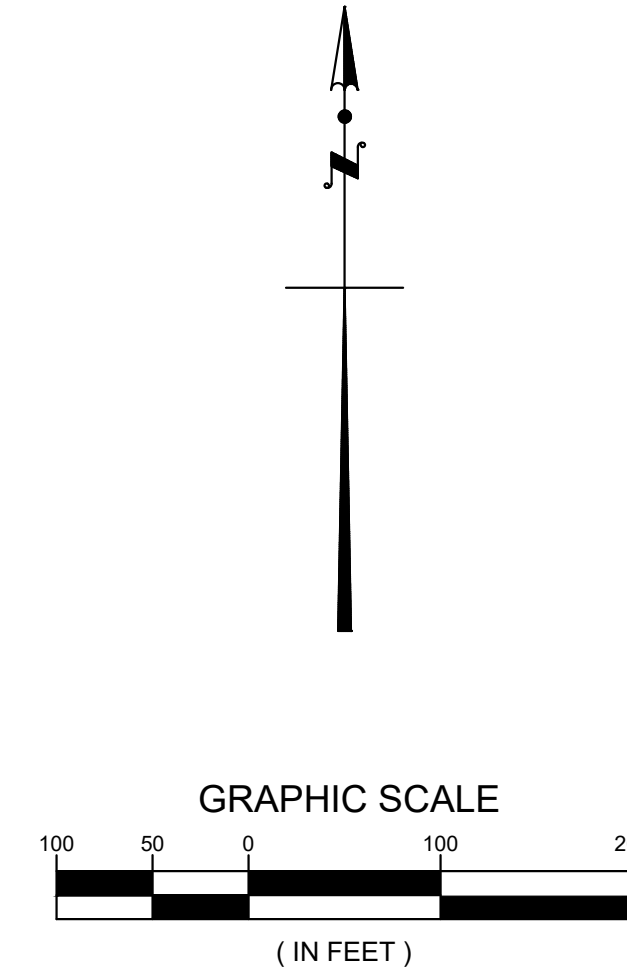
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FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

GP-31

MODULE 2

GP-27



EW-119
BTM=156

EW-120
BTM=156

EW-121
BTM=156

EW-122
BTM=154

EW-123
BTM=152

EW-128
BTM=156

EW-127
BTM=154

EW-126
BTM=152

EW-125
BTM=150

EW-124
BTM=158

MODULE 3

P3M3LCH/LYS

EW-129
BTM=156

EW-130
BTM=154

EW-131
BTM=152

EW-132
BTM=150

EW-137
BTM=158

EW-136
BTM=156

EW-135
BTM=154

EW-134
BTM=152

EW-133
BTM=158

EW-138
BTM=156

EW-139
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EW-140
BTM=152

EW-141
BTM=150

GP-26

TOP OF OPERATION LAYER, TYPICAL

MODULE 4

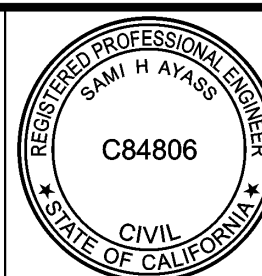


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DATE	RECORD DRAWING	SCALE
01-2021	RESIDENT ENGINEER	AS NOTED
01-2021		
01-2021		

Saulyan 02/08/2021
ENGINEER OF RECORD DATE



PROJECT
AMERICAN AVENUE LANDFILL PHASE III -
MODULES 3-8 LFGCCS EXPANSION

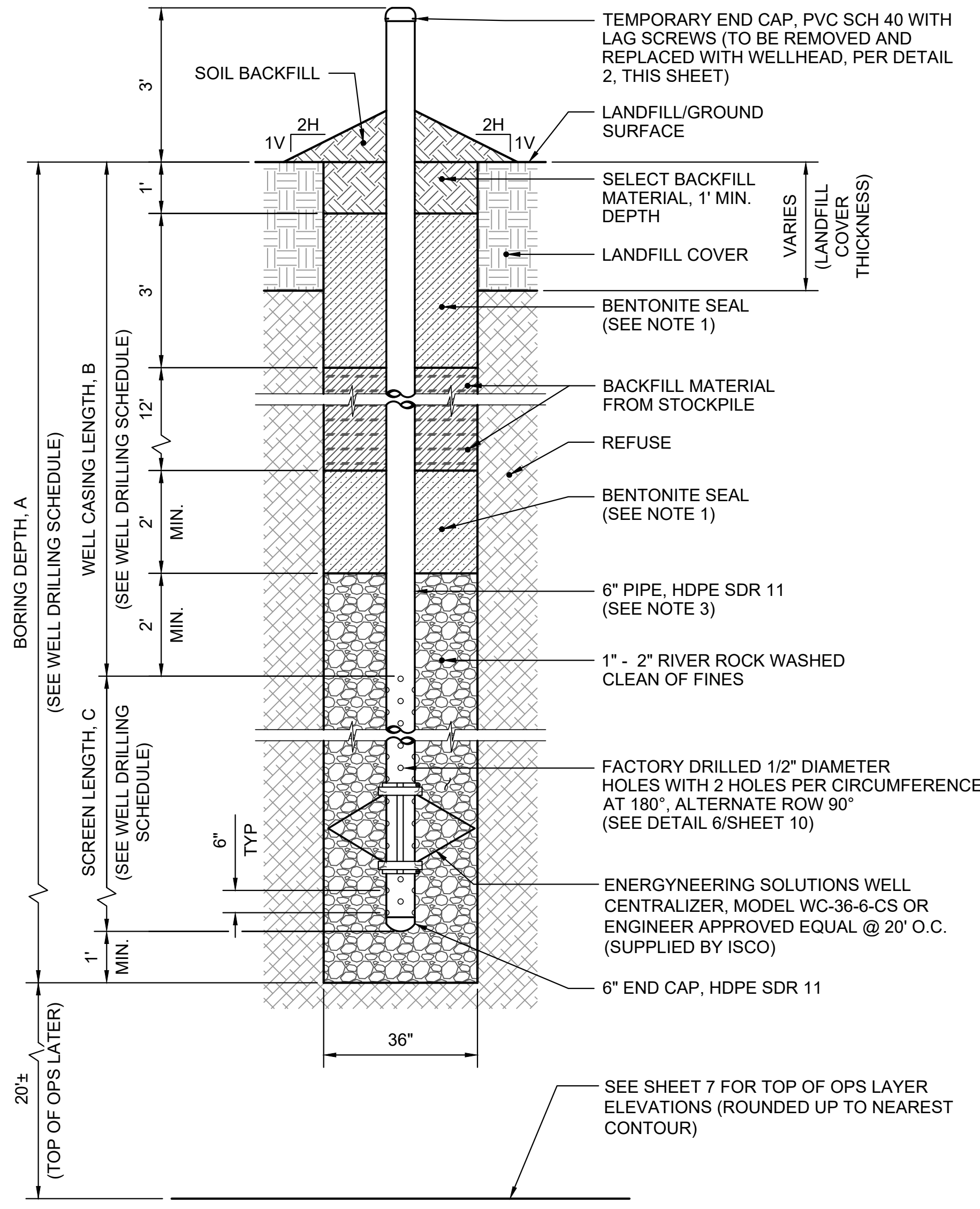
ROAD NO. N/A BRIDGE NO. N/A



DEPARTMENT OF PUBLIC WORKS AND PLANNING
LANDFILL BASE GRADES WITH PROPOSED WELLS

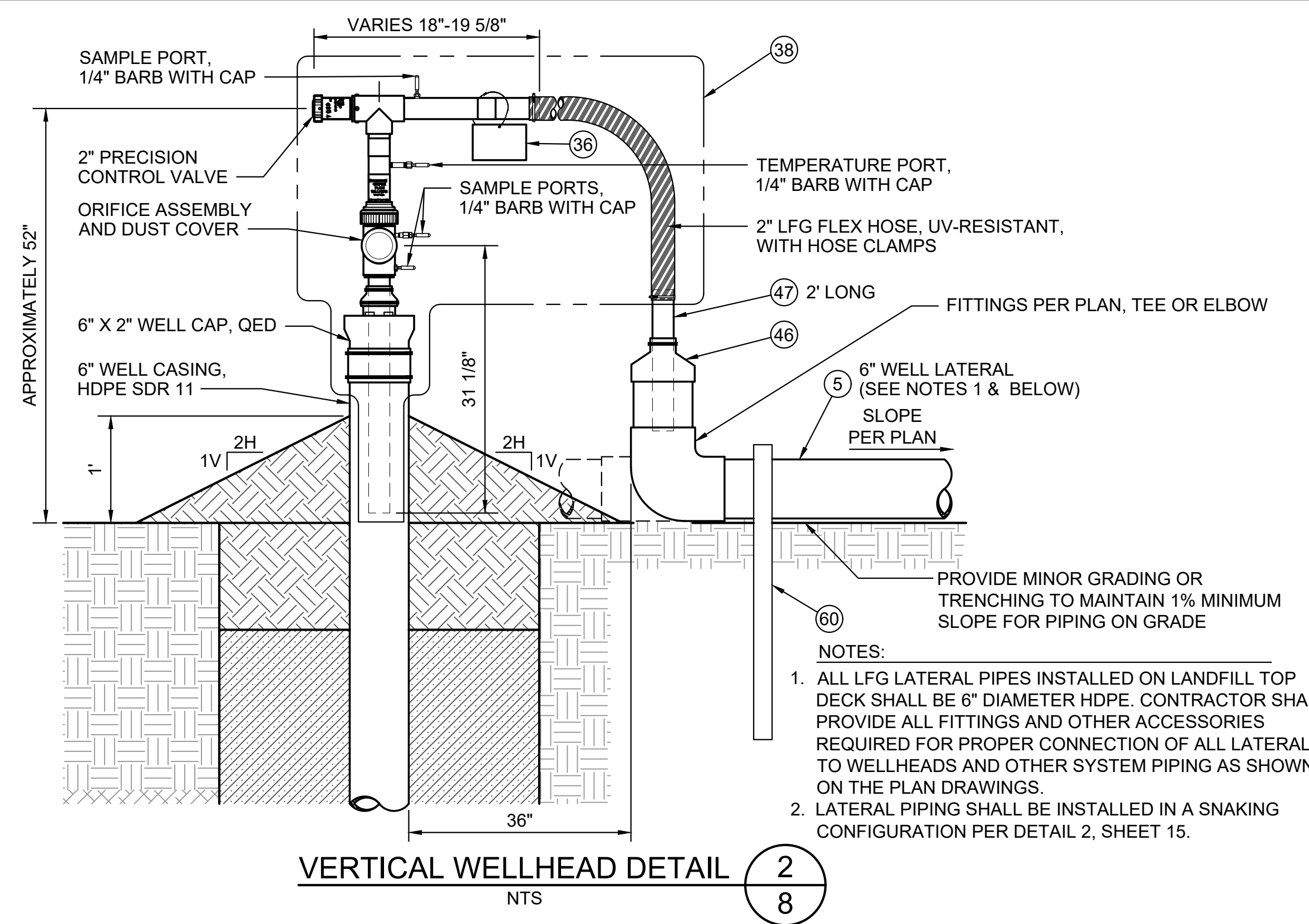
DRAWING NO. 11307 SHEET NO. 7 TOTAL 16

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



- NOTES:**
- HYDRATED BENTONITE SEAL SHALL INCLUDE COARSE GRANULAR BENTONITE CHIPS (3/8" TO 1/4") AND FINE GRANULAR BENTONITE (8 MESH BAROID BENSEAL) PRE-MIXED AT RATIO 2:1 OR APPROVED EQUAL. MINIMUM 60% BENTONITE TO MAXIMUM 40% WATER (BY VOLUME) AND POLYMER (CETCO INSTA-VIS PLUS OR APPROVED EQUAL) SHALL BE MIXED TO THICK SLURRY CONSISTENCY BEFORE PLACEMENT. DO NOT HYDRATE BENTONITE IN PLACE BY ADDING WATER DOWN THE BOREHOLE.
 - INSTALLED HDPE FITTINGS SHALL BE FULL PRESSURE RATED OR ONE SDR LOWER THAN HDPE PIPE SDR.
 - INSTALL ALL WELL CASINGS VERTICALLY PLUMB. USE SPRING CENTRALIZERS TO CENTER SINGLE WELL CASINGS IN THE BORE AT 20' SPACING AS SHOWN ON DETAIL.

VERTICAL GAS EXTRACTION WELL DETAIL 1
NTS 8



- NOTES:**
- ALL LFG LATERAL PIPES INSTALLED ON LANDFILL TOP DECK SHALL BE 6" DIAMETER HDPE. CONTRACTOR SHALL PROVIDE ALL FITTINGS AND OTHER ACCESSORIES REQUIRED FOR PROPER CONNECTION OF ALL LATERALS TO WELLHEADS AND OTHER SYSTEM PIPING AS SHOWN ON THE PLAN DRAWINGS.
 - LATERAL PIPING SHALL BE INSTALLED IN A SNAKING CONFIGURATION PER DETAIL 2, SHEET 15.

VERTICAL WELLHEAD DETAIL 2
NTS 8

WELL DRILLING SCHEDULE

WELL I.D.	COORDINATES		WELL ELEVATION (NGVD29)	TOP OF OPS LAYER ELEVATION (NGVD29)	BORING DEPTH DIMENSION "A" IN FEET	WELL CASING LENGTH DIMENSION "B" IN FEET	SCREEN LENGTH DIMENSION "C" IN FEET
	NORTHING	EASTING					
EW-119	13969.2	14349.2	230	156	54	20	33
EW-120	13843.4	14304.7	232	156	56	20	35
EW-121	13870.4	14501.5	228	156	52	20	31
EW-122	13870.4	14692.0	225	154	51	20	30
EW-123	13870.4	14884.5	222	152	50	20	29
EW-124	13703.2	14973.3	218	158	40	20	19
EW-125	13703.2	14782.7	225	150	55	20	34
EW-126	13703.2	14569.5	228	152	56	20	35
EW-127	13703.2	14363.4	230	154	56	20	35
EW-128	13703.2	14151.1	219	156	43	20	22
EW-129	13534.0	14249.9	218	156	42	20	21
EW-130	13534.0	14461.2	231	154	57	20	36
EW-131	13534.0	14674.4	229	152	57	20	36
EW-132	13534.0	14879.8	226	150	56	20	35
EW-133	13362.9	14978.0	217	158	39	20	18
EW-134	13362.9	14775.8	227	152	55	20	34
EW-135	13362.9	14592.0	229	154	55	20	34
EW-136	13362.9	14414.3	230	156	54	20	33
EW-137	13362.9	14236.5	216	158	38	20	17
EW-138	13198.1	14325.9	217	156	41	20	20
EW-139	13198.1	14502.7	214	154	40	20	19
EW-140	13198.1	14674.4	211	152	39	20	18
EW-141	13198.1	14871.3	208	150	38	20	17

TOTAL DRILLING: 1,124 VF

- WELL DRILLING SCHEDULE NOTES:**
- THE ENGINEER SHALL CONFIRM ALL WELL DEPTHS AFTER WELL LOCATIONS ARE SURVEYED. THIS WELL SCHEDULE IS DRAFT UNTIL APPROVED BY ENGINEER.
 - SURVEYOR SHALL STAKE THE WELL LOCATIONS AND VERIFY SURFACE ELEVATIONS PRIOR TO CONSTRUCTION. INCLUDE ON EACH STAKE IN THE FIELD THE NORTHING, EASTING, ELEVATION, SURVEY STAKE ID, SURVEY POINT NUMBER. ALL INFORMATION SHALL CORRESPOND TO WELL DRILLING SCHEDULE.
 - 3 FEET OF SOLID PIPE STICK-UP NOT INCLUDED IN THE PIPING TOTAL.

CONSTRUCTION NOTES:

- INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
- INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
- INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
- INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
- INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
- INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
- INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
- INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
- INSTALL 6" HDPE CROSS, SDR 11
- INSTALL 6" 90° HDPE ELBOW, SDR 11
- INSTALL 6" HDPE TEE, SDR 11
- INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
- INSTALL 6" HDPE BLIND FLANGE
- JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
- INSTALL 6" X 4" HDPE REDUCER
- INSTALL 4" X 2" HDPE REDUCER
- CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
- INSTALL 12" X 8" HDPE REDUCER
- INSTALL 8" X 6" HDPE REDUCER
- INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
- INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
- INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
- INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
- INSTALL 12" CSP SLEEVE
- INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
- INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
- INSTALL 12" HDPE BLIND FLANGE
- INSTALL 18" HDPE BLIND FLANGE
- INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
- INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
- INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
- INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
- PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
- INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
- INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
- INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
- INSTALL 18" HDPE ELBOW, SDR 11
- INSTALL 2" FERNCO PIPE ADAPTER
- INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
- INSTALL 4" HDPE ELBOW, SDR 11
- INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
- INSTALL 6" X 2" FERNCO PIPE ADAPTER
- INSTALL 2" SDR 11 HDPE PIPE
- INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
- INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
- INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
- INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
- INSTALL 6" 45° HDPE ELBOW, SDR 11
- INSTALL 4" X 2" HDPE TEE, SDR 11
- INSTALL 1/2" STAINLESS STEEL BAND CLAMP
- INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
- INSTALL 6" SDR 11 HDPE END CAP
- INSTALL 12" SDR 11 HDPE PIPE ON GRADE
- INSTALL 18" CSP SLEEVE
- INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
- INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
- INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
- INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
- INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
- INSTALL 2" WIDE X 1.5" LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
- INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
- INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
- INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
- INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
- INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1" STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
- INSTALL 4" X 4" X 1" LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
- INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
- INSTALL 18" CONCRETE ANCHOR BLOCK/BRANCH CONNECTION PER DETAIL 4/SHEET 12
- INSTALL 2" HDPE END CAP
- INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
- INSTALL 18" VALVE ASSEMBY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15

Angus, Scott
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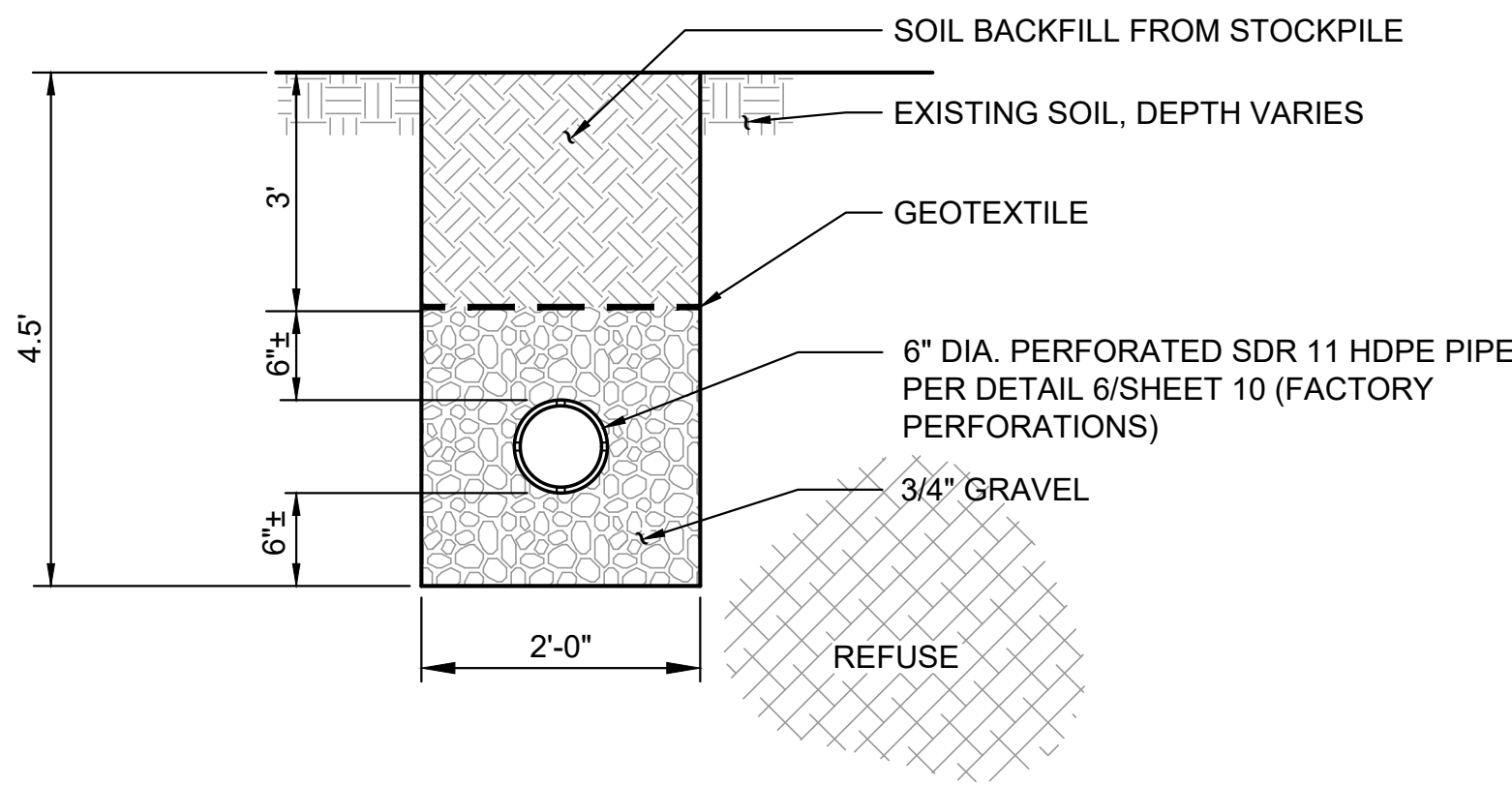
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DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	NOT TO SCALE
CHECKED: AMN/SHA	DATE: 01-2021		

ENGINEER OF RECORD: *Sauyan*
 DATE: 02/08/2021
 CIVIL ENGINEER STATE OF CALIFORNIA C84806

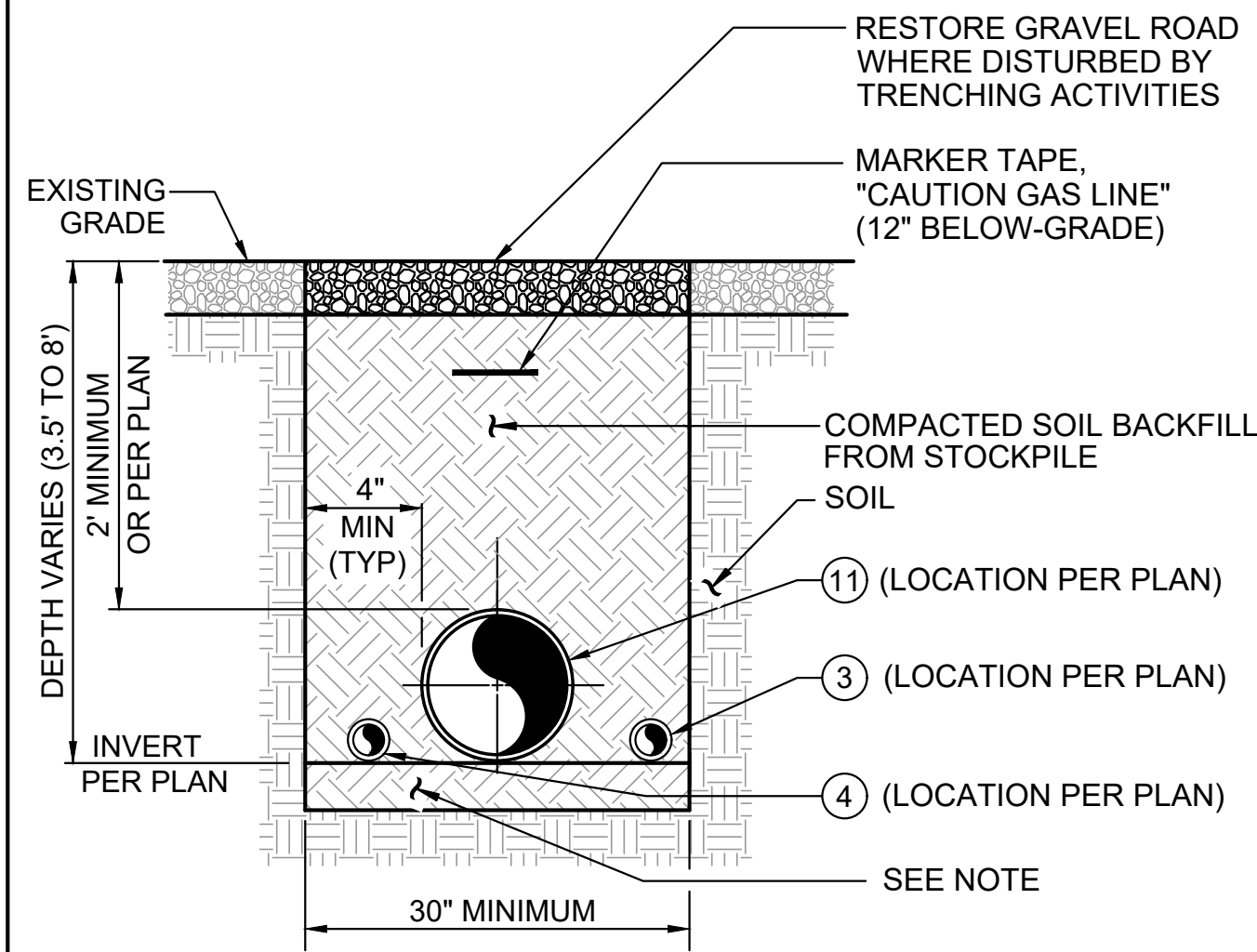
PROJECT: AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION
 ROAD NO. N/A BRIDGE NO. N/A

DEPARTMENT OF PUBLIC WORKS AND PLANNING
 LFGCCS DETAILS
 DRAWING NO. 11307 SHEET NO. 8 TOTAL 16



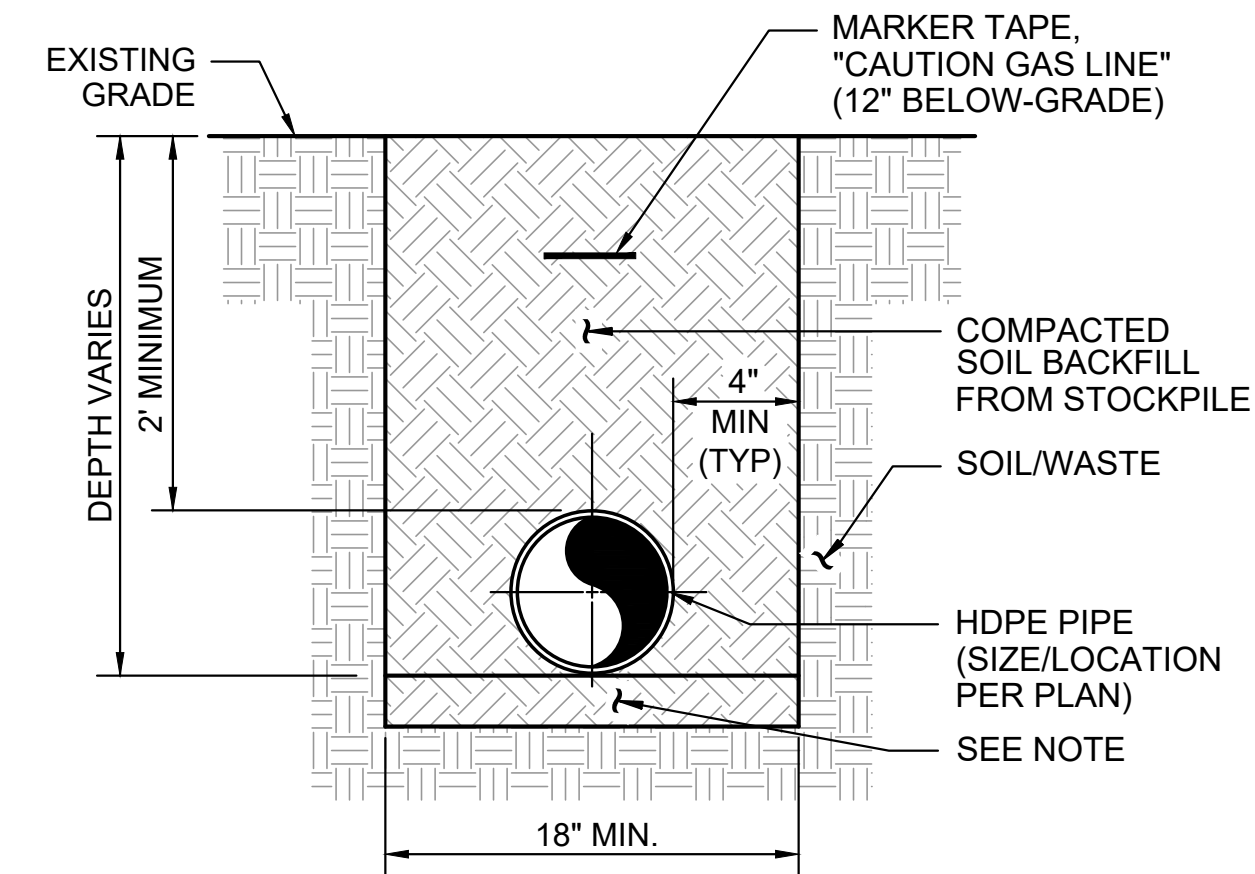
- NOTES:**
1. THE INTENT IS TO INSTALL HORIZONTAL GAS COLLECTOR TRENCH TO INTERCEPT THE WASTE PRISM. IF THE COVER THICKNESS IS GREATER THAN 3 FEET, THE HORIZONTAL GAS TRENCH COLLECTOR SHALL BE TRENCHED DEEPER TO INTERCEPT WASTE. THE TRENCH DEPTH SHALL BE A MINIMUM OF 4.5 FEET (TYPICAL) AND MAXIMUM OF 6 FEET.
 2. THE PERFORATED COLLECTOR PIPE SHALL BE TERMINATED APPROXIMATELY 40 FEET FROM THE CELL BOUNDARY (ANCHOR TRENCH LOCATION) AND TRANSITION TO SOLID 6" SDR 11 LATERAL PIPE PER DETAIL 5/SHEET 10. THE LATERAL SHALL BE SLOPED A MINIMUM 3% BACK INTO WASTE, OR SLOPED TOWARDS THE HORIZONTAL WELLHEAD. NO LOW POINTS IN THE SOLID LATERAL PIPE ARE ALLOWED. A HIGH POINT CAN BE INSTALLED DEPENDING ON LANDFILL ELEVATIONS AT TIME OF CONSTRUCTION.

TYPICAL HORIZONTAL GAS COLLECTION TRENCH SECTION 1
NTS 10



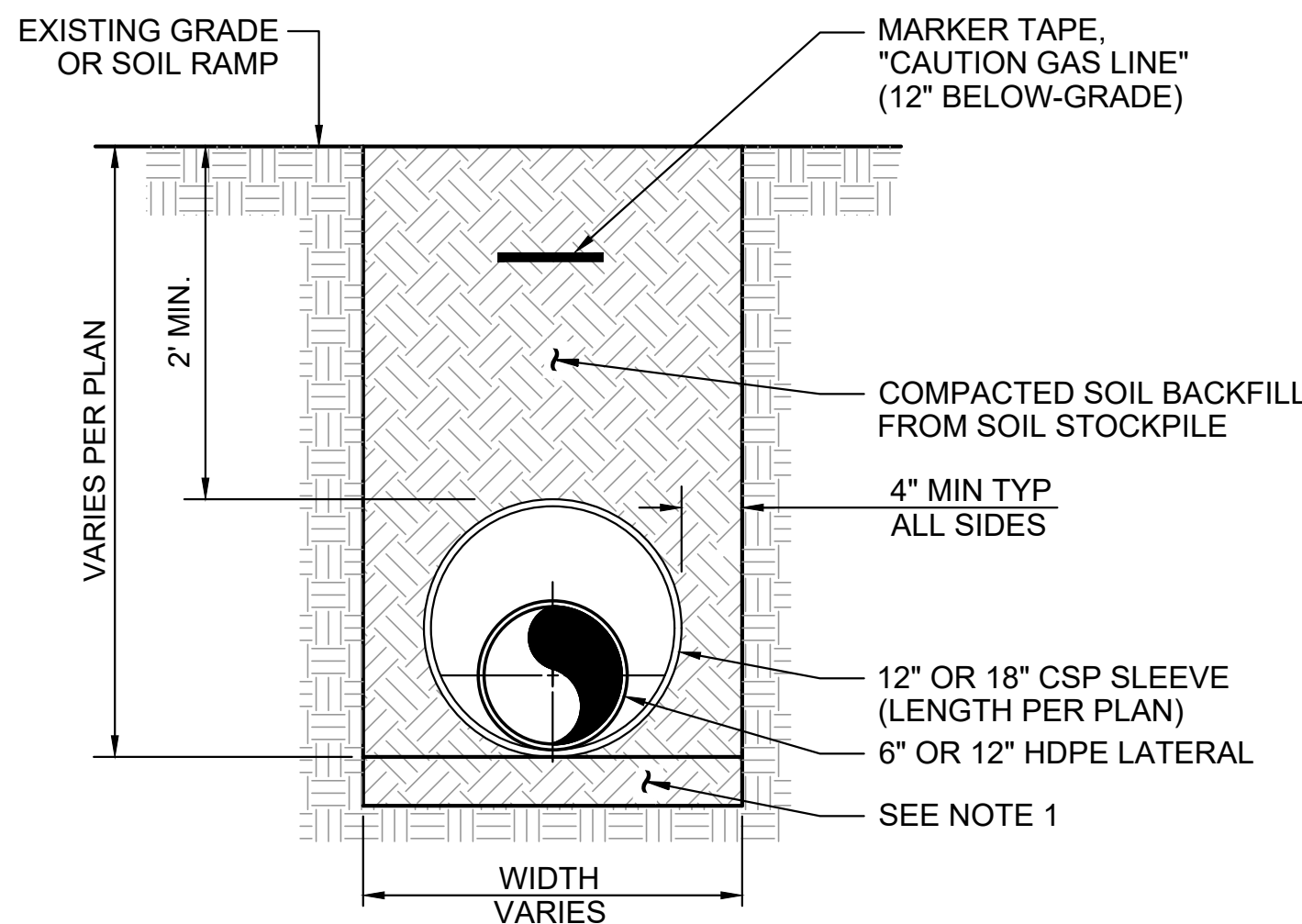
- NOTE:**
INSTALL 6" OF SOIL BEDDING BELOW PIPING IF REFUSE OR UNSUITABLE SOIL IS ENCOUNTERED DURING TRENCHING.

TYPICAL HEADER TRENCH SECTION 2
NTS 10



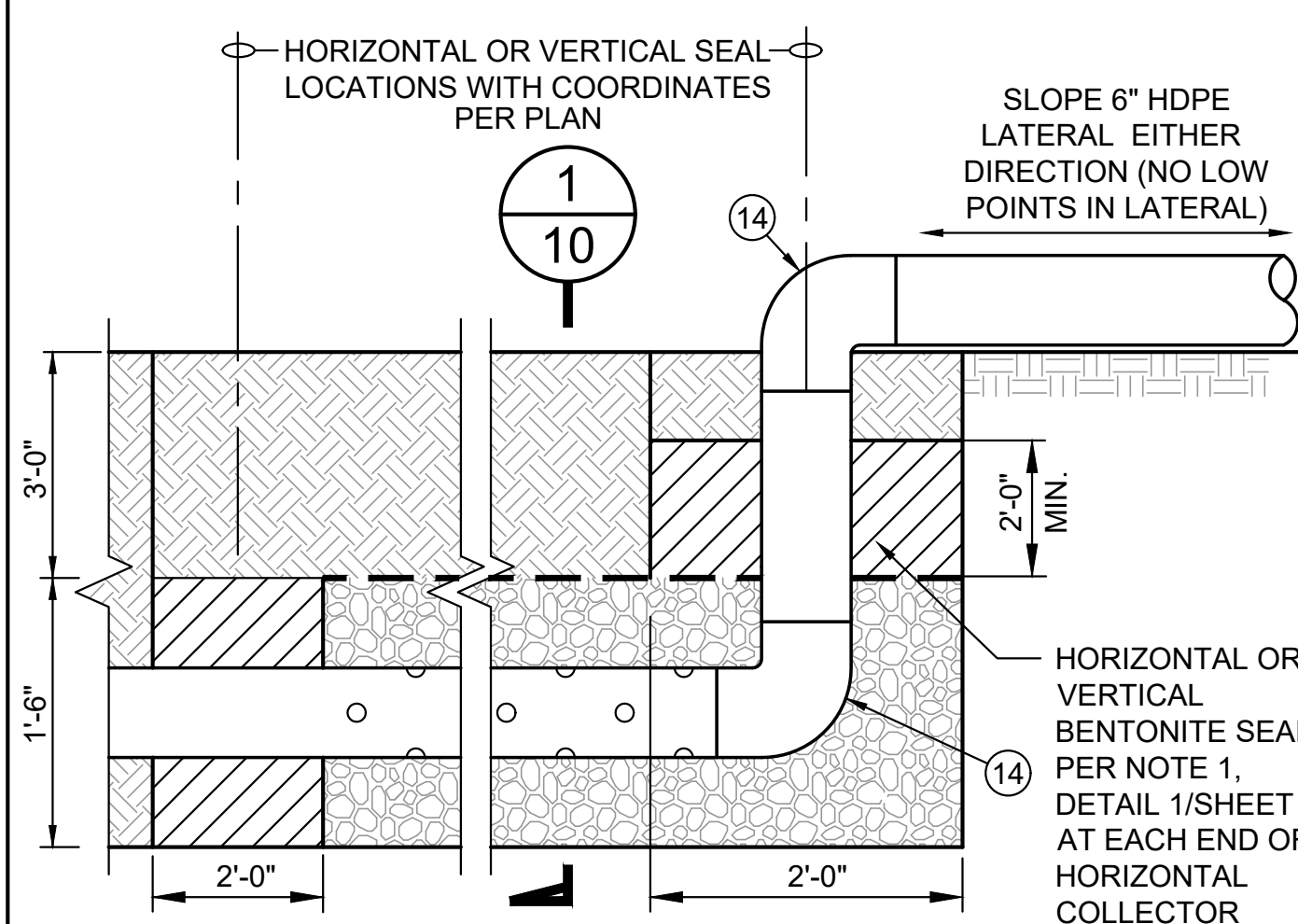
- NOTE:**
INSTALL 6" OF SOIL BEDDING BELOW PIPING IF REFUSE OR UNSUITABLE SOIL IS ENCOUNTERED DURING TRENCHING.

TYPICAL LATERAL SECTION 3
NTS 10



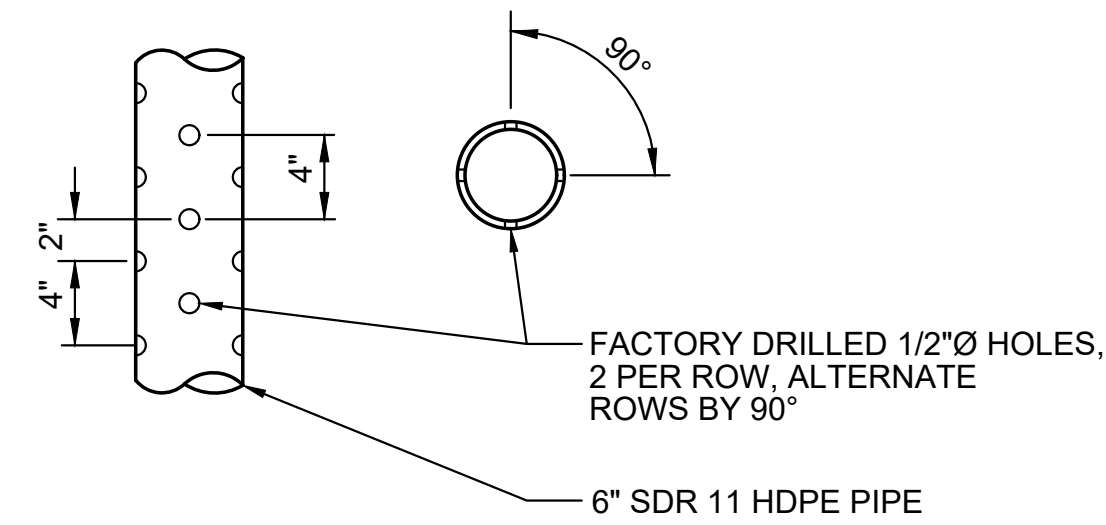
- NOTES:**
1. INSTALL 6" OF SOIL BEDDING BELOW PIPING IF REFUSE OR UNSUITABLE SOIL IS ENCOUNTERED DURING TRENCHING.
 2. AIR AND CONDENSATE LINES NOT SHOWN. SEE PLAN SHEETS IF REQUIRED.

12"/18" CSP ROAD CROSSING DETAIL 4
NTS (12" CSP FOR 6" LATERAL AND 18" CSP FOR 12" LATERAL, AS REQUIRED) 10



- NOTE:**
1. GENERALLY THE HORIZONTAL COLLECTORS SLOPE FROM WEST TO EAST. EXISTING GRADES WILL VARY AT TIME OF CONSTRUCTION. ADJUSTMENTS TO LOCATIONS OF STUB-UPS AND TRANSITIONS FROM PERFORATED TO SOLID PIPE SHALL BE FIELD VERIFIED WITH ENGINEER PRIOR TO CONSTRUCTION.

HORIZONTAL COLLECTOR TRANSITION DETAIL 5
NTS 10



- NOTES:**
1. FACTORY DRILLED PERFORATIONS SPACED 90° APART HORIZONTALLY.
 2. FACTORY DRILLED PERFORATIONS SPACED 4" APART VERTICALLY.
 3. 90° AND 270° ROWS STAGGERED 2" BELOW 0° AND 180° ROWS.

TYPICAL HORIZONTAL AND VERTICAL WELL PERFORATION DETAIL 6
NTS 10

CONSTRUCTION NOTES:

1. INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
2. INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
3. INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
4. INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
5. INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
6. INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
7. INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
8. INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
9. INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
10. INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
11. INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
12. INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
13. INSTALL 6" HDPE CROSS, SDR 11
14. INSTALL 6" 90° HDPE ELBOW, SDR 11
15. INSTALL 6" HDPE TEE, SDR 11
16. INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
17. INSTALL 6" HDPE BLIND FLANGE
18. JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
19. INSTALL 6" X 4" HDPE REDUCER
20. INSTALL 4" X 2" HDPE REDUCER
21. CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
22. INSTALL 12" X 8" HDPE REDUCER
23. INSTALL 8" X 6" HDPE REDUCER
24. INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
25. INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
26. INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
27. INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
28. INSTALL 12" CSP SLEEVE
29. INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
30. INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
31. INSTALL 12" HDPE BLIND FLANGE
32. INSTALL 18" HDPE BLIND FLANGE
33. INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
34. INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
35. INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
36. INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
37. PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
38. INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
39. INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
40. INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
41. INSTALL 18" HDPE ELBOW, SDR 11
42. INSTALL 2" FERNCO PIPE ADAPTER
43. INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
44. INSTALL 4" HDPE ELBOW, SDR 11
45. INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
46. INSTALL 6" X 2" FERNCO PIPE ADAPTER
47. INSTALL 2" SDR 11 HDPE PIPE
48. INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
49. INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
50. INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
51. INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
52. INSTALL 6" 45° HDPE ELBOW, SDR 11
53. INSTALL 4" X 2" HDPE TEE, SDR 11
54. INSTALL 1/2" STAINLESS STEEL BAND CLAMP
55. INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
56. INSTALL 6" SDR 11 HDPE END CAP
57. INSTALL 12" SDR 11 HDPE PIPE ON GRADE
58. INSTALL 18" CSP SLEEVE
59. INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
60. INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
61. INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
62. INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
63. INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
64. INSTALL 2" WIDE X 1.5' LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
65. INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
66. INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
67. INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
68. INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
69. INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1' STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
70. INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
71. INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
72. INSTALL 18" CONCRETE ANCHOR BLOCK BRANCH CONNECTION PER DETAIL 4/SHEET 12
73. INSTALL 2" HDPE END CAP
74. INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
75. INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15

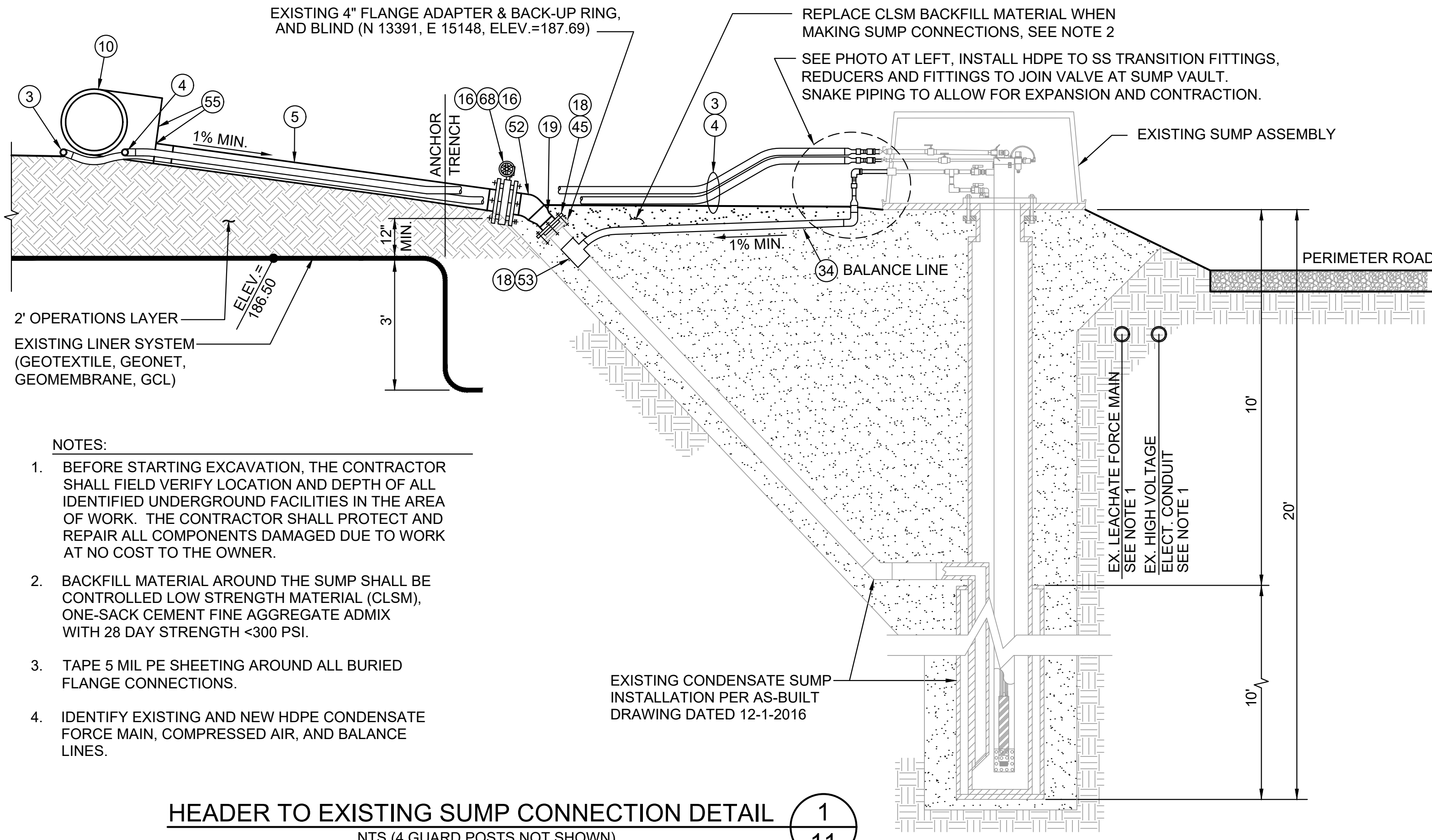
August, Scott
Friday, January 15, 2021 3:43:24 PM
G:\DWG\AMERICAN AVENUE LANDFILL\GASPHASE 3 GCDS DESIGN\SHEET 10.DWG

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	NOT TO SCALE		AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION		LFGCCS DETAILS
CHECKED: AMN/SHA	DATE: 01-2021	DATE	ENGINEER OF RECORD		ROAD NO. N/A		DRAWING NO. 11307
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				DATE: 02/08/2021	BRIDGE NO. N/A	SHEET NO. 10	TOTAL 16



VAULT CONNECTION (WEST)



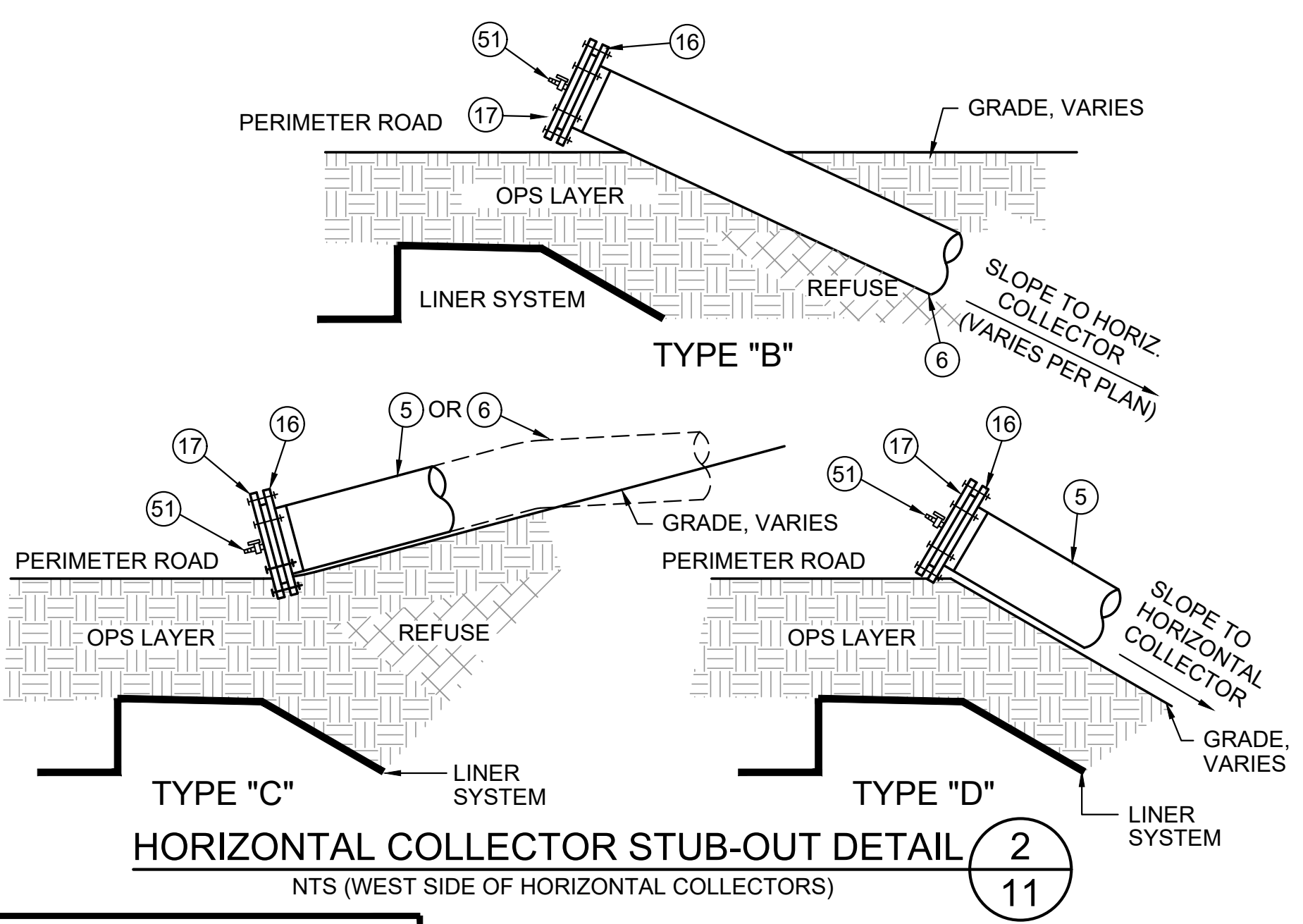
HEADER TO EXISTING SUMP CONNECTION DETAIL 1
NTS (4 GUARD POSTS NOT SHOWN)

- NOTES:
- BEFORE STARTING EXCAVATION, THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL IDENTIFIED UNDERGROUND FACILITIES IN THE AREA OF WORK. THE CONTRACTOR SHALL PROTECT AND REPAIR ALL COMPONENTS DAMAGED DUE TO WORK AT NO COST TO THE OWNER.
 - BACKFILL MATERIAL AROUND THE SUMP SHALL BE CONTROLLED LOW STRENGTH MATERIAL (CLSM), ONE-SACK CEMENT FINE AGGREGATE ADMIX WITH 28 DAY STRENGTH <3000 PSI.
 - TAPE 5 MIL PE SHEETING AROUND ALL BURIED FLANGE CONNECTIONS.
 - IDENTIFY EXISTING AND NEW HDPE CONDENSATE FORCE MAIN, COMPRESSED AIR, AND BALANCE LINES.

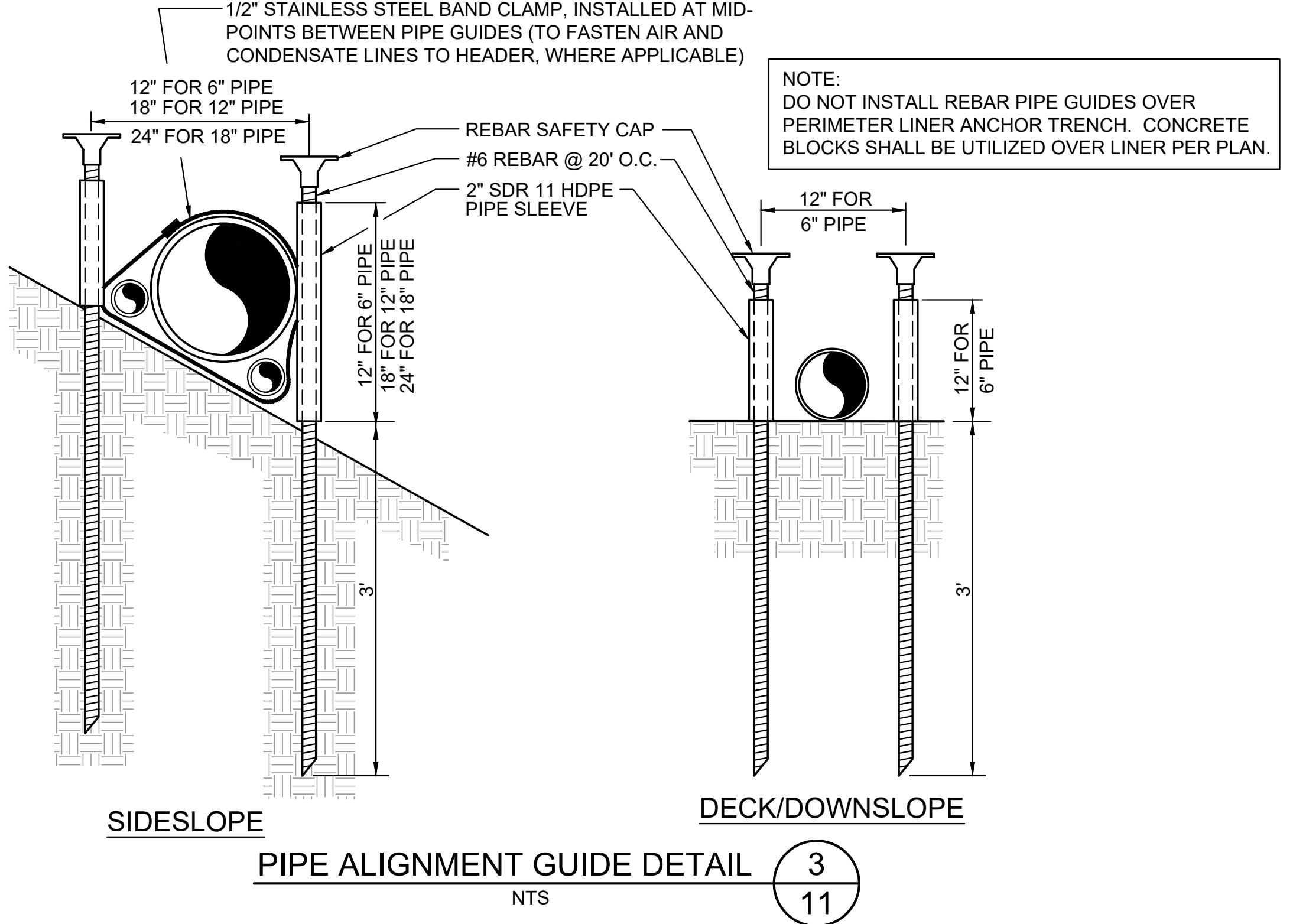
- CONSTRUCTION NOTES:**
- INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
 - INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
 - INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
 - INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
 - INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
 - INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
 - INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
 - INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
 - INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
 - INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
 - INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
 - INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
 - INSTALL 6" HDPE CROSS, SDR 11
 - INSTALL 6" 90° HDPE ELBOW, SDR 11
 - INSTALL 6" HDPE TEE, SDR 11
 - INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
 - INSTALL 6" HDPE BLIND FLANGE
 - JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
 - INSTALL 6" X 4" HDPE REDUCER
 - INSTALL 4" X 2" HDPE REDUCER
 - CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
 - INSTALL 12" X 8" HDPE REDUCER
 - INSTALL 8" X 6" HDPE REDUCER
 - INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
 - INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
 - INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
 - INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
 - INSTALL 12" CSP SLEEVE
 - INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
 - INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
 - INSTALL 12" HDPE BLIND FLANGE
 - INSTALL 18" HDPE BLIND FLANGE
 - INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
 - INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
 - INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
 - INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
 - PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
 - INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
 - INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
 - INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
 - INSTALL 18" HDPE ELBOW, SDR 11
 - INSTALL 2" FERNCO PIPE ADAPTER
 - INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
 - INSTALL 4" HDPE ELBOW, SDR 11
 - INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
 - INSTALL 6" X 2" FERNCO PIPE ADAPTER
 - INSTALL 2" SDR 11 HDPE PIPE
 - INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
 - INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
 - INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
 - INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
 - INSTALL 6" 45° HDPE ELBOW, SDR 11
 - INSTALL 4" X 2" HDPE TEE, SDR 11
 - INSTALL 1/2" STAINLESS STEEL BAND CLAMP
 - INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
 - INSTALL 6" SDR 11 HDPE END CAP
 - INSTALL 12" SDR 11 HDPE PIPE ON GRADE
 - INSTALL 18" CSP SLEEVE
 - INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
 - INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
 - INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
 - INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
 - INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
 - INSTALL 2" WIDE X 1.5' LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
 - INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
 - INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
 - INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
 - INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
 - INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1' STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
 - INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
 - INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
 - INSTALL 18" CONCRETE ANCHOR BLOCK/BRANCH CONNECTION PER DETAIL 4/SHEET 12
 - INSTALL 2" HDPE END CAP
 - INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
 - INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15



EAST VIEW OF SUMP VAULT



HORIZONTAL COLLECTOR STUB-OUT DETAIL 2
NTS (WEST SIDE OF HORIZONTAL COLLECTORS)



PIPE ALIGNMENT GUIDE DETAIL 3
NTS

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

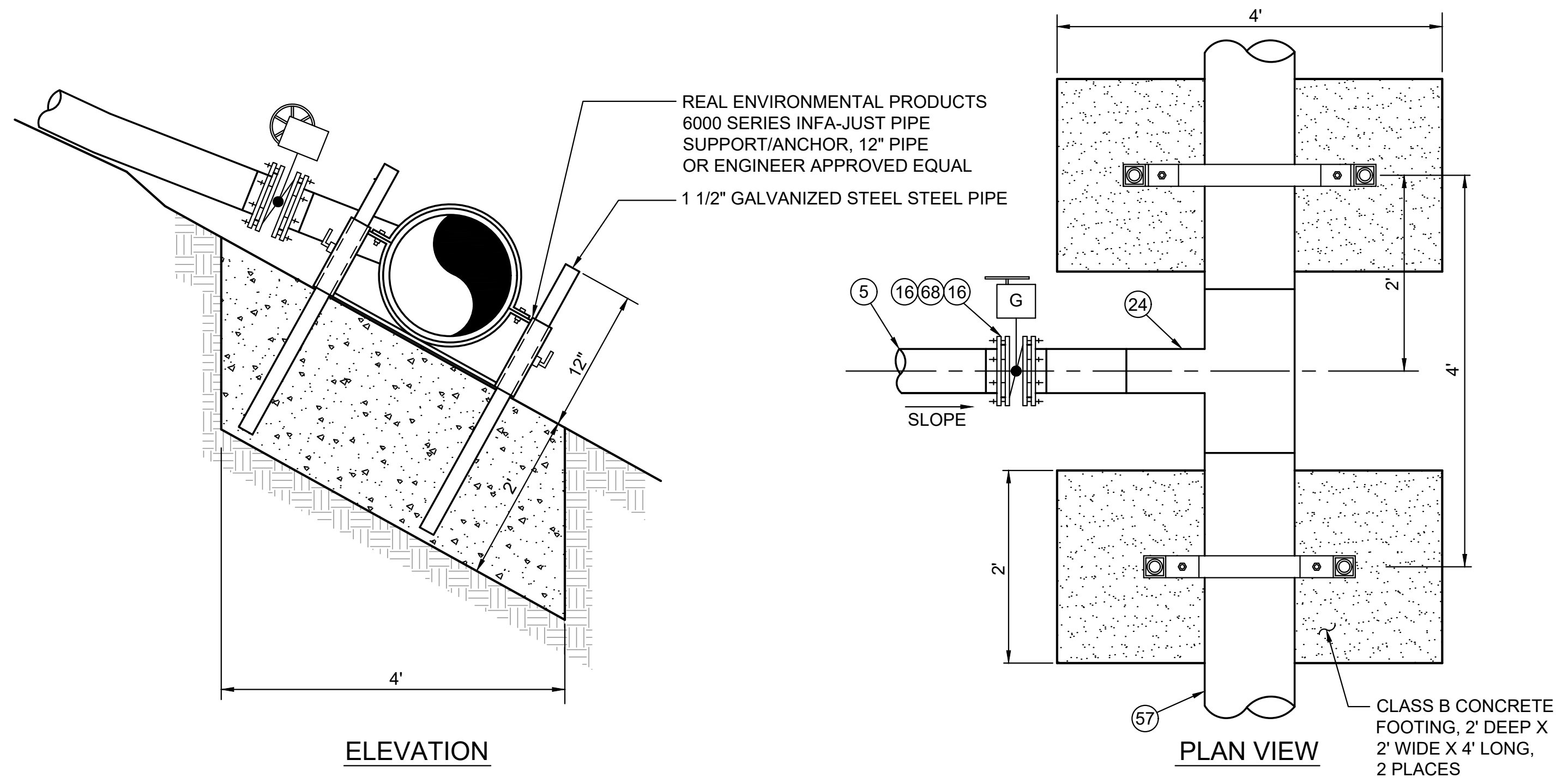
Angus, Scott
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DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	NOT TO SCALE
CHECKED: AMN/SHA	DATE: 01-2021		

Saulyan
ENGINEER OF RECORD
DATE: 02/08/2021
C84806
REGISTERED PROFESSIONAL ENGINEER
SAM H AYARS
STATE OF CALIFORNIA
CIVIL

PROJECT
AMERICAN AVENUE LANDFILL PHASE III -
MODULES 3-8 LFGCCS EXPANSION
ROAD NO. N/A BRIDGE NO. N/A

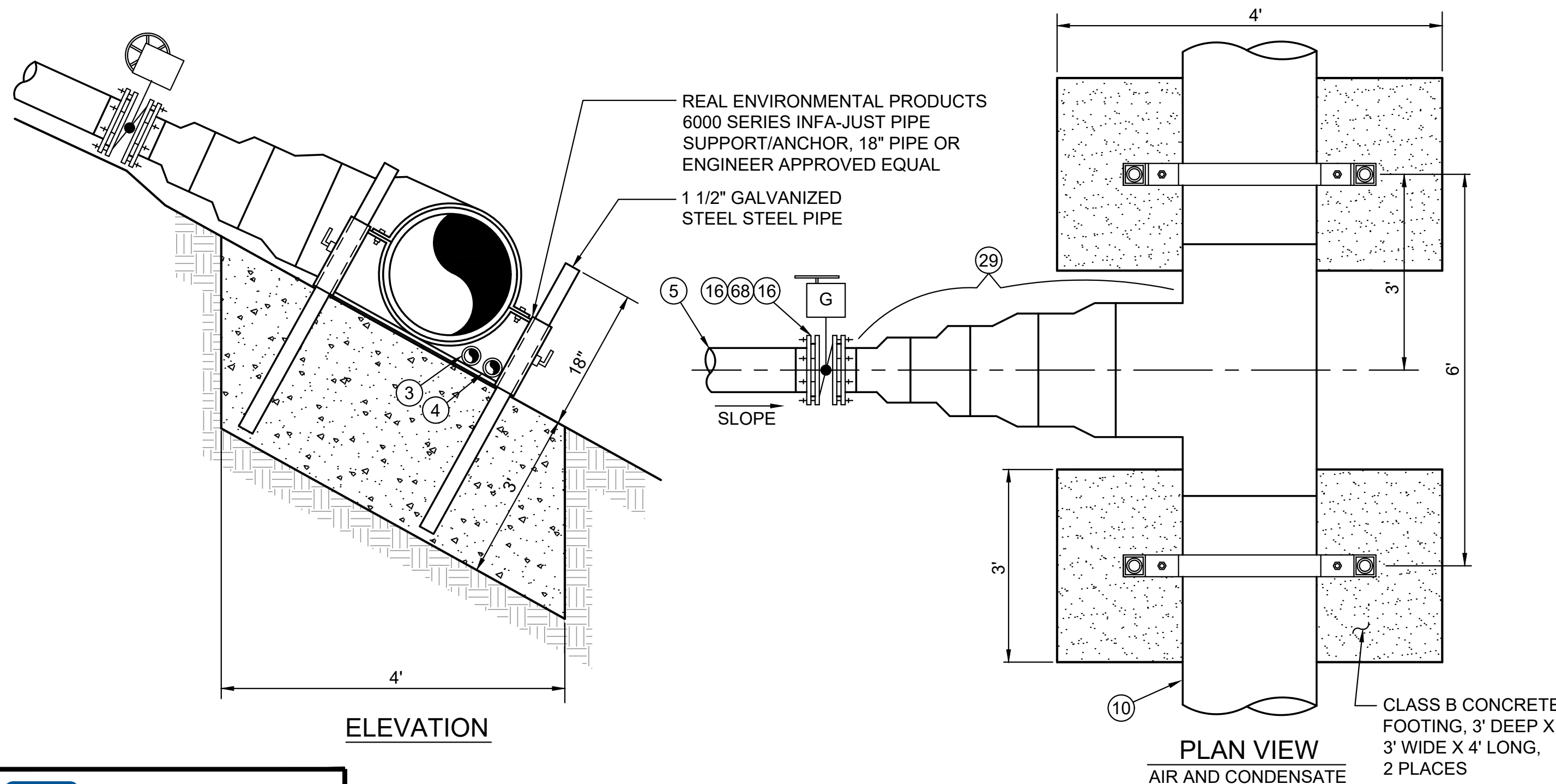
DEPARTMENT OF PUBLIC WORKS AND PLANNING
LFGCCS DETAILS
DRAWING NO. 11307 SHEET NO. 11 TOTAL 16



ELEVATION

PLAN VIEW

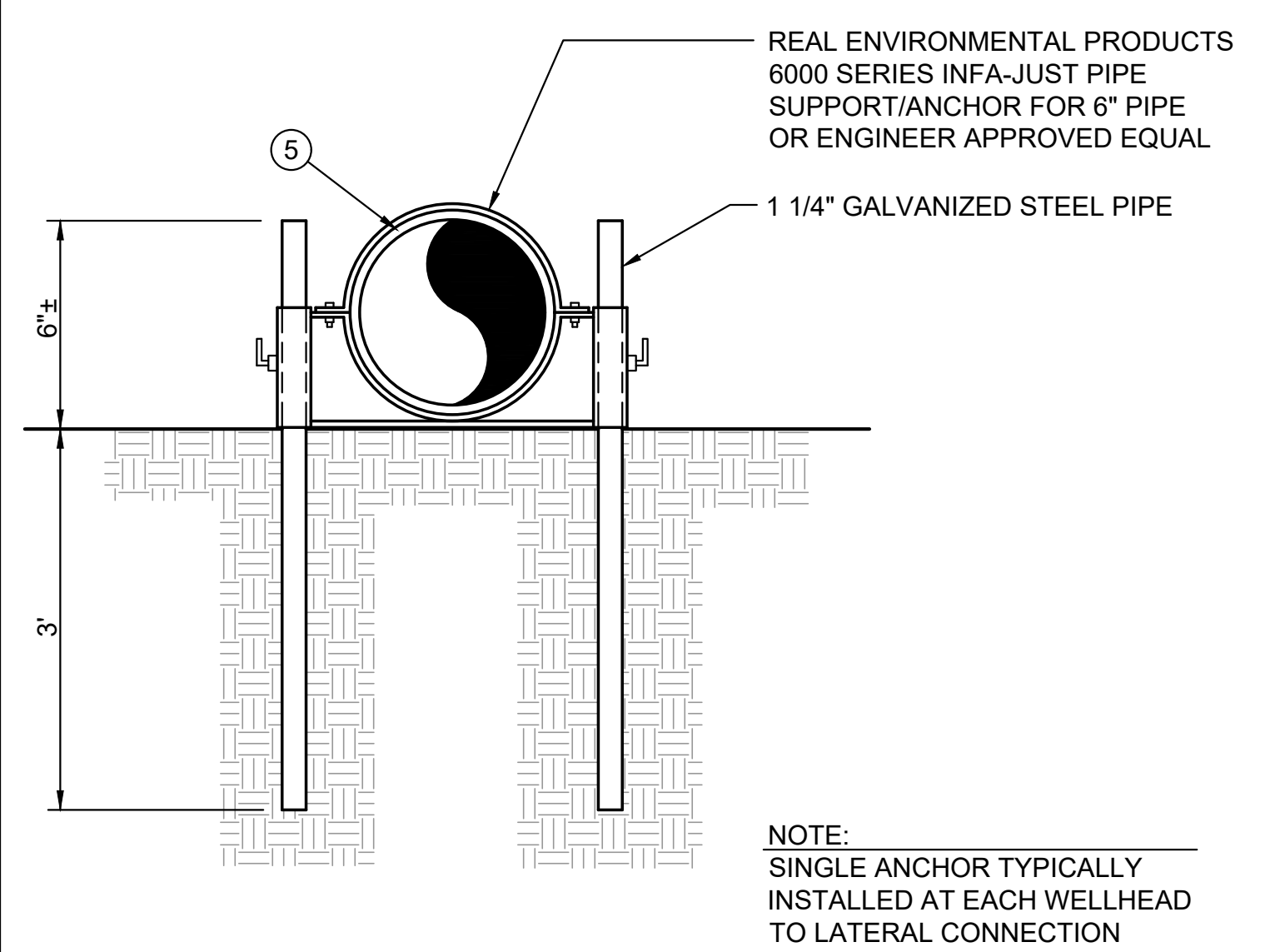
12" ANCHOR/SIDE SLOPE BRANCH CONNECTION DETAIL 1/12



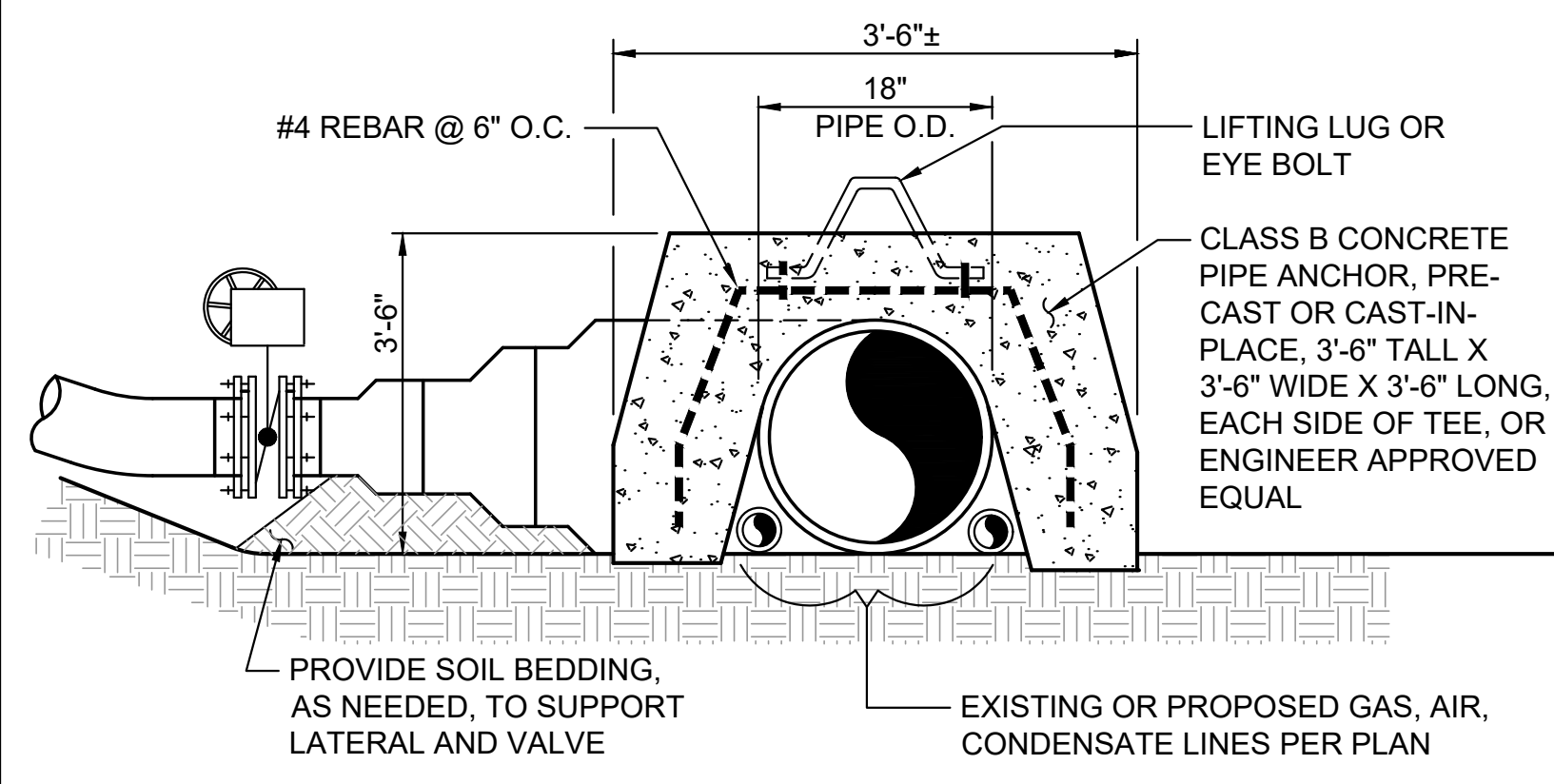
ELEVATION

PLAN VIEW

18" ANCHOR/SIDE SLOPE BRANCH CONNECTION DETAIL 3/12



6" PIPE ANCHOR DETAIL 2/12



18" CONCRETE ANCHOR BLOCK/ BRANCH CONNECTION DETAIL 4/12

- CONSTRUCTION NOTES:**
- 1 INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
 - 2 INSTALL 2" VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
 - 3 INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
 - 4 INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
 - 5 INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
 - 6 INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
 - 7 INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
 - 8 INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
 - 9 INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
 - 10 INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
 - 11 INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
 - 12 INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
 - 13 INSTALL 6" HDPE CROSS, SDR 11
 - 14 INSTALL 6" 90° HDPE ELBOW, SDR 11
 - 15 INSTALL 6" HDPE TEE, SDR 11
 - 16 INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
 - 17 INSTALL 6" HDPE BLIND FLANGE
 - 18 JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
 - 19 INSTALL 6" X 4" HDPE REDUCER
 - 20 INSTALL 4" X 2" HDPE REDUCER
 - 21 CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
 - 22 INSTALL 12" X 8" HDPE REDUCER
 - 23 INSTALL 8" X 6" HDPE REDUCER
 - 24 INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
 - 25 INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
 - 26 INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
 - 27 INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
 - 28 INSTALL 12" CSP SLEEVE
 - 29 INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
 - 30 INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
 - 31 INSTALL 12" HDPE BLIND FLANGE
 - 32 INSTALL 18" HDPE BLIND FLANGE
 - 33 INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
 - 34 INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
 - 35 INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
 - 36 INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
 - 37 PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
 - 38 INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
 - 39 INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
 - 40 INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
 - 41 INSTALL 18" HDPE ELBOW, SDR 11
 - 42 INSTALL 2" FERNCO PIPE ADAPTER
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 - 45 INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
 - 46 INSTALL 6" X 2" FERNCO PIPE ADAPTER
 - 47 INSTALL 2" SDR 11 HDPE PIPE
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 - 49 INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
 - 50 INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
 - 51 INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
 - 52 INSTALL 6" 45° HDPE ELBOW, SDR 11
 - 53 INSTALL 4" X 2" HDPE TEE, SDR 11
 - 54 INSTALL 1/2" STAINLESS STEEL BAND CLAMP
 - 55 INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
 - 56 INSTALL 6" SDR 11 HDPE END CAP
 - 57 INSTALL 12" SDR 11 HDPE PIPE ON GRADE
 - 58 INSTALL 18" CSP SLEEVE
 - 59 INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
 - 60 INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
 - 61 INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
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 - 69 INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1" STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
 - 70 INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
 - 71 INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
 - 72 INSTALL 18" CONCRETE ANCHOR BLOCK/BRANCH CONNECTION PER DETAIL 4/SHEET 12
 - 73 INSTALL 2" HDPE END CAP
 - 74 INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
 - 75 INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15

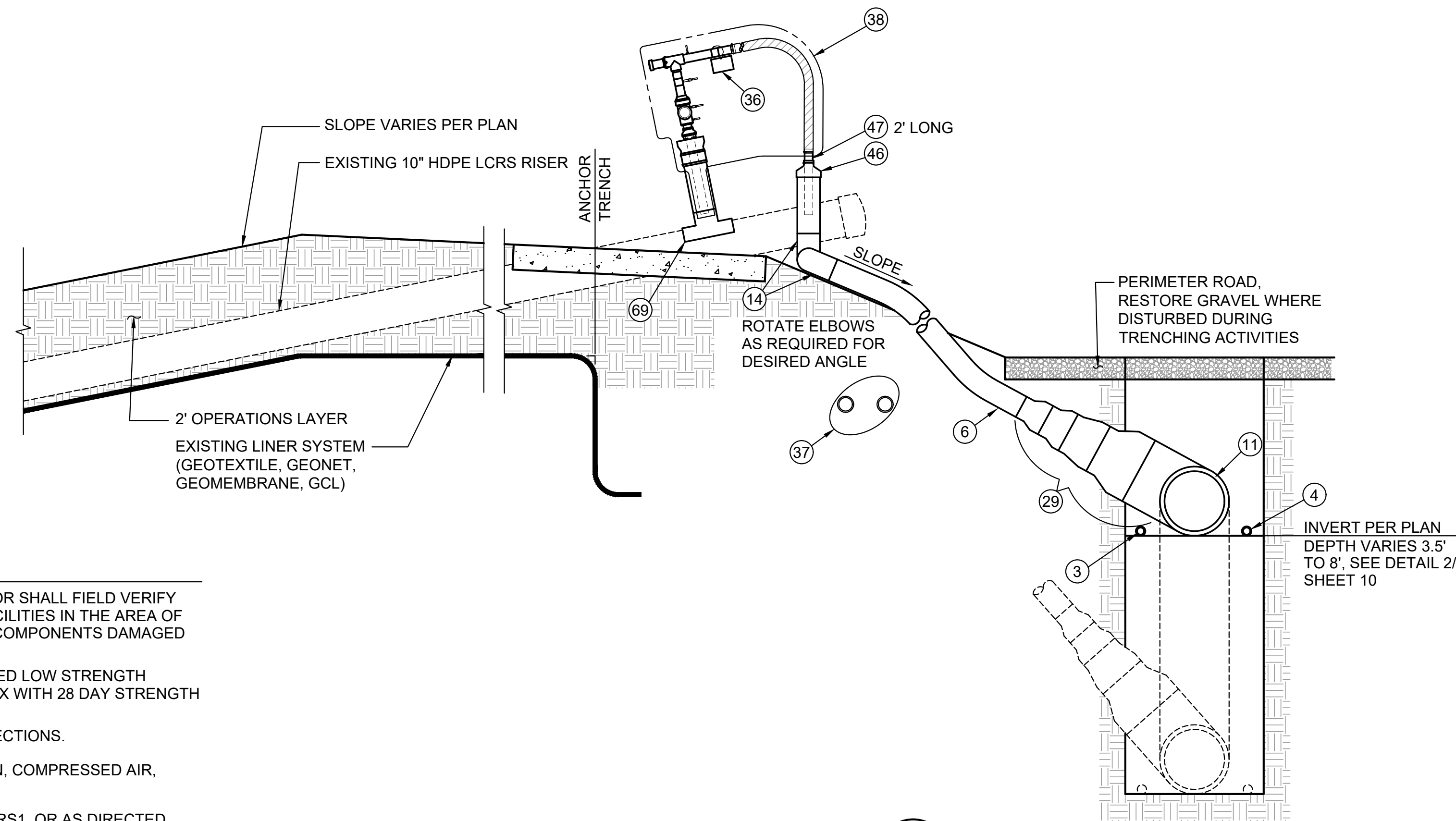
TETRA TECH
 21700 Copley Drive, Suite 200
 Diamond Bar, CA 91765
 TEL 909.860.7777 FAX 909.860.8017

Angus, Scott
 Friday, January 15, 2021 3:40:48 PM
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DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	NOT TO SCALE		AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION		LFGCCS DETAILS
CHECKED: AMN/SHA	DATE: 01-2021				ROAD NO. N/A		DRAWING NO. 11307
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				ENGINEER OF RECORD: <i>Sauyan</i> 02/08/2021	BRIDGE NO. N/A	SHEET NO. 12	TOTAL 16



TYPICAL LCRS/LYS SYSTEM



LCRS RISER TO HEADER CONNECTION DETAIL

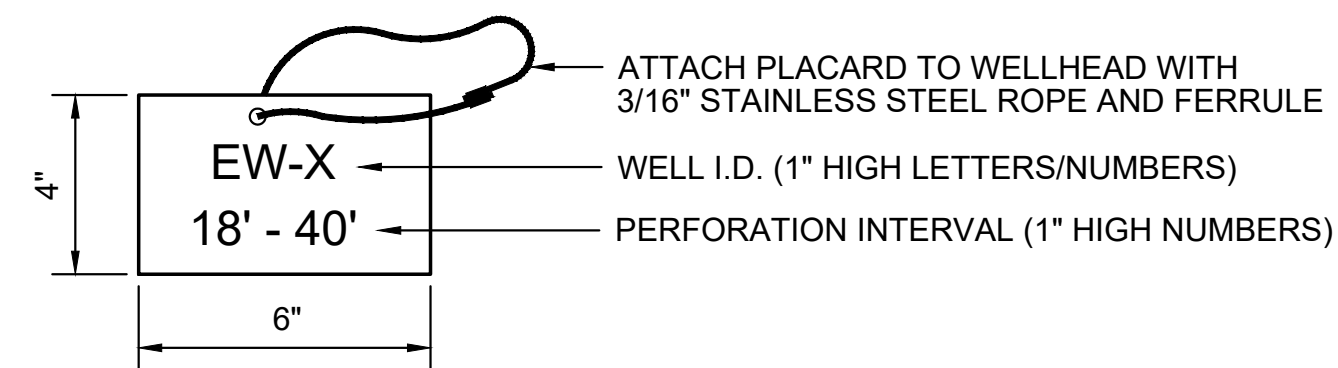
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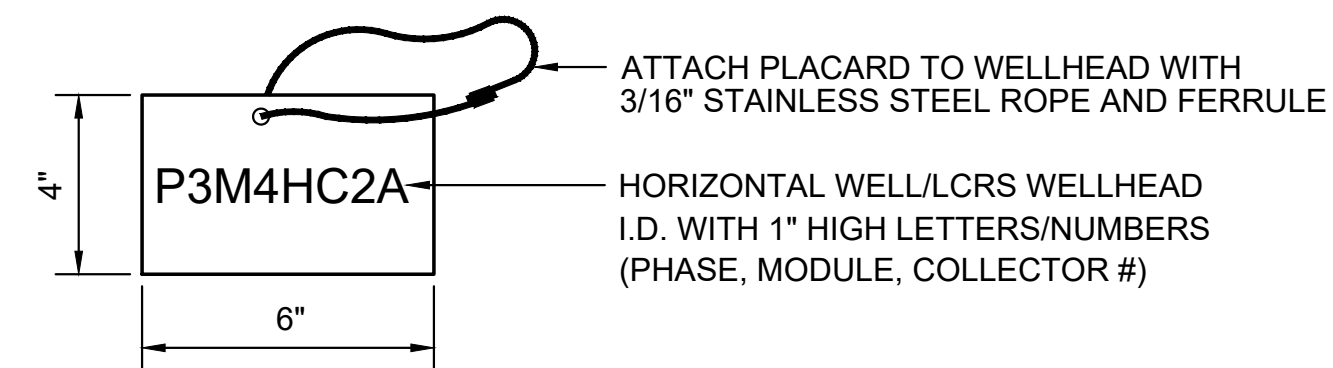
- BEFORE STARTING EXCAVATION OR BORING, THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL IDENTIFIED UNDERGROUND FACILITIES IN THE AREA OF WORK. THE CONTRACTOR SHALL PROTECT AND REPAIR ALL COMPONENTS DAMAGED DUE TO WORK AT NO COST TO THE OWNER.
- BACKFILL MATERIAL AROUND THE SUMP SHALL BE CONTROLLED LOW STRENGTH MATERIAL (CLSM), ONE-SACK CEMENT FINE AGGREGATE ADMIX WITH 28 DAY STRENGTH <300 PSI.
- TAPE 5 MIL PE SHEETING AROUND ALL BURIED FLANGE CONNECTIONS.
- IDENTIFY EXISTING AND NEW HDPE CONDENSATE FORCE MAIN, COMPRESSED AIR, AND BALANCE LINES.
- IDENTIFY WELLHEAD I.D. PLACARD AS P3M4LCRS1 OR P3M5LCRS1, OR AS DIRECTED BY ENGINEER.

CONSTRUCTION NOTES:

- INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
- INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
- INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
- INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
- INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
- INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
- INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
- INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
- INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
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- JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
- INSTALL 6" X 4" HDPE REDUCER
- INSTALL 4" X 2" HDPE REDUCER
- CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
- INSTALL 12" X 8" HDPE REDUCER
- INSTALL 8" X 6" HDPE REDUCER
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- INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
- INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
- INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
- INSTALL 12" CSP SLEEVE
- INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
- INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
- INSTALL 12" HDPE BLIND FLANGE
- INSTALL 18" HDPE BLIND FLANGE
- INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
- INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
- INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
- INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
- PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
- INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
- INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
- INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
- INSTALL 18" HDPE ELBOW, SDR 11
- INSTALL 2" FERNCO PIPE ADAPTER
- INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
- INSTALL 4" HDPE ELBOW, SDR 11
- INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
- INSTALL 6" X 2" FERNCO PIPE ADAPTER
- INSTALL 2" SDR 11 HDPE PIPE
- INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
- INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
- INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
- INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
- INSTALL 6" 45° HDPE ELBOW, SDR 11
- INSTALL 4" X 2" HDPE TEE, SDR 11
- INSTALL 1/2" STAINLESS STEEL BAND CLAMP
- INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
- INSTALL 6" SDR 11 HDPE END CAP
- INSTALL 12" SDR 11 HDPE PIPE ON GRADE
- INSTALL 18" CSP SLEEVE
- INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
- INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
- INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
- INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
- INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
- INSTALL 2" WIDE X 1.5' LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
- INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
- INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
- INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
- INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
- INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1" STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
- INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
- INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
- INSTALL 18" CONCRETE ANCHOR BLOCK/BRANCH CONNECTION PER DETAIL 4/SHEET 12
- INSTALL 2" HDPE END CAP
- INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
- INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15



VERTICAL WELL I.D. PLACARD



HORIZONTAL WELL/LCRS I.D. PLACARD

WELL I.D. PLACARD (ALUMINUM) DETAIL

2
13

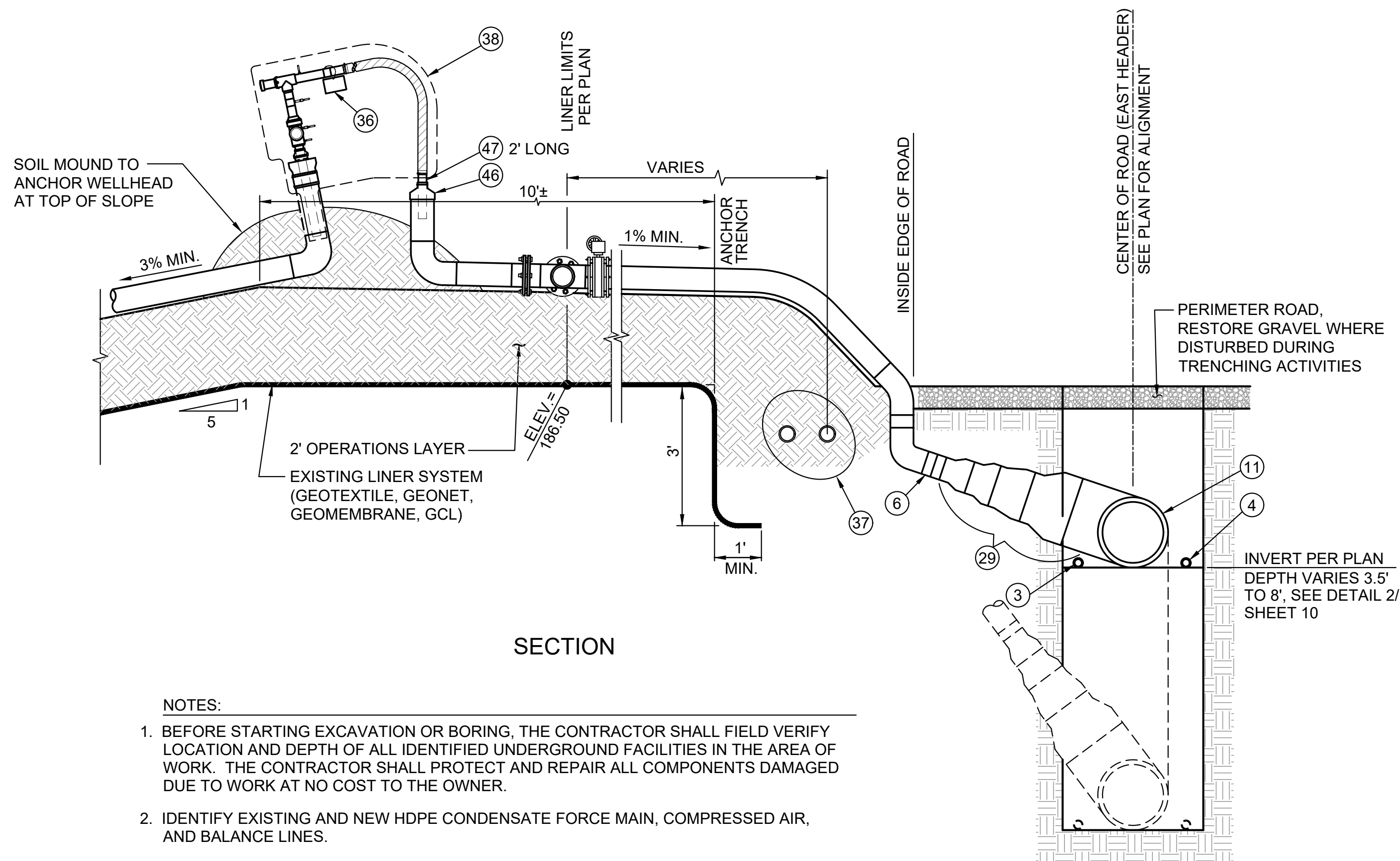
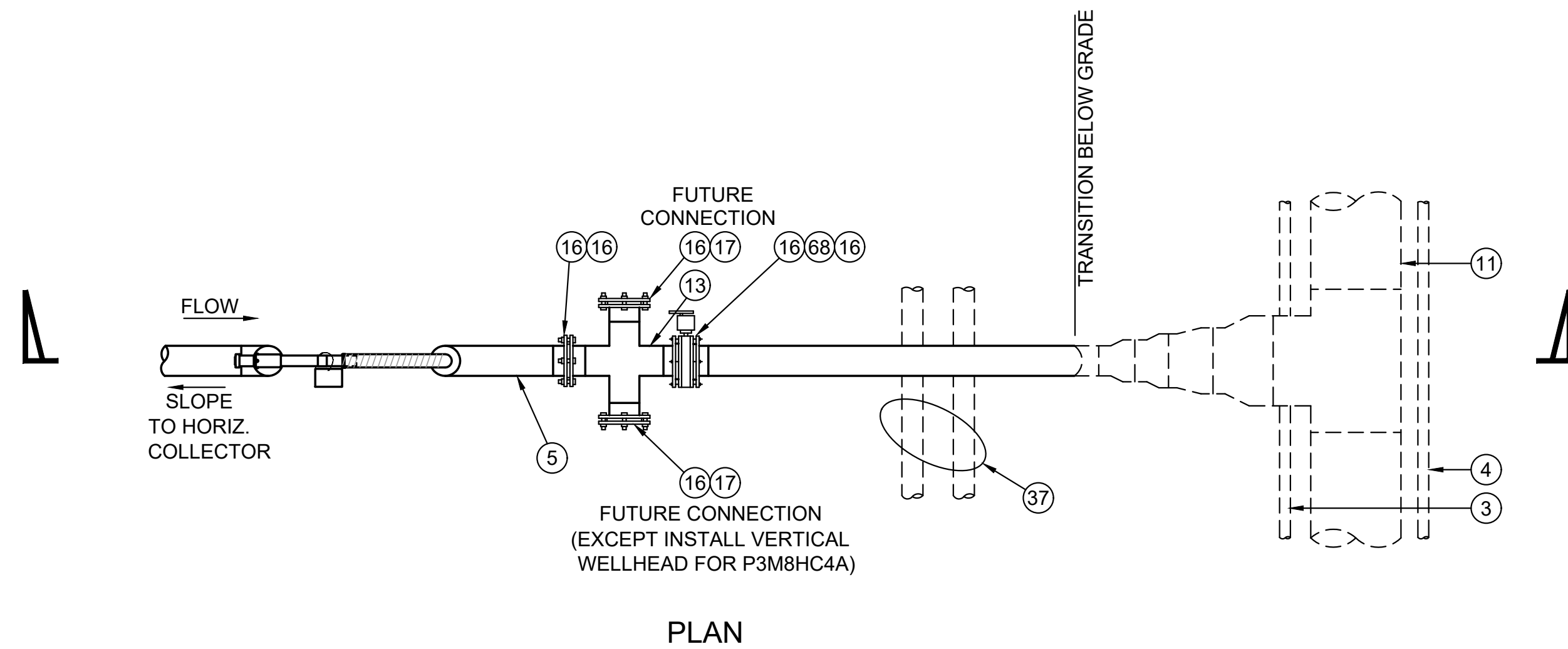


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Angus, Scott
Friday, January 15, 2021, 3:32:03 PM
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DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING		SCALE		PROJECT		DEPARTMENT OF PUBLIC WORKS AND PLANNING	
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	DATE	NOT TO SCALE		AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION		LFGCCS DETAILS	
CHECKED: AMN/SHA	DATE: 01-2021					ROAD NO. N/A		BRIDGE NO. N/A	DRAWING NO. 11307

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



- NOTES:
- BEFORE STARTING EXCAVATION OR BORING, THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL IDENTIFIED UNDERGROUND FACILITIES IN THE AREA OF WORK. THE CONTRACTOR SHALL PROTECT AND REPAIR ALL COMPONENTS DAMAGED DUE TO WORK AT NO COST TO THE OWNER.
 - IDENTIFY EXISTING AND NEW HDPE CONDENSATE FORCE MAIN, COMPRESSED AIR, AND BALANCE LINES.

- CONSTRUCTION NOTES:**
- INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
 - INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
 - INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
 - INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
 - INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
 - INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
 - INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
 - INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
 - INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
 - INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
 - INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
 - INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
 - INSTALL 6" HDPE CROSS, SDR 11
 - INSTALL 6" 90° HDPE ELBOW, SDR 11
 - INSTALL 6" HDPE TEE, SDR 11
 - INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
 - INSTALL 6" HDPE BLIND FLANGE
 - JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
 - INSTALL 6" X 4" HDPE REDUCER
 - INSTALL 4" X 2" HDPE REDUCER
 - CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
 - INSTALL 12" X 8" HDPE REDUCER
 - INSTALL 8" X 6" HDPE REDUCER
 - INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
 - INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
 - INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
 - INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
 - INSTALL 12" CSP SLEEVE
 - INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
 - INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
 - INSTALL 12" HDPE BLIND FLANGE
 - INSTALL 18" HDPE BLIND FLANGE
 - INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
 - INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
 - INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
 - INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
 - PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
 - INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
 - INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
 - INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
 - INSTALL 18" HDPE ELBOW, SDR 11
 - INSTALL 2" FERNCO PIPE ADAPTER
 - INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
 - INSTALL 4" HDPE ELBOW, SDR 11
 - INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
 - INSTALL 6" X 2" FERNCO PIPE ADAPTER
 - INSTALL 2" SDR 11 HDPE PIPE
 - INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
 - INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
 - INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
 - INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
 - INSTALL 6" 45° HDPE ELBOW, SDR 11
 - INSTALL 4" X 2" HDPE TEE, SDR 11
 - INSTALL 1/2" STAINLESS STEEL BAND CLAMP
 - INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
 - INSTALL 6" SDR 11 HDPE END CAP
 - INSTALL 12" SDR 11 HDPE PIPE ON GRADE
 - INSTALL 18" CSP SLEEVE
 - INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
 - INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
 - INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
 - INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
 - INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
 - INSTALL 2" WIDE X 1.5" LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
 - INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
 - INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
 - INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
 - INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
 - INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1" STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
 - INSTALL 4" X 4" X 1" LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
 - INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
 - INSTALL 18" CONCRETE ANCHOR BLOCK BRANCH CONNECTION PER DETAIL 4/SHEET 12
 - INSTALL 2" HDPE END CAP
 - INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
 - INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15

VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION DETAIL 1/14

TETRA TECH
 21700 Copley Drive, Suite 200
 Diamond Bar, CA 91765
 TEL 909.860.7777 FAX 909.860.8017

DESIGNED:	DATE	RESIDENT ENGINEER	DATE
SNA	01-2021		
DRAWN:	01-2021		
CHECKED:	01-2021		

SCALE
NOT TO SCALE

Saulyan
 ENGINEER OF RECORD
 02/08/2021
 DATE



PROJECT	
AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION	
ROAD NO. N/A	BRIDGE NO. N/A



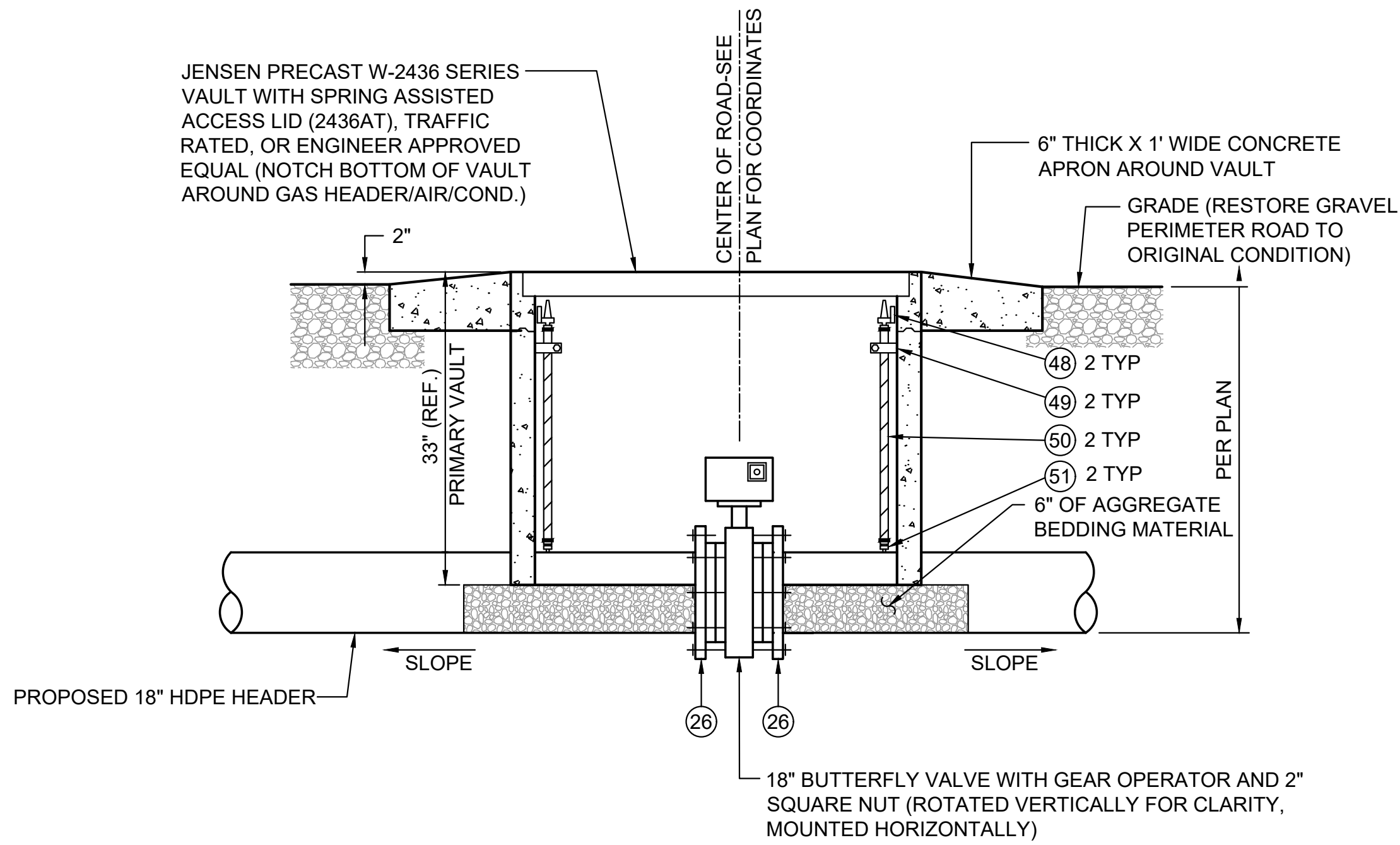
DEPARTMENT OF PUBLIC WORKS AND PLANNING		
LFGCCS DETAILS		
DRAWING NO. 11307	SHEET NO. 14	TOTAL 16

Angus, Scott
 Friday, January 15, 2021 3:33:32 PM
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FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

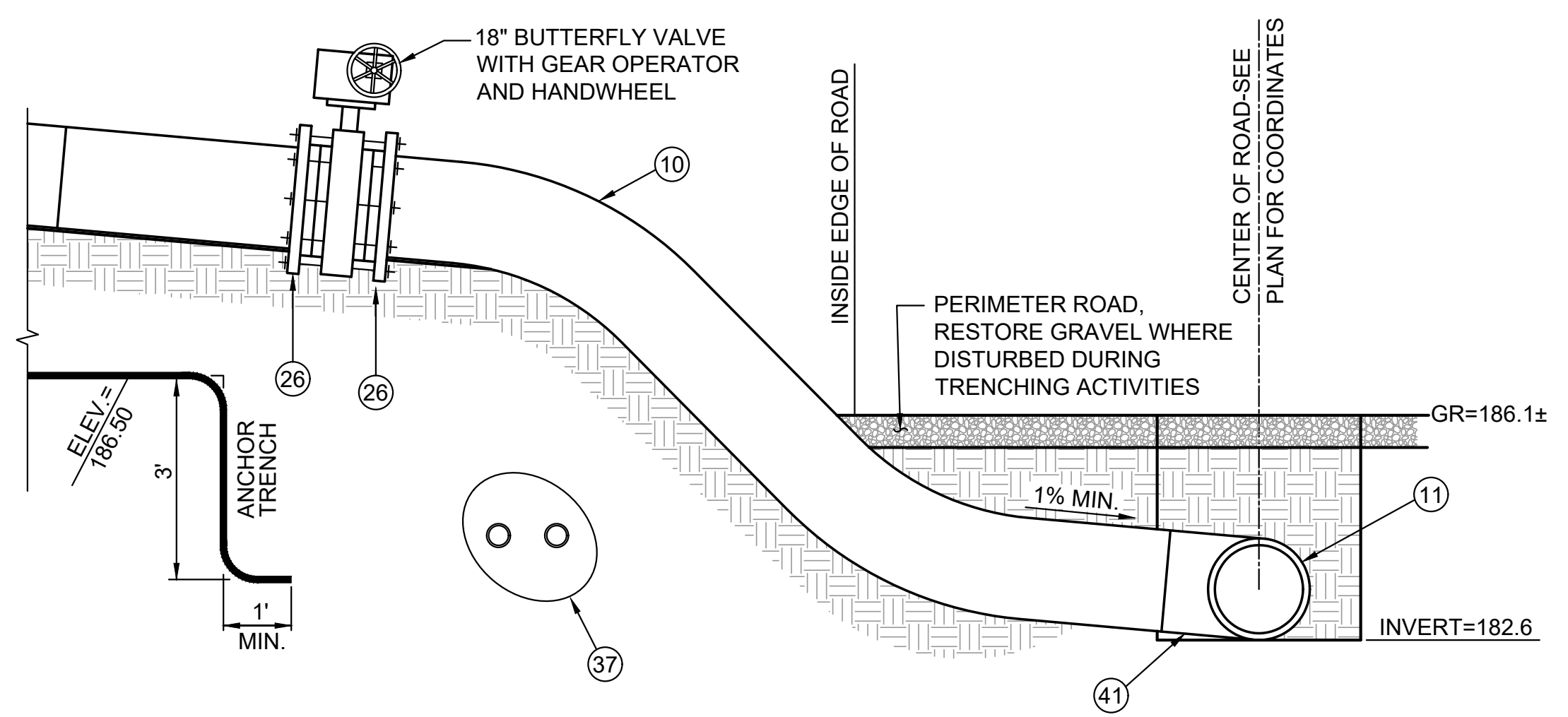
CONSTRUCTION NOTES:

1. INSTALL VERTICAL GAS EXTRACTION WELL PER DETAIL 1/SHEET 8
2. INSTALL VERTICAL WELLHEAD PER DETAIL 2/SHEET 8
3. INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE & FITTINGS ON GRADE OR COMMON TRENCH
4. INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS ON GRADE OR COMMON TRENCH
5. INSTALL 6" SDR 11 HDPE PIPE & FITTINGS ON GRADE
6. INSTALL 6" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
7. INSTALL 6" SDR 11 HDPE PERFORATED HORIZONTAL WELL PER DETAIL 1/SHEET 10
8. INSTALL 2" QED HORIZONTAL WELLHEAD, MODEL ORP215MHL, PER DETAIL 2/SHEET 9 (NO SUBSTITUTION)
9. INSTALL 12" SDR 11 HDPE PIPE & FITTINGS BELOW GRADE PER DETAIL 3/SHEET 10
10. INSTALL 18" SDR 11 HDPE PIPE & FITTINGS ON GRADE
11. INSTALL 18" SDR 11 HDPE HEADER BELOW GRADE PER DETAIL 2/SHEET 10
12. INSTALL 18" X 12" HDPE ELECTRO-FUSION SADDLE
13. INSTALL 6" HDPE CROSS, SDR 11
14. INSTALL 6" 90° HDPE ELBOW, SDR 11
15. INSTALL 6" HDPE TEE, SDR 11
16. INSTALL 6" HDPE FLANGE ADAPTER SET WITH D.I. BACK-UP RINGS, GASKET, AND BOLT PACK
17. INSTALL 6" HDPE BLIND FLANGE
18. JOIN EXISTING LINE (GAS, AIR, OR CONDENSATE)
19. INSTALL 6" X 4" HDPE REDUCER
20. INSTALL 4" X 2" HDPE REDUCER
21. CONNECT HEADER TO EXISTING SUMP PER DETAIL 1/SHEET 11
22. INSTALL 12" X 8" HDPE REDUCER
23. INSTALL 8" X 6" HDPE REDUCER
24. INSTALL 12" X 6" HDPE TEE, SDR 11 (MOLDED REDUCING TEE OR 12" TEE WITH REDUCERS)
25. INSTALL 12" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RINGS, GASKET, SPACERS, AND BOLT PACK
26. INSTALL 18" HDPE FLANGE ADAPTER WITH D.I. BACK-UP RING, GASKET, SPACERS, AND BOLT PACK
27. INSTALL HORIZONTAL COLLECTOR TRANSITION PER DETAIL 5/SHEET 10
28. INSTALL 12" CSP SLEEVE
29. INSTALL 18" HDPE TEE WITH 18" X 6" HDPE REDUCERS, SDR 11
30. INSTALL HORIZONTAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 9
31. INSTALL 12" HDPE BLIND FLANGE
32. INSTALL 18" HDPE BLIND FLANGE
33. INSTALL 18" VALVE ASSEMBLY AT HEADER END POINT PER DETAIL 4/SHEET 15
34. INSTALL 2" SDR 11 HDPE PIPE AND FITTINGS
35. INSTALL 12" BUTTERFLY VALVE WITH GEAR OPERATOR AND HANDWHEEL, ON GRADE
36. INSTALL WELL I.D. PLACARD PER DETAIL 2/SHEET 13
37. PROTECT IN-PLACE EXISTING HIGH VOLTAGE ELECTRICAL CONDUIT AND LEACHATE FORCEMAIN
38. INSTALL 2" QED VERTICAL WELLHEAD, MODEL ORP215M (NO SUBSTITUTION)
39. INSTALL 18" HDPE TEE WITH 18" X 12" HDPE REDUCERS, SDR 11
40. INSTALL R.E.P. MODEL 7000 IN-LINE CONDENSATE SUMP PER DETAIL 1/SHEET 16 (NO SUBSTITUTION)
41. INSTALL 18" HDPE ELBOW, SDR 11
42. INSTALL 2" FERNCO PIPE ADAPTER
43. INSTALL 2" FLEX HOSE (ITC OR SNOOK) X 24" LONG WITH CLAMPS
44. INSTALL 4" HDPE ELBOW, SDR 11
45. INSTALL 4" HDPE FLANGE ADAPTER WITH D.I. BACK UP RING, GASKET, AND BOLT PACK
46. INSTALL 6" X 2" FERNCO PIPE ADAPTER
47. INSTALL 2" SDR 11 HDPE PIPE
48. INSTALL 1/4" PVC LABCOCK VALVE, HOSE X HOSE
49. INSTALL CONDUIT PIPE STRAP OR BRACKET TO SUPPORT HOSE
50. INSTALL 1/4" BRAIDED HOSE, CUT TO LENGTH, WITH TWO STAINLESS STEEL HOSE CLAMPS
51. INSTALL 1/4" MPT X HOSE BARB FITTING, STAINLESS STEEL (DRILL & TAP PIPING)
52. INSTALL 6" 45° HDPE ELBOW, SDR 11
53. INSTALL 4" X 2" HDPE TEE, SDR 11
54. INSTALL 1/2" STAINLESS STEEL BAND CLAMP
55. INSTALL 18" X 6" ECCENTRIC HDPE TEE, CUSTOM FABRICATION (SEE DETAIL 1/SHEET 11)
56. INSTALL 6" SDR 11 HDPE END CAP
57. INSTALL 12" SDR 11 HDPE PIPE ON GRADE
58. INSTALL 18" CSP SLEEVE
59. INSTALL VERTICAL WELLHEAD/MANIFOLD TO HEADER CONNECTION PER DETAIL 1/SHEET 14
60. INSTALL 6" PIPE ANCHOR PER DETAIL 2/SHEET 12
61. INSTALL 12" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 1/SHEET 12
62. INSTALL 18" ANCHOR/SIDE SLOPE BRANCH CONNECTION PER DETAIL 3/SHEET 12
63. INSTALL 2" HDPE TO SS TRANSITION FITTING (BUTT X MPT)
64. INSTALL 2" WIDE X 1.5" LONG X 2" THICK BENTONITE SEAL AT PERFORATED/SOLID PIPE TRANSITION
65. INSTALL HORIZONTAL COLLECTOR STUB-OUT PER DETAIL 2/SHEET 11
66. INSTALL PIPE ALIGNMENT GUIDE PER DETAIL 3/SHEET 11
67. INSTALL LCRS RISER CONNECTION PER DETAIL 1/SHEET 13
68. INSTALL 6" BUTTERFLY VALVE, C.I. LUG BODY, GEAR OPERATOR WITH HANDWHEEL (SEE SPECS)
69. INSTALL 10" X 6" HDPE ELECTRO-FUSION SADDLE AND 1' STUB OF 6" SDR 11 PIPE (@ LCRS RISER)
70. INSTALL 4" X 4" X 1' LONG TREATED REDWOOD LUMBER TO SUPPORT WELLHEAD
71. INSTALL 18" VALVE ASSEMBLY AND BELOW GRADE TRANSITION PER DETAIL 3/SHEET 15
72. INSTALL 18" CONCRETE ANCHOR BLOCK/BRANCH CONNECTION PER DETAIL 4/SHEET 12
73. INSTALL 2" HDPE END CAP
74. INSTALL 12" HEADER CONNECTION PER DETAIL 3/SHEET 9
75. INSTALL 18" VALVE ASSEMBLY AT HEADER HIGH POINT PER DETAIL 1/SHEET 15



- NOTES:**
1. THE EXISTING HEADER IS LOCATED IN NATIVE SOIL, OUTSIDE THE WASTE FOOTPRINT.
 2. INSTALL 5 MIL PLASTIC SHEETING AROUND FLANGE ASSEMBLIES.
 3. 2" HDPE COMPRESSED AIR AND CONDENSATE CONVEYANCE LINES (ON EACH SIDE OF HEADER, NOT SHOWN).

VALVE DETAIL @ HEADER HIGH POINT 1/15
NTS



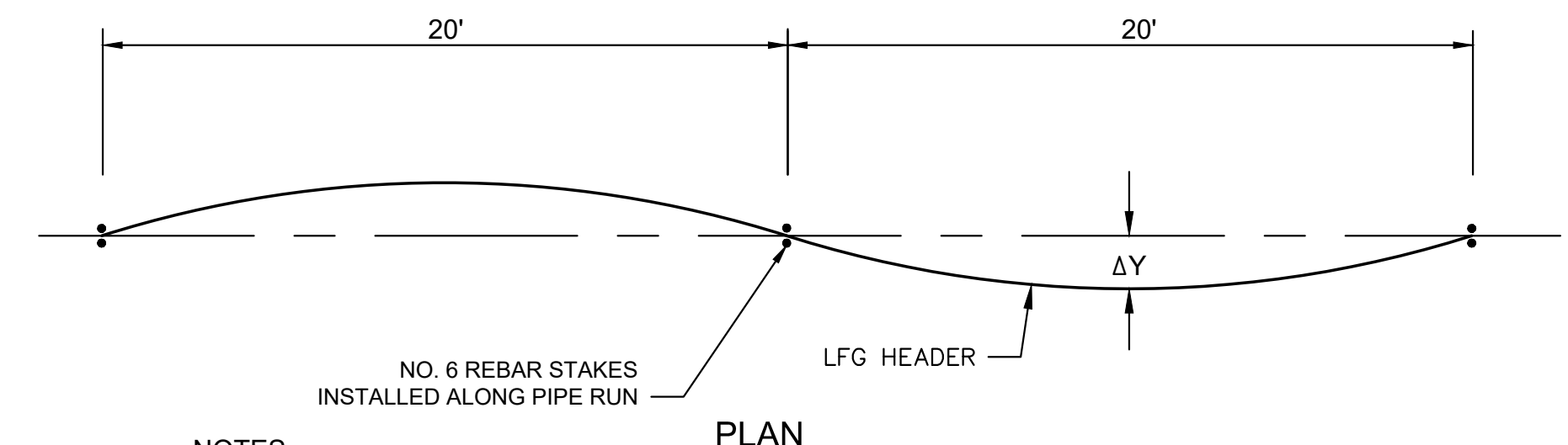
- NOTES:**
1. BEFORE STARTING EXCAVATION OR BORING, THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL IDENTIFIED UNDERGROUND FACILITIES IN THE AREA OF WORK. THE CONTRACTOR SHALL PROTECT AND REPAIR ALL COMPONENTS DAMAGED DUE TO WORK AT NO COST TO THE OWNER.
 2. 2" HDPE COMPRESSED AIR AND CONDENSATE CONVEYANCE LINES (ON EACH SIDE OF HEADER, NOT SHOWN).

18" VALVE ASSEMBLY AND TRANSITION DETAIL 3/15
NTS

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765
TEL 909.860.7777 FAX 909.860.8017

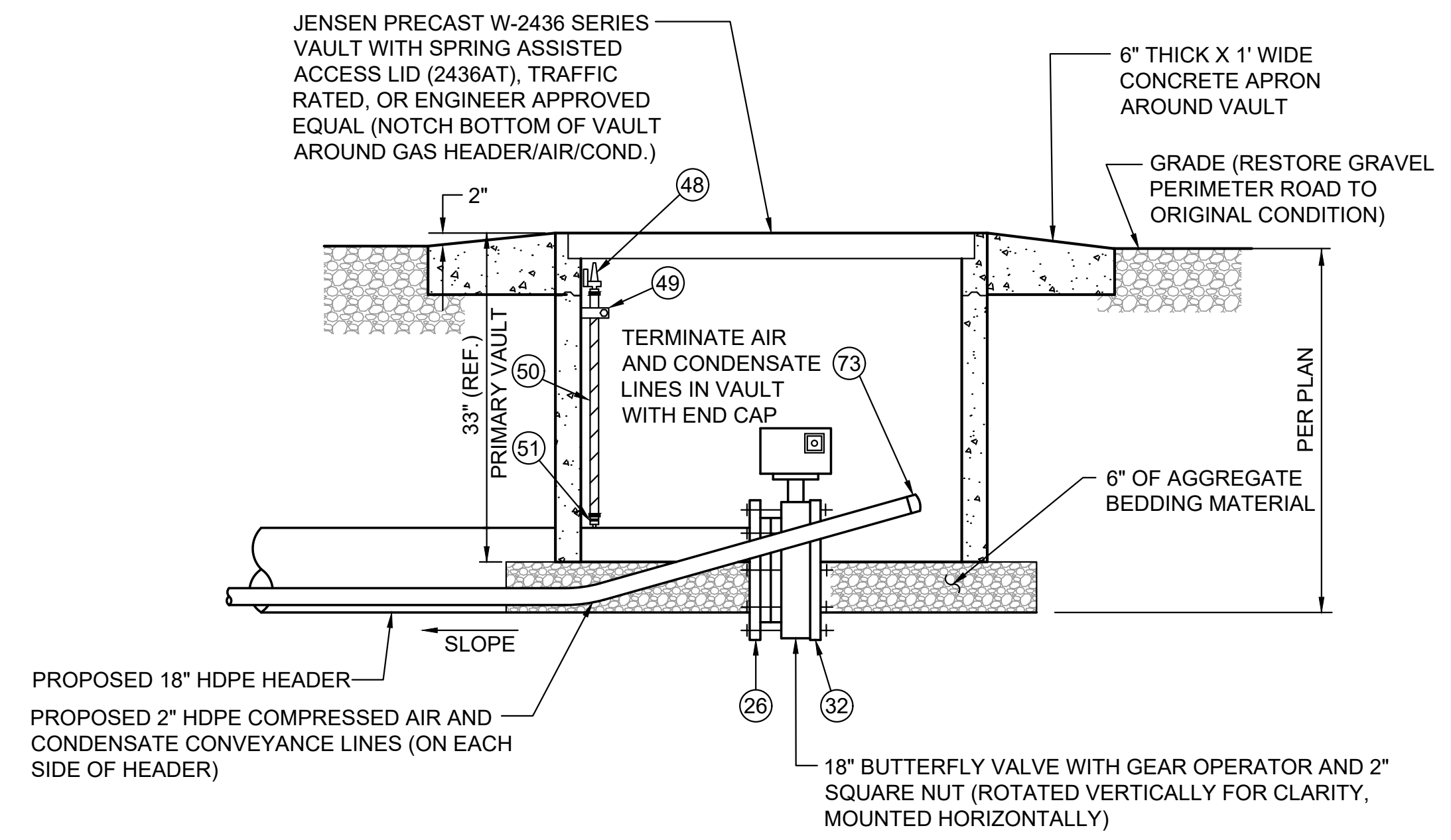
DESIGNED:	DATE:	RESIDENT ENGINEER	DATE:	SCALE:
SNA	01-2021			NOT TO SCALE
DRAWN:	01-2021			
CHECKED:	01-2021			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



- NOTES:**
1. DUE TO THERMAL EXPANSION AND CONTRACTION OF HDPE PIPE, PIPE SHALL BE INSTALLED IN A SNAKING ALIGNMENT. THE CONTRACTOR SHALL MAKE ALLOWANCE FOR EXTRA LENGTH OF PIPE. THE SNAKING OF PIPING SHALL BE PERFORMED ON THE TOP DECK (NOT SIDE SLOPES).
 2. ΔY VARIES BASED ON AMBIENT TEMPERATURES DURING INSTALLATION. ΔY SHALL BE 10" IF AMBIENT TEMPERATURES ARE BETWEEN 60°F - 80°F. FOR OTHER INSTALLATION TEMPERATURES, SEE RESIDENT ENGINEER.
 3. FOR PIPES INSTALLED ON SIDESLOPES, SEE DETAIL 3, SHEET 11.

ABOVE GROUND PIPE INSTALLATION DETAIL 2/15
NTS



- NOTES:**
1. THE EXISTING HEADER IS LOCATED IN NATIVE SOIL, OUTSIDE THE WASTE FOOTPRINT.
 2. INSTALL 5 MIL PLASTIC SHEETING AROUND FLANGE ASSEMBLIES.

VALVE DETAIL @ HEADER END POINT 4/15
NTS

Sawyer 02/08/2021
ENGINEER OF RECORD DATE

PROJECT
AMERICAN AVENUE LANDFILL PHASE III -
MODULES 3-8 LFGCCS EXPANSION



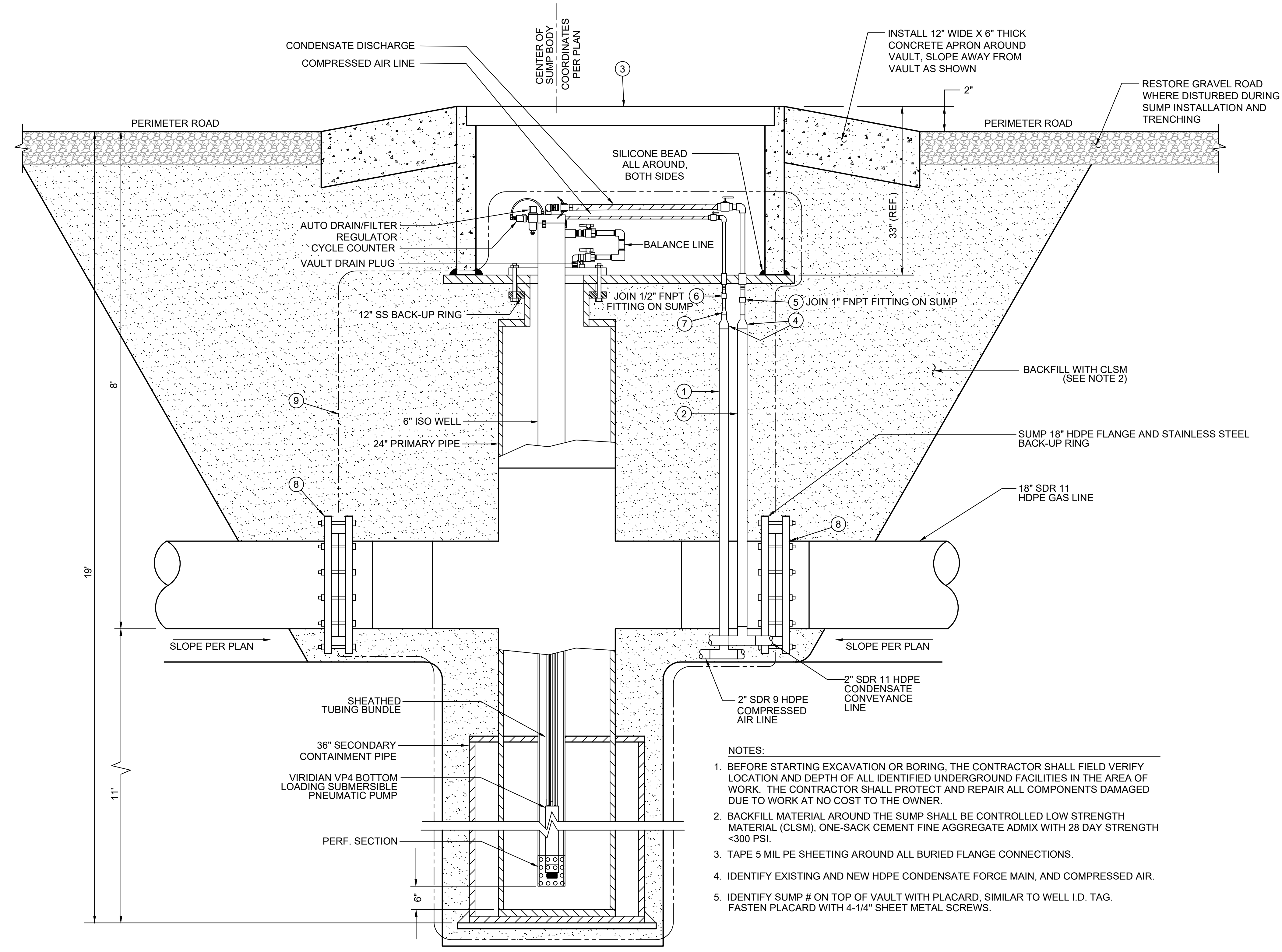
DEPARTMENT OF PUBLIC WORKS AND PLANNING
LFGCCS DETAILS

ROAD NO.	N/A	BRIDGE NO.	N/A	DRAWING NO.	11307	SHEET NO.	15	TOTAL	16
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Angus, Scott Friday, January 15, 2021 3:35:15 PM G:\DWG\AMERICAN AVENUE LANDFILL\GAS\PHASE 3\GGOS DESIGN\SHEET 15.DWG

PUMP STATION CONSTRUCTION NOTES:

- ① INSTALL 2" SDR 9 HDPE COMPRESSED AIR LINE AND FITTINGS
- ② INSTALL 2" SDR 11 HDPE CONDENSATE CONVEYANCE LINE & FITTINGS
- ③ INSTALL 24" X 36" TRAFFIC RATED CONCRETE VAULT WITH SPRING ASSISTED COVER, GALVANIZED
- ④ INSTALL 2" X 1" HDPE REDUCER (SDR 9 FOR AIR, SDR 11 FOR OTHERS)
- ⑤ INSTALL 1" HDPE TO STAINLESS STEEL TRANSITION FITTING
- ⑥ INSTALL 1/2" HDPE TO STAINLESS STEEL TRANSITION FITTING
- ⑦ INSTALL 1" x 1/2" HDPE REDUCER
- ⑧ INSTALL 18" HDPE FLANGE ADAPTER, SS BACK-UP RING, GASKET, AND BOLT KIT
- ⑨ INSTALL REAL ENVIRONMENTAL PRODUCTS SERIES 7000 SERIES IN-LINE CONDENSATE SUMP WITH 18" FLANGE CONNECTIONS, 24" PRIMARY PIPE, 36" SECONDARY CONTAINMENT, AND VIRIDIAN VP4 BOTOM LOADING SUBMERSIBLE PNEUMATIC PUMP (MODEL 7000-I-24/36 DC, DO NOT SUBSTITUTE)



- NOTES:**
1. BEFORE STARTING EXCAVATION OR BORING, THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL IDENTIFIED UNDERGROUND FACILITIES IN THE AREA OF WORK. THE CONTRACTOR SHALL PROTECT AND REPAIR ALL COMPONENTS DAMAGED DUE TO WORK AT NO COST TO THE OWNER.
 2. BACKFILL MATERIAL AROUND THE SUMP SHALL BE CONTROLLED LOW STRENGTH MATERIAL (CLSM), ONE-SACK CEMENT FINE AGGREGATE ADMIX WITH 28 DAY STRENGTH <300 PSI.
 3. TAPE 5 MIL PE SHEETING AROUND ALL BURIED FLANGE CONNECTIONS.
 4. IDENTIFY EXISTING AND NEW HDPE CONDENSATE FORCE MAIN, AND COMPRESSED AIR.
 5. IDENTIFY SUMP # ON TOP OF VAULT WITH PLACARD, SIMILAR TO WELL I.D. TAG. FASTEN PLACARD WITH 4-1/4" SHEET METAL SCREWS.

TETRA TECH
 21700 Copley Drive, Suite 200
 Diamond Bar, CA 91765
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CONDENSATE PUMP STATION DETAIL
 NTS (TYPICAL 6 PLACES)

1
16

DESIGNED: SNA	DATE: 01-2021	RECORD DRAWING	SCALE		PROJECT AMERICAN AVENUE LANDFILL PHASE III - MODULES 3-8 LFGCCS EXPANSION	DEPARTMENT OF PUBLIC WORKS AND PLANNING CONDENSATE PUMP STATION DETAIL
DRAWN: SNA	DATE: 01-2021	RESIDENT ENGINEER	SCALE			
CHECKED: AMN/SHA	DATE: 01-2021		SCALE			
FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.				ENGINEER OF RECORD	DATE: 02/08/2021	ROAD NO. N/A BRIDGE NO. N/A DRAWING NO. 11307 SHEET NO. 16 TOTAL 16

Argus, Scott
 Friday, January 15, 2021 3:39:24 PM
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SPECIFICATIONS

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

18950 W American Ave, Kerman, CA 93630

BUDGET / ACCOUNT: 9026 / 8150



Department of Public Works and Planning

CONTRACT NUMBER 20-18-SW

T A B L E O F C O N T E N T S

COVER SHEET

BOARD ADOPTION AND ACKNOWLEDGMENT

Engineer's Signature
Consultant's Signature

NOTICE TO BIDDERS

SPECIAL PROVISIONS

TECHNICAL SPECIFICATIONS

PROJECT DETAILS / DRAWINGS

Project Drawings/Details
Self-Dealing Transactions Disclosure Form
Revised Standard Specifications Dated 09-02-16

BID BOOK

Bidder's Declaration
Bid Form
Abbreviations Used
Signature Page
Noncollusion Declaration
Public Contract Code
Subcontractor List
Certifications
Guaranty

AGREEMENT

PLANS

PROJECT: AMERICAN AVENUE DISPOSAL SITE PHASE III MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

CONTRACT NUMBER: 20-18-SW

Steve Brandau, Chairman	2nd District
Brian Pacheco, Vice Chairman	1st District
Sal Quintero	3rd District
Ernest Buddy Mendes	4th District
Nathan Magsig	5th District

Jean Rousseau, County Administrative Officer

Steven E. White, Director
Department of Public Works and Planning



Date Signed: 2/9/2021

Supervising Engineer: _____

A handwritten signature in black ink, appearing to be 'S. Artal', written over a horizontal line.

Sebastian Artal, PE 76724
Lic. Expiration: 12/31/2022

FRESNO COUNTY
Department of Public Works and Planning
m/a 2220 Tulare Street, Suite 720
Fresno, CA 93721-2106

**PROJECT: AMERICAN AVENUE DISPOSAL SITE PHASE III MODULES 3-8 LANDFILL GAS
COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION**

CONTRACT NUMBER: 20-18-SW



Date Signed: 2/11/2021

Consultant Engineer: _____

A handwritten signature in cursive script, appearing to read "Sami H Ayass", written over a horizontal line.

Sami H Ayass, PE C84806

TETRA TECH
21700 Copley Drive, Suite 200
Diamond Bar, CA 91765

Lic. Expiration: 03/31/2022

BOARD OF SUPERVISORS COUNTY OF FRESNO STATE OF CALIFORNIA

NOTICE TO BIDDERS

Sealed proposals will be received at:

<https://www.bidexpress.com/businesses/36473/home>

and at the Fresno County Department of Public Works and Planning (Department), Office of the Design Engineer, Seventh Floor, Fresno County Plaza Building, 2220 Tulare Street, Fresno, CA 93721 until

**2:00 P.M., (1400 hours and 00 seconds)
Thursday, March 11, 2021**

Due to the COVID-19 restrictions and guidelines, the Department's bid reception desk is closed and all bidders are encouraged submit bids online through Bid Express.

If a bidder is unable to submit online through Bid Express, please make arrangements to submit your bid in person or by mail by e-mailing DesignServices@fresnocountyca.gov or calling (559) 600-9908.

Promptly following the closing of the bidding all timely submitted bids will be publicly opened and viewable via a livestream (the link for which will be posted at <http://www.co.fresno.ca.us/planholders>) for construction in accordance with the project specifications therefor, to which special reference is made as follows:

**AMERICAN AVENUE DISPOSAL SITE PHASE III MODULES 3-8 LANDFILL GAS
COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION**

18950 W AMERICAN AVE, KERMAN, CA 93630

CONTRACT NUMBER 20-18-SW

The work to be done consists, in general, of installing 23 new single depth Landfill Gas (LFG) vertical extraction wells and 15 LFG horizontal extraction wells; installing header and lateral piping to connect new extraction wells to the collection system; furnishing, installing and testing 6 condensate sumps, associated pumps and furnishing all appurtenances and performing all incidental work to effectuate the planned expansion of the site's landfill gas collection and control system.

A pre-bid conference will be held at 10:00 a.m., on WEDNESDAY, FEBRUARY 24, 2021. A discussion of the project will be held and the project sites will be open for examination. Contractors should meet at American Avenue Disposal Site, 18950 W American Ave, Kerman, CA 93630. Attendance at the pre-bid is not mandatory; however, the scheduled pre-bid will be the only opportunity for prospective bidders to visit the site in the presence of County staff, and requests for individual site visits with County staff will not be granted.

Note that the pre-bid meeting will be conducted exclusively out of doors and that attendees will not be requested to sign in or otherwise handle any materials provided or touched by

County staff. Attendees are requested to each ensure that appropriate social distancing is maintained at all times during the meeting, and all attendees are required to wear facial covering for the duration of the meeting.

The Department has made a public interest finding on January 12, 2021 and has determined that the following items (Refer to Section 01 60 00-2) shall be used for this project and no substitution shall be allowed:

Supplier: QED Environmental Systems, Inc.

Products: 2-inch QED Vertical wellhead, Model ORP215M 6-inch, 2-inch QED Horizontal wellhead, Model ORP215MHL 6-inch, QED Vertical Orifice Plate Kit, Model 40640, QED Horizontal Orifice Plate Kit, Model 40690, QED Stabilizer™ well cap, Model GWC62, 2-inch QED Solarguard™ flex hose (100-foot roll), Model 40946, QED high strength stainless steel hose band kit for Solarguard™ Flex Hose, Model 40979, 6-inch by 2-inch Fernco Flexseal coupling, Model 1056-62, and 2-inch Fernco Flexseal coupling, Model 1056-215

Supplier: Real Environmental Products (REP)

Products: Auto Sump 7000-I-24/36-DC with Viridian VP4-BL submersible pump and Infa-just pipe supports/anchors 6000 Series

The County of Fresno is committed to increasing the availability of employment and training opportunities, and requires that the Contractor and each subcontractor employed on this Project shall use their best efforts to ensure that thirty-three percent (33%) of apprentice hours are performed by qualified participants in state approved apprenticeship programs who also are current or former “Welfare-to-Work” participants in the CalWORKs program. Attention is directed to “Apprentices” in Section 7 of these special provisions.

Incentives whereby the Contractor or subcontractor receives partial reimbursement for the wages paid to apprentices who qualify may be available. The incentive program is administered by the County of Fresno, Department of Social Services, Employment Resource Center. For questions regarding the incentive program, contact the Employment Resource Center at (559) 600-5370.

Bidders may fill out a Request to be Added to Planholders list:

<https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/design-division/planholders-list-request-to-be-added>

Requesters will then be listed as a planholder for the project on the website and receive notifications and addenda issued for the project.

Prospective bidders may also select the project on www.BidExpress.com. Those that demonstrate interest in the project will be added to the planholders list, and receive notifications and addenda issued for the project.

Planholder and exchange/publication names may be obtained from the Fresno County website at <http://www.co.fresno.ca.us/planholders>.

Electronic copies, in “.pdf” file format, of the official project plans and specifications, bid books and proposal sheets, and such additional supplemental project information as may be provided, are available to view, download, and print at <http://www.co.fresno.ca.us/planholders>.

If a bidder is unable to submit a bid via Bid Express, Bid Books, which contain bid proposal sheets necessary to submit a bid, may be obtained within the Specifications documents posted on the Fresno County website.

Electronic bids shall be submitted via the BidExpress website. Hardcopy bids shall be submitted in a sealed envelope addressed to the Department and labeled with the name of the bidder, the name of the project and the statement "Do Not Open Until The Time Of Bid Opening."

Bid security in the amount of ten (10) percent of the amount of the bid, and in the form of a bid bond issued by an admitted surety insurer licensed by the California Department of Insurance, cash, cashier's check or certified check shall accompany the bid. You must either attach an electronic bid bond or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening. Bid security shall be made in favor of the County of Fresno.

Hardcopy bid bonds shall be submitted in a sealed envelope addressed to the Department and labeled with the name of the bidder, the name of the project and the statement "Do Not Open Until The Time Of Bid Opening – BID BOND"

A Summary of Bids and a list of subcontractors for the apparent low bidder will be posted at the above listed website, generally within 24 hours of the Bid Opening.

All questions regarding this project shall be in writing and shall be received by the Department of Public Works and Planning, Design Division, no later than 2:00 P.M. on the seventh (7th) calendar day before bid opening. Any questions received after this deadline will not receive a response unless the Department of Public Works and Planning elects to issue an addendum to revise the bid opening date. In the event that the bid opening date is revised, the deadline for questions will be extended to no later than 2:00 P.M. on the seventh (7th) calendar day before the revised bid opening date. Questions shall be submitted on the "Request for Clarification Form" provided on our website:

<http://www.co.fresno.ca.us/departments/public-works-and-planning/construction-bidding-opportunities/20-18-sw/20-18-sw-request-for-clarification-form>

Any changes to, or clarification of, the project plans and specifications shall be in the form of a written addendum issued to planholders of record. Questions that prompt a change or clarification shall be included in the addendum with the subsequent answer.

Any oral explanation or interpretations given to this project are not binding.

No contract will be awarded to a contractor who has not been licensed in accordance with the provisions of the Contractors State License Law, California Business and Professions Code, Division 3, Chapter 9, as amended, or whose bid is not on the proposal form included in the contract document. A valid California Contractor's License, **Class A (General Engineering)**, is required for this project.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at County of Fresno, Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno CA 93721-2104 and available from the California

Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

The U.S. Department of Transportation (DOT) provides a toll-free "hotline" service to report bid rigging activities. Bid rigging activities can be reported Mondays through Fridays, between 8:00 a.m. and 5:00 p.m., Eastern Time, Telephone No. 1-800-424-9071. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report these activities. The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

Bids are required for the entire work described herein. Bids will be compared on the basis of the cumulative sum of the bid amounts listed for the individual line items.

The successful bidder shall furnish a faithful performance bond in the amount of 100 percent of the contract amount and a payment bond in the amount of 100 percent of the contract amount. Each bond specified in this Notice (bid bond, faithful performance bond and payment bond) shall meet the requirements of all applicable statutes, including but not limited to those specified in Public Contract Code section 20129 and Civil Code section 3248.

Each bond specified in this Notice shall be issued by a surety company designated as an admitted surety insurer in good standing with and authorized to transact business in this state by the California Department of Insurance, and acceptable to the County of Fresno. Bidders are cautioned that representations made by surety companies will be verified with the California Department of Insurance. Additionally, the County of Fresno, in its discretion, when determining the sufficiency of a proposed surety company, may require the surety company to provide additional information supported by documentation. The County generally requires such information and documentation whenever the proposed surety company has either a Best's Key Rating Guide of less than **A** and a financial size designation of less than **VIII**. Provided, however, that the County expressly reserves its right to require all information and documentation to which the County is legally entitled from any proposed surety company.

Pursuant to Public Contract Code Section 22300, substitution of securities for any moneys withheld by the County of Fresno to ensure performance under the contract shall be permitted.

The Board of Supervisors reserves the right to reject any or all bids.

Board of Supervisors, County of Fresno

Jean Rousseau, County Administrative Officer

Bernice E. Seidel, Clerk to the Board

Issue Date: February 9, 2021

Special Provisions

DIVISION I GENERAL PROVISIONS
1 GENERAL

1-1.01 GENERAL

Add to the beginning of Section 1:

The work is done in accordance with the 2015 *Standard Specifications*, 2015 *Standard Plans* and the following special provisions.

Where these special provisions indicate to replace, add to, delete, delete from, or otherwise modify a "section," or a portion thereof, the section or portion thereof to which such modification is to be applied is the section or portion thereof with the corresponding numbering in the 2015 *Standard Specifications*.

Except to the extent that they may conflict with these special provisions, revised standard specifications apply if included in the project details section of the book entitled "Specifications."

Revised standard plans apply if listed on the "List of Revised Standard Plans," if any, in these special provisions; or if shown or referenced on the project plans or in the project details section of the book entitled "Specifications."

In case of conflict between the *Standard Specifications* and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

In case of conflict between applicable revised standard specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

Add to the end of section 1-1.01:

Refer to Section 01 20 00 "MEASURE AND PAYMENT"

Add to the 1st table of section 1-1.06:

SJVAPCD	San Joaquin Valley air pollution control district
AQMD	air quality management district
CISS	cast-in-steel shell
CSL	crosshole sonic logging
GGL	gamma-gamma logging
METS	Caltrans Material Engineering and Testing Services

Add to section 1-1.06:

Abbreviations in the Bid Item List are also used in Proposal 2 Bid Item List.

Replace Section 1-1.07 with:

1-1.07 DEFINITIONS

1-1.07A General

Interpret terms as defined in the Contract documents.

1-1.07B Glossary

abandon: Render unserviceable in place.

acts of God: *Acts of God* as defined in Pub Cont Code § 7105.

activity: Task, event, or other project element on a schedule that contributes to completing the project.
An activity has a description, start date, finish date, duration, and one or more logic ties.

adjust: Raise or lower a facility to match a new grade line.

aerially deposited lead: Lead primarily from vehicle emissions deposited within unpaved areas or formerly unpaved areas.

Authorized Facility Audit List: Caltrans-developed list of facilities. For the Authorized Facility Audit List, go to the METS website.

authorized laboratory: Independent testing laboratory (1) not employed or compensated by any subcontractor or subcontractor's affiliate providing other services for the Contract and (2) authorized by the Department.

Authorized Material List: Caltrans-developed list of authorized materials. For the Authorized Material List go to the METS website.

Authorized Material Source List: Caltrans-developed list of authorized source materials. For the Authorized Material Source List go to the METS website.

base: Layer of specified material of planned thickness placed immediately below the pavement or surfacing.

basement material: Material in an excavation or embankment under the lowest layer to be placed.

bid item: Work unit for which the Bidder provides a price.

Bid Item List: List of bid items, units of measure, and the associated quantities. The verified Bid Item List is the Bid Item List with verified prices. The Contract Proposal (Proposal 2) of Low Bidder at the Department's website is the verified Bid Item List. After contract award, interpret a reference to the Bid Item List as a reference to the verified Bid Item List.

borrow: Fill acquired from an excavation source outside the described cut area.

1. **local borrow:** Material obtained by widening cuts or excavating from sources outside the planned or authorized cross section on the job site. The location of the local borrow is described or designated by the Engineer.
2. **imported borrow:** Borrow that is not local borrow.

bridge: Structure that:

1. Has a bridge number
2. Carries a (1) utility, (2) railroad, or (3) vehicle, pedestrian, or other traffic over, under, or around obstructions or waterways

building-construction contract: Contract that has *Building Construction* on the cover of the *Notice to Bidders and Special Provisions*.

California Test: Caltrans-developed test for determining work quality. For California Tests, go to the METS website.

Caltrans: State of California Department of Transportation

certificate of compliance: Certificate stating the material complies with the Contract.

Certified Industrial Hygienist: Industrial hygienist certified in comprehensive practice by the American Board of Industrial Hygiene.

change order work: Work described in a Change Order, including extra work and work described in the Contract as change order work.

closure: Closure of a traffic lane or lanes, including shoulder, ramp, or connector lanes, within a single traffic control system.

commercial quality: Quality meeting the best general practices.

commercial source: Established business operating as a material source for the general public.

Contract: Written and executed contract between the Department and the Contractor.

Contract acceptance: Director's written acceptance of a completed Contract.

Contract time: Number of original working days as adjusted by any time adjustment.

Contractor: Person or business or its legal representative entering into a Contract with the Department for performance of the work.

controlling activity: Construction activity that will extend the scheduled completion date if delayed.

County: The County of Fresno

critical path: Longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path extends the scheduled completion date.

critical path method: Network-based planning technique using activity durations and relationships between activities to calculate a schedule for the entire project.

culvert: Structure other than a bridge that provides an opening under a roadway.

data date: Day after the date through which a schedule is current. Everything occurring earlier than the data date is as-built and everything on or after the data date is planned.

day: 24 consecutive hours running from midnight to midnight; calendar day.

1. **business day:** Day on the calendar except a Saturday and a holiday.
2. **working day:** Time measure unit for work progress. A working day is any 24-consecutive-hour period except:
 - 2.1. Saturday and a holiday.
 - 2.2. Day during which you cannot perform work on the controlling activity for at least 50 percent of the scheduled work shift with at least 50 percent of the scheduled labor and equipment due to any of the following:
 - 2.2.1. Adverse weather-related conditions.
 - 2.2.2. Traffic maintenance under the Contract.
 - 2.2.3. Suspension of a controlling activity that you and the Engineer agree benefits both parties.
 - 2.2.4. Unanticipated event not caused by either party, such as:
 - 2.2.4.1. Act of God
 - 2.2.4.2. Act of a public enemy.
 - 2.2.4.3. Epidemic.
 - 2.2.4.4. Fire.
 - 2.2.4.5. Flood.
 - 2.2.4.6. Governor-declared state of emergency.
 - 2.2.4.7. Landslide.
 - 2.2.4.8. Quarantine restriction.
 - 2.2.5. Issue involving a third party, including:
 - 2.2.5.1. Industry or area-wide labor strike.
 - 2.2.5.2. Material shortage.
 - 2.2.5.3. Freight embargo.
 - 2.2.5.4. Jurisdictional requirement of a law enforcement agency.
 - 2.2.5.5. Workforce labor dispute of a utility or nonhighway facility owner resulting in a nonhighway facility rearrangement not described and not solely for the Contractor's convenience. Rearrangement of a nonhighway facility includes installation, relocation, alteration, or removal of the facility.
 - 2.3. Day during a concurrent delay.
3. **original working days:**

- 3.1. Working days to complete the work shown on the *Notice to Bidders* for a non-cost-plus-time-based bid
- 3.2. Working days bid to complete the work for a cost-plus-time-based bid

Where working days is specified without the modifier *original* in the context of the number of working days to complete the work, interpret the number as the number of original working days as adjusted by any time adjustment.

deduction: Money permanently taken from a progress payment or the final payment. Deductions are cumulative and are not retentions under Pub Cont Code § 7107.

delay: Event that extends the completion of an activity.

1. **excusable delay:** Delay caused by the Department and not reasonably foreseeable when the work began, such as:
 - 1.1. Change in the work
 - 1.2. Department action that is not part of the Contract
 - 1.3. Presence of an underground utility main not described in the Contract or in a location substantially different from that specified
 - 1.4. Described facility rearrangement not rearranged as described, by the utility owner by the date specified, unless the rearrangement is solely for the Contractor's convenience
 - 1.5. Department's failure to obtain timely access to the right-of-way
 - 1.6. Department's failure to review a submittal or provide notification in the time specified
2. **critical delay:** Excusable delay that extends the scheduled completion date
3. **concurrent delay:** Occurrence of at least 2 of the following events in the same period of time, either partially or entirely:
 - 3.1. Critical delay
 - 3.2. Delay to a controlling activity caused by you
 - 3.3. Non-working day

Department: The Fresno County Board of Supervisors and its authorized representatives.

District Office: County of Fresno Department of Public Works and Planning

detour: Temporary route for traffic around a closed road part. A passageway through a job site is not a detour.

Director: Department's Chairman

disadvantaged business enterprise: Disadvantaged business enterprise as defined in 49 CFR 26.5.

dispose of: Remove from the job site.

divided highway: Highway with separated traveled ways for traffic, generally in opposite directions.

Engineer: The County's Director of Public Works and Planning, acting through their authorized designees.

early completion time: Difference in time between an early scheduled completion date and the work completion date.

environmentally sensitive area: Area within or near construction limits where access is prohibited or limited to protect environmental resources.

estimated cost: Estimated cost of the project as shown on the *Notice to Bidders*.

extra work: Any work, desired or performed, but not included in the original Contract.

federal-aid contract: Contract that has a federal-aid project number on the cover of the *Specifications*.

final pay item: Bid item whose quantity shown on the Bid Item List is the quantity paid.

finished grade: Final surface of the completed facility. If the work under the Contract includes stage construction, the relation between the finished grade and the work under the Contract is shown.

fixed cost: Labor, material, or equipment cost directly incurred by the Contractor as a result of performing or supplying a particular bid item that remains constant regardless of the item's quantity.

float: Difference between the earliest and latest allowable start or finish times for an activity.

1. **Department-owned float:** Time saved on the critical path by actions of the Department. It is the last activity shown on the schedule before the scheduled completion date.

force account work: Work ordered on a construction project without an existing agreement on its cost, and performed with the understanding that the contractor will bill the owner according to the cost of labor, materials, and equipment, plus a certain percentage for overhead and profit.

grading plane: Basement material surface on which the lowest layer of subbase, base, pavement, surfacing, or other specified layer is placed.

highway: Whole right-of-way or area reserved for use in constructing the roadway and its appurtenances.

holiday: Holiday shown in the following table:

Holidays	
Holiday	Date observed
Every Sunday	Every Sunday
New Year's Day	January 1 st
Birthday of Martin Luther King, Jr.	3rd Monday in January
Presidents' Day	3rd Monday in February
Cesar Chavez Day	March 31 st
Memorial Day	Last Monday in May
Independence Day	July 4 th
Labor Day	1st Monday in September
Veterans Day	November 11 th
Thanksgiving Day	4th Thursday in November
Day after Thanksgiving Day	Day after Thanksgiving Day
Christmas Day	December 25 th

If January 1st, March 31st, July 4th, November 11th, or December 25th fall on a Sunday, the Monday following is a holiday. If January 1st, March 31st, July 4th, November 11th, or December 25th fall on a Saturday, the preceding Friday is a holiday.

hours of darkness: Hours of darkness as defined in Veh Code § 280.

idle equipment: Equipment:

1. On the job site at the start of a delay
2. Idled because of the delay
3. Not operated during the delay

informal-bid contract: Contract that has *Informal Bid Authorized by Pub Cont Code § 10122* on the cover of the *Notice to Bidders and Special Provisions*.

job site: Area within the defined boundaries of a project.

Labor Surcharge and Equipment Rental Rates: Caltrans publication that lists labor surcharge and equipment rental rates.

landscaping: Practice of a landscaping contractor under 16 CA Code of Regs § 832.27.

material: Any product or substance specified for use in the construction of a project.

material shortage:

1. Shortage of raw or produced material that is area-wide and caused by an unusual market condition except if any of the following occurs:
 - 1.1. Shortage relates to a produced, nonstandard material
 - 1.2. Supplier's and the Contractor's priority for filling an order differs
 - 1.3. Event outside the United States for a material produced outside the United States
2. Unavailability of water that delays a controlling activity

material source facility audit: Self-audit and a Caltrans audit evaluating a facility's capability to consistently produce materials that comply with Caltrans standards.

median: Portion of a divided highway separating the traveled ways including inside shoulders.

milestone: Event activity that has zero duration and is typically used to represent the start or end of a certain stage of the project.

mobilization: Preparatory work that must be performed or costs incurred before starting work on the various items on the job site (Pub Cont Code § 10104).

modify: Add to or subtract from an appurtenant part.

narrative report: Document submitted with each schedule that discusses topics related to project progress and scheduling.

near critical path: Chain of activities with total float exceeding that of the critical path but having not more than 10 working days of total float.

obliterate: Place an earth cover over or root, plow, pulverize, or scarify.

Office engineer: The Director of Public Works and Planning for the County of Fresno

Owner: County of Fresno

pavement: Uppermost layer of material placed on a traveled way or shoulder.

plans: Standard plans, revised standard plans, and project plans.

1. **standard plans:** Drawings standard to Department construction projects. These plans are in a book titled *Standard Plans*.
2. **revised standard plans:** New or revised standard plans. These plans are listed in the *List of Revised Standard Plans* in a book titled *Specifications*.
3. **project plans:** Drawings specific to the project, including authorized shop drawings. These plans also include a section titled *Project Details* of a book titled *Specifications*.

plant establishment period: Number of days shown on the *Notice to Bidders* for plant establishment.

quality characteristic: Characteristic of a material that is measured to determine conformance with a given requirement.

quality control plan: Contractor's plan to ensure QC.

reconstruct: Remove and disassemble and construct again at an existing or new location.

relocate: Remove and install or place in a new location.

remove: Remove and dispose of.

reset: Remove and install or place laterally at the same station location.

roadbed: Roadway portion extending from the curb line to curb line or the shoulder line to shoulder line.
A divided highway has 2 roadbeds.

roadside: Area between the outside shoulder edge and the right-of-way limits.

roadway: Portion of the highway within the outside lines of curbs, sidewalks, slopes, ditches, channels, or waterways. A roadway includes the structures and features necessary for safety, protection of facilities, and drainage.

salvage: Remove, clean, and haul to a specified location.

schedule:

1. **baseline schedule:** Initial schedule showing the original work plan starting on the date of Contract approval. This schedule shows no completed work to date and no negative float or negative lag to any activity.
2. **revised schedule:** Schedule that incorporates a proposed or past change to logic or activity durations.
3. **updated schedule:** Current schedule developed from the accepted baseline and any subsequent accepted updated or revised schedules through regular monthly review to incorporate actual past progress.

scheduled completion date: Planned work completion date shown on the current schedule.

shoulder: Roadway portion contiguous with the traveled way for accommodation of a stopped vehicle, emergency use, and lateral support of base and surface courses.

small tool: Tool or piece of equipment not listed in Labor Surcharge and Equipment Rental Rates that has a replacement value of \$500 or less.

specifications: Standard specifications, revised standard specifications, and special provisions.

1. **standard specifications:** Specifications standard to Department construction projects. These specifications are in a book titled *Standard Specifications*.
2. **revised standard specifications:** New or revised standard specifications. These specifications are in a section titled *Revised Standard Specifications* of a book titled *Specifications*.
3. **special provisions:** Specifications specific to the project. These specifications are in a section titled *Special Provisions* of a book titled *Specifications, Division I and Division II*.
4. **Technical specifications:** Specifications specific to the project immediately after the Special Provisions identified as DIVISION 00, 01, 23, 31, 33 and 44

State: State of California, including its agencies, departments or divisions whose conduct or action is related to the work.

Structure Design: Offices of Structure Design of the Department of Transportation.

subbase: Layer of material between a base and the basement material.

subgrade: Roadbed portion on which pavement, surfacing, base, subbase, or a layer of any other material is placed.

submittal:

1. **action submittal:** Written and graphic information and samples that require the Department's response.
2. **informational submittal:** Written information that does not require the Department's response.

substantial defects: Defects plainly seen as damaged, displaced, or missing parts or improper functioning of materials, parts, equipment, or systems.

substructure: Bridge parts below the bridge seats, pier tops, and haunches for rigid-framed bridges or spring lines for arched bridges; includes abutment backwalls, abutment parapets, and wingwalls.

superstructure: Bridge parts except the substructure.

supplemental project information: Information relevant to the project, specified as supplemental project information, and made available to bidders.

surfacing: Uppermost layer of material placed on a traveled way or shoulders; pavement.

time impact analysis: Analysis using a CPM schedule developed specifically to demonstrate the effect a proposed or past change or delay has on the current scheduled completion date.

time-scaled network diagram: Graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

total bid: Sum of the item totals as verified by the Department; original Contract price.

total float: Amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

traffic: Pedestrians, bicyclists, ridden or herded animals, vehicles, streetcars, and other conveyances either singularly or together while using any highway for purposes of travel.

traffic lane: Portion of traveled way used for the movement of a single line of vehicles.

traveled way: Portion of the roadway for the movement of vehicles, exclusive of the shoulders, berms, sidewalks, and parking lanes.

tunnel: Tunnel as defined in 8 CA Code of Regs § 8405 et seq.

unauthorized work: Work performed beyond the lines and grades described in the Contract or established by the Engineer or extra work performed without Department authorization.

unsuitable material: Material encountered below the natural ground surface in embankment areas or below the grading plane in excavation areas that the Engineer determines to be in any of the following conditions:

1. Of such unstable nature that it cannot be compacted to the specified density using ordinary methods at optimum moisture content.
2. Too wet to be properly compacted and cannot be dried before incorporating it into the work. Excessive moisture alone is not sufficient cause for determining that the material is unsuitable.
3. Inappropriate for the planned use.

withhold: Money temporarily or permanently taken from a progress payment.

work: Resources and activities required for Contract acceptance, including labor, materials, equipment, and the created product.

work plan: Detailed formulation of a program of action.

work zone: Area of a highway with construction, maintenance, or utility work activities.

1-1.08 DISTRICTS

Replace Section 1.08 with:

Not Used

Add to the end of Section 1-1.09

This project is not in a freeze-thaw area.

Replace Section 1-1.11 with:

1-1.11 WEBSITES, ADDRESSES, AND TELEPHONE NUMBERS

Websites, Addresses, and Telephone Numbers

Reference or agency or department unit	Website	Address	Telephone no.
Authorized Material Lists Authorized Material Source Lists	https://dot.ca.gov/programs/engineering-services/authorized-materials-lists	--	--
CA Unified Certification Program's list of certified DBEs	https://dot.ca.gov/programs/civil-rights/dbe-search	--	--
<i>California MUTCD</i>	https://dot.ca.gov/programs/safety-programs/camutcd	--	--
Department	http://www.co.fresno.ca.us	2220 Tulare Street Design Division – Seventh Floor Fresno, CA 93721	(559) 600-9908
Department of Conservation, Office of Mine Reclamation	http://www.conservation.ca.gov/dmr/	--	--
Department of Industrial Relations	http://www.dir.ca.gov	455 Golden Gate Ave San Francisco CA 94102	--
Design Services - Contract Administration, Planholders, Bid Results	https://www.co.fresno.ca.us/departments/public-works-planning/contractor-bids-plan-holders-electronic-plans-bid-results	2220 Tulare Street Design Division – Seventh Floor Fresno, CA 93721	Tel: (559) 600-9908 Fax:(559) 455-4609 Email: DesignServices@fresnocountyca.gov
Division of Accounting, Office of External Accounts Payable	https://dot.ca.gov/programs/accounting	Major Construction Payment and Information Unit Office of External Accounts Payable Division of Accounting Department of Transportation P.O. Box 168043 Sacramento, CA 95816-8043	(916) 227-9013
Division of Construction	http://www.dot.ca.gov/hq/construc/	--	--
Geotechnical Services	http://www.dot.ca.gov/hq/esc/geotech	Geotechnical Services Department of Transportation 5900 Folsom Blvd Sacramento, CA 95819-4612	(916) 227-7000
METS	http://www.dot.ca.gov/hq/esc/Translab/	Materials Engineering and Testing Services Department of Transportation 5900 Folsom Blvd Sacramento, CA 95819-4612	(916) 227-7000
<i>MPQP</i>	https://dot.ca.gov/programs/construction/material-plant-quality-program	--	--

Office Engineer	--	Director of Public Works & Planning Fresno County 2220 Tulare St, 8 th Floor Fresno, CA 93721	(559) 600-4078
Offices of Structure Design, Documents Unit	--	MSC 9-4/4I Documents Unit Offices of Structure Design Department of Transportation 1801 30th St Sacramento, CA 95816-7006	(916) 227-0716
Publication Distribution Unit	--	Publication Unit Department of Transportation 1900 Royal Oaks Dr Sacramento, CA 95815-3800	--

Replace Section 1-1.12 with:

1-1.12 MISCELLANY

Make checks and bonds payable to the County of Fresno.

Replace Section 2 with:

2 BIDDING

2-1.01 GENERAL

Section 2 includes specifications related to bid eligibility and the bidding process.

2-1.02 BID INELIGIBILITY

A firm that has provided architectural or engineering services to the Department for this contract before bid submittal for this contract is prohibited from any of the following:

1. Submitting a bid
2. Subcontracting for a part of the work
3. Supplying materials

2-1.03 CONTRACTOR REGISTRATION

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

2-1.04–2-1.05 RESERVED

2-1.06 BID DOCUMENTS

2-1.06A General

The *Bid* book includes bid forms and certifications and may be requested from Design Services and are available online at <http://www.BidExpress.com>.

The *Specifications* includes the *Notice to Bidders*, revised standard specifications, project details, and special provisions.

The *Specifications*, project plans, and any addenda to these documents may be accessed at Design Services.

The *Standard Specifications* and *Standard Plans* may be purchased at the Publication Distribution Unit or accessed online at <https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>.

2-1.06B Supplemental Project Information

The Department makes the following supplemental project information available:

Supplemental Project Information

Where Available	Description
Included in Project Details	Title V Permit to Operate in San Joaquin Air Pollution Districts Limits
Available on Design Services webpage	N/A

If as-built drawings are available they may not show existing dimensions and conditions. Where new construction dimensions are dependent on existing bridge dimensions, verify the field dimensions and adjust the dimensions of the work to fit the existing conditions.

2-1.06C–2-1.06D Reserved

2-1.07 JOB SITE AND DOCUMENT EXAMINATION

Examine the job site and bid documents. Notify the Department of apparent errors and patent ambiguities in the plans, specifications, and Bid Item List. Failure to do so may result in rejection of a bid or rescission of an award.

Bid submission is your acknowledgment that you have examined the job site and bid documents and are satisfied with:

1. General and local conditions to be encountered
2. Character, quality, and scope of work to be performed
3. Quantities of materials to be furnished
4. Character, quality, and quantity of surface and subsurface materials or obstacles
5. Requirements of the contract

2-1.08 RESERVED

2-1.09 BID ITEM LIST

Submit a bid based on the bid item quantities the Department shows on Proposal 2.

2-1.10 SUBCONTRACTOR LIST

On the Subcontractor List form, list each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid or \$10,000, whichever is greater (Pub Cont Code § 4100 et seq.).

For each subcontractor listed, the Subcontractor List form must show:

1. Business name and the location of its place of business.
2. California contractor license number for a non-federal-aid contract.
3. Public works contractor registration number.
4. Portion of work it will perform. Show the portion of the work by:
 - 4.1. Bid item numbers for the subcontracted work
 - 4.2. Percentage of the subcontracted work for each bid item listed
 - 4.3. Description of the subcontracted work if the percentage of the bid item listed is less than 100 percent

2-1.11 RESERVED

2-1.12 RESERVED

2-1.13–2-1.30 RESERVED

Replace section 2-1.31 with:

2-1.31 RESERVED

2-1.31 OPT OUT OF PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS

You may opt out of the payment adjustments for price index fluctuations specified in section 9-1.07. To opt out, submit a completed Opt Out of Payment Adjustments for Price Index Fluctuations form under section 2-1.33.

2-1.32 RESERVED

2-1.33 BID DOCUMENT COMPLETION AND SUBMITTAL

2-1.33A General

Complete forms in the *Bid* book.

Submit an electronic bid online at <http://www.BidExpress.com> (Section 2-1.33D) or submit a hardcopy bid:

1. Under sealed cover
2. Marked as a bid
3. Identifying the contract number and the bid opening date

Certain bid forms must be submitted with the bid and properly executed.

Certain other forms and information must be submitted either with the bid or within the prescribed period after bid opening as specified elsewhere in these special provisions.

Failure to submit the forms and information as specified results in a nonresponsive bid.

If an agent other than the authorized corporation officer or a partnership member signs the bid, file a Power of Attorney with the Department either before opening bids or with the bid. Otherwise, the bid may be nonresponsive.

2-1.33B Bid Item List and Bid Comparison

Submit a bid based on the bid item quantities the Department shows on Proposal 2. Bids will be evaluated and the low bidder determined as indicated in the *Notice to Bidders*.

Do not submit an unbalanced bid. An unbalanced bid is one in which one or more bid items is/are considered by the Department to have been bid at an amount that is unreasonably high or unreasonably low. A bid may be considered to be non-responsive and may be rejected if it is considered by the Department to be unbalanced.

2-1.33C Bid Document Completion

Proposal items are identified by title and by the word "Proposal" followed by the number assigned to the item sheet in question. Proposal items are included in the *Bid Book*.

2-1.33C(1) Proposal 1 - Proposal to the Board of Supervisors of Fresno County

2-1.33C(2) Proposal 2 - Bid Item List

One or more sheet(s) or list(s) upon which the bidder completes the bid.

Fill out completely including a unit price and total for each unit price-based item and a total for each lump sum item.

Do not make any additions such as "plus tax", "plus freight", or conditions such as "less 2% if paid by 15th".

Use ink or typewriter for paper bids.

2-1.33C(3) Proposal 3 - Evaluation of Bid Item List

Describes how inconsistencies and irregularities are evaluated and corrected when Design Services reviews the Bid Item List.

2-1.33C(4) Proposal 4 - Bid Security and Signature

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

- Cash
- Cashier's check
- Certified check
- Signed bidder's bond by an admitted surety insurer

Indicate type of bid security provided.

- Cash – Acceptable but not recommended. Cash is deposited in a clearing account and is returned to bidders by County warrant. This process may take several weeks.
- Cashier's or Certified Checks. This type of security is held until the bid is no longer under consideration. If submitted by a potential awardee, they will be returned when the contract is fully executed by the bidder and bonds and insurance have been approved.
- Bid Bonds - Must be signed by the bidder and by the attorney-in-fact for the bonding company. Provide notarized signature of attorney-in-fact accompanied by bonding company's affidavit authorizing attorney-in-fact to execute bonds. An unsigned bid bond will be cause for rejection.

Provide contractor's license information.

State business name and if business is a:

- Corporation - list officers
- Partnership - list partners
- Joint Venture - list members; if members are corporations or partnerships, list their officers or partners.
- Individual - list Owner's name and firm name style

Signature of Bidder - the following lists types of companies and corresponding authorized signers.

- Corporation - by an officer
- Partnership - by a partner
- Joint Venture - by a member
- Individual - by the Owner

If signature is by a Branch Manager, Estimator, Agent, etc., the bid must be accompanied by a power of attorney authorizing the individual to sign the bid in question or to sign bids more generally, otherwise the bid may be rejected.

Business Address - Firm's Street Address

Mailing Address - P.O. Box or Street Address

Complete, sign, and return with bid.

2-1.33C(5) Proposal 5 - Noncollusion Declaration

Must be completed, signed, and returned with bid.

2-1.33C(6) Proposal 6 - Public Contract Code Section 10285.1 Statement

Select "has" or "has not" in accordance with instructions on form, return with completed for with bid. Note that signing the bid constitutes signing this statement.

2-1.33C(7) Proposal 7 - Public Contract Code Section 10162 Questionnaire And Public Contract Code 10232 Statement

Select: "yes" or "no" accordance with instructions on form, include explanation if "yes" is selected. Return completed form with bid. Note that signing the bid constitutes signing this questionnaire and statement.

2-1.33C(8) Proposal 8(a) through Proposal 8(f) - Subcontractors

Sheet(s) or spaces where bidders list subcontractors. List each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid (Pub Cont Code § 4100 et seq.).

The *Subcontractor List* submitted with the bid must show the name, location of business, work portions to be performed, and the contractor's license number for each subcontractor listed.

- Use subcontractor's business name style as registered with the License Board.
- Specify the city in which the subcontractor's business is located and the state if other than California.
- Description of the work to be performed by the subcontractor. Indicate with bid item numbers from the bid item list and/or work descriptions similar to those on bid item list.
- List license number and Department of Industrial Relations registration number for each subcontractor.

Upon request from Design Services, provide the following additional information within 24 hours of bid opening if not included on the *Subcontractor List* submitted with the bid:

- Complete physical address for each subcontractor listed.
- Percentage of the total bid or dollar amount associated with each subcontractor listed.

2-1.33C(16) Proposal 16 - Opt out of payment adjustments for price index fluctuations

You may opt out of the payment adjustments for price index fluctuations specified in section 9-1.07. To opt out, submit a completed *Opt Out of Payment Adjustments for Price Index Fluctuations* form with your bid.

2-1.33C(17) Proposal 17 - Guaranty

Does not need to be signed with the bid. Part of the contract which must be signed by the contractor when contract is executed.

Section 2-1.33D Electronic Bid Document Completion

Electronic versions of the bid book documents are available online at <http://www.BidExpress.com>, and may be submitted through that website.

You must either attach an electronic bid bond or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening.

Bidders submitting online may use one of the accepted electronic sureties (SurePath or Surety 2000) to submit their bid bond; or may submit cash, cashier's check, certified check, or a bidder bond to Design Services at 2220 Tulare St., Seventh Floor, Fresno, CA 93721. Those submitting bid bonds directly to Design Services must submit their bid bond:

1. Under sealed cover
2. Marked as a bid-bond
3. Identifying the contract number and the bid opening date on the cover

Note: While it is strongly encouraged that you comply with the above bidding requirements if at all possible, it is acknowledged that this bid opening is occurring during the COVID-19 State of Emergency in Fresno County, the impact of which is immense. If, as a result of the emergency, you are unable to provide the original bid security or electronic bid bond prior to the bid opening (and if your bid is otherwise appropriately responsive to bid requirements), then staff will request that the Board of Supervisors consider exercising its discretion to waive the bidding irregularity (regarding the time of delivery of the bid security) IF you: (1) attach a scanned copy of the original bid security to the Bid; and (2) provide for hand-delivery of the original bid security to the County within 24 hours of the bid opening. **If necessary, please e-mail DesignServices@fresnocountyca.gov or call (559) 600-9908, so that arrangements may be made to hand deliver your bid bond.**

2-1.34 BIDDER'S SECURITY

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

1. Cash
2. Cashier's check
3. Certified check
4. Signed bidder's bond by an admitted surety insurer

Submit cash, cashier's check, certified check, or bidder's bond with your bid.

2-1.35–2-1.39 RESERVED

2-1.40 BID WITHDRAWAL

1. An authorized agent may withdraw a bid before the bid opening date and time by submitting a written bid withdrawal request at the location where the bid was submitted. Withdrawing a bid does not prevent you from submitting a new bid. An authorized agent is an individual authorized to submit a bid.
2. After the bid opening time, you cannot withdraw a bid.

2-1.41–2-1.42 RESERVED

2-1.43 BID OPENING

The Department publicly opens and reads bids at the time and place shown on the *Notice to Bidders*.

2-1.44–2-1.45 RESERVED

2-1.46 DEPARTMENT'S DECISION ON BID

The Department's decision on the bid amount is final.

The Department may reject:

1. All bids
2. A nonresponsive bid

2-1.47 BID RELIEF

The Department may grant bid relief under Pub Cont Code § 5100 et seq. Submit any request for bid relief to Design Services.

2-1.48 RESERVED

2-1.49 SUBMITTAL FAILURE HISTORY

The Department considers a bidder's past failure to submit documents required after bid opening in determining a bidder's responsibility.

2-1.50 RESERVED

2-1.51 DISCLOSURE OF SELF-DEALING TRANSACTIONS

This provision is only applicable if the contractor is operating as a corporation (a for-profit or non-profit corporation) or if during the term of this agreement, the contractor changes its status to operate as a corporation.

Members of the contractor's Board of Directors shall disclose any self-dealing transactions that they are a party to while contractor is providing goods or performing services under this agreement. A self-dealing transaction shall mean a transaction to which the contractor is a party and in which one or more of its directors has a material financial interest. Members of the Board of Directors shall disclose any self-dealing transactions that they are a party to by completing and signing a Self-Dealing Transaction Disclosure Form which is included in *Project Details* of these special provisions.

In the event that the Contractor (to whom the project is awarded) is operating as a corporation or incorporates during the course of the construction contract, and any member of its board of directors is engaged or intends to become engaged in self-dealing transaction(s), each member of its board of directors who is engaged or intends to become engaged in a self-dealing transaction or transactions must complete and submit to the County a completed Self-Dealing Transaction Disclosure Form (in Project Details) for each such transaction prior to engaging therein or immediately thereafter.

3 CONTRACT AWARD AND EXECUTION

Replace the headings and paragraphs of Section 3 with:

3-1.01 GENERAL

Section 3 includes specifications related to contract award and execution.

3-1.02 CONSIDERATION OF BIDS

3-1.02A General

Bids will be compared on the basis listed in the Notice to Bidders.

3-1.02B Tied Bids

The Department breaks a tied bid with a coin toss:

3-1.03 CONTRACTOR REGISTRATION

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

3-1.04 CONTRACT AWARD

3-1.04A BID PROTEST PROCEDURES

Any bid protest must be submitted in writing and delivered by the Bidder by either of the following means: (1) via e-mail to DesignServices@fresnocountyca.gov; or (2) via certified mail, return receipt requested to

the following address: Design Division, Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno, CA 93721.

The bid protest must be received no later than 5:00 p.m. of the seventh (7th) calendar day following the deadline for submittal of the specific bid document(s) placed at issue by the protest. Any Bidder filing a protest is encouraged to submit the bid protest via e-mail, because the deadline is based on the Department's receipt of the bid protest. A bid protest accordingly may be rejected as untimely if it is not received by the deadline, regardless of the date on which it was postmarked. The Bidder's compliance with the following additional procedures also is mandatory:

- a. The initial protest document shall contain a complete statement of the grounds for the protest, including a detailed statement of the factual basis and any supporting legal authority.
- b. The protest shall identify and address the specific portion of the document(s) forming the basis for the protest.
- c. The protest shall include the name, address and telephone number of the person representing the protesting party.
- d. The Department will provide a copy of the initial protest document and any attached documentation to all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- e. The Board of Supervisors will issue a decision on the protest. If the Board of Supervisors determines that a protest is frivolous, the party originating the protest may be determined to be irresponsible and that party may be determined to be ineligible for future contract awards.
- f. The procedure and time limits set forth herein are mandatory and are the Bidder's sole and exclusive remedy in the event of a bid protest. Failure by the Bidder to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including the subsequent filing of a Government Code Claim or legal proceedings.

3-1.04B AWARD PERIOD

If the Department awards the contract, the award is made to the lowest responsible bidder within 54 calendar days after bid opening.

The Department may extend the specified award period if the Bidder agrees.

You may request to extend the award period by faxing a request to Design Services before 4:00 p.m. on or before the last day of the award period. If you do not make this request, after the specified award period:

1. Your bid becomes invalid
2. You are not eligible for the award of the contract

3-1.05 CONTRACT BONDS (PUB CONT CODE §§ 10221 AND 10222)

The successful bidder must furnish 2 bonds conforming to the requirements in the *Agreement* of these special provisions.

3-1.06 CONTRACTOR LICENSE

For a federal-aid contract, the Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Pub Cont Code § 10164).

For a non-federal-aid contract:

1. Contractor must be properly licensed as a contractor from bid opening through Contract acceptance (Bus & Prof Code § 7028.15)
2. Joint venture bidders must obtain a joint venture license before contract award (Bus & Prof Code § 7029.1)

3-1.07 INSURANCE POLICIES

The successful bidder must submit copies of its insurance policies conforming to the requirements in the *Agreement* of these special provisions.

3-1.08 –3-1.10 RESERVED

3-1.11 PAYEE DATA RECORD

Complete and deliver to the Engineer a Payee Data Record form when requested by the Engineer.

3-1.12 RESERVED

3-1.13 RESERVED

3-1.14–3-1.17 RESERVED

3-1.18 CONTRACT EXECUTION

The successful bidder must sign the *Agreement*.

Deliver to Design Services:

1. Signed *Agreement* including the attached form FHWA-1273
2. Contract bonds
3. Documents identified in section 3-1.07
4. For a federal-aid contract, *Local Agency Bidder - DBE Information* form

Design Services must receive these documents before the 10th business day after the bidder receives the contract.

The bidder's security may be forfeited for failure to execute the contract within the time specified (Pub Cont Code §§ 10181, 10182, and 10183).

3-1.19 BIDDERS' SECURITIES

The Department keeps the securities of the 1st, 2nd, and 3rd low bidders until the contract has been executed. The other bidders' securities, other than bidders' bonds, are returned upon determination of the 1st, 2nd, and 3rd low bidders, and their bidders' bonds are of no further effect (Pub Cont Code § 10184).

4 SCOPE OF WORK

Replace Section 4-1.02 with:

4-1.02 INTENT

The Contract intent is to provide for work completion using the best general practices.

Nothing in the specifications, special provisions, Standard Specifications, or in any other Contract document voids the Contractor's public safety responsibilities.

Replace Section 4-1.07C with:

4-1.07C Reserved

Replace Section 4-1.13 with:

4-1.13 CLEANUP

Before final inspection, leave the job site neat and presentable and dispose of:

1. Rubbish
2. Excess materials
3. Falsework
4. Temporary structures
5. Equipment

Remove warning, regulatory, and guide signs when directed by the Engineer.

5 CONTROL OF WORK

Delete the 9th Paragraph of Section 5-1.01

Add the following before the last sentence in Section 5-1.02

Caltrans Standard Plans, , and any other other-agency Standard Drawings included in the “Project Details” section of the book entitled “Specifications” have the same ranking as Standard Plans.”

All other drawings in the “Project Details” section of the book entitled “Specifications” have the same ranking as Project Plans.

Tables and other documents in the “Project Details” section of the book entitled “Specifications” have the same ranking as Special Provisions. If a portion of a document in the Project Details section conflicts with the Special Provisions, the Special Provisions shall prevail.

Replace Section 5-1.09 with:

5-1.09 RESERVED

Replace Section 5-1.12 with:

5-1.12 ASSIGNMENT

No third-party agreement relieves you or your surety of the responsibility to complete the work. Do not sell, transfer, or otherwise dispose of any Contract part without prior written consent from the Department.

If you assign the right to receive Contract payments, the Engineer accepts the assignment upon the Engineer's receipt of a notice. Assigned payments remain subject to deductions and withholds described in the Contract. The Department may use withheld payments for work completion whether payments are assigned or not.

A pending or disapproved request for assignment does not relieve you of the responsibility to commence and pursue work timely and in strict accordance with contract documents.

Replace Section 5-1.13C with:

5-1.13C RESERVED

Replace Section 5-1.13D with:

5-1.13D RESERVED

Add the following paragraph to the end of section 5-1.16 with:

Submit Daily Log records to the Engineer weekly for the entire course of work unless the Engineer requests another interval.

Replace Section 5-1.20B(4) with:

5-1.20B(4) Contractor–Property Owner Agreement

Before procuring material from or disposing or stockpiling of material on non-highway property:

1. Provide proof that the property where materials are to be stockpiled or equipment parked/stored is appropriately zoned and/or permitted for the use proposed by the Contractor.
2. Obtain written authorization from each and every owner of the property where materials are to be stockpiled or equipment parked/stored.
3. Provide proof that the signor(s) of the authorization are the owners of the property.
4. Provide an executed release from the property owner(s) absolving the Department from any and all responsibility in connection with the stockpiling of materials or parking/storage of equipment on said property.
5. Obtain written permission from the Engineer to stockpile materials or park/store equipment at the location designated in said authorization.

Before Contract acceptance, submit a document signed by the owner of the material source or disposal site stating that the Contractor has complied with the Contractor-owner agreement.

Failure by the Contractor to provide written authorization shall result in the withholding of all funds due to the Contractor until said authorization is received by the County.

Replace Section 5-1.23A with:

5-1.23A General

Section 5-1.23 includes specifications for action and informational submittals.

Any submittal not specified as an informational submittal is an action submittal.

Submit action and informational submittals to the Engineer. Unless otherwise specified in these Specifications, submittals shall be provided via email in .pdf format.

Each submittal must have a cover sheet that must include:

1. Contract number
2. Project Name
3. Date
4. Submittals (and resubmittals if applicable) must be numbered sequentially. Each submittal shall be labeled with an original number and a decimal number. The decimal number will indicate a revision to the original submittal number. Example: Original submittal 1.0; any resubmittal of the same material shall be labeled as 1.1, 1.2, etc until approved.
5. Structure number if applicable
6. Contractor
7. Person responsible for submitting the submittal
8. Signature of Contractor's representative sending submittal
9. Section number and/or item submittal is referencing

10. Pages of submittal, excluding cover sheet

The Department rejects a submittal if it has any error or omission.

If the last day for submitting a document falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

Documents must be submitted in the English language.

Convert documents to US customary units.

Replace Section 5-1.23B with:

Section 01 33 00 "SUBMITTAL PROCEDURES" of the Technical Specifications

Replace Section 5-1.26 with:

5-1.26 CONSTRUCTION SURVEYS

Construction Surveys shall be as per Section 01 32 23 of the Technical Specifications

Replace Section 5-1.27E with:

5-1.27E CHANGE ORDER BILLS

Maintain separate records for change order work costs.

5-1.32 AREAS FOR USE

Occupy the site only for purposes necessary to perform the work and as directed by Engineer.

Defend, indemnify, and hold the Department harmless to the same extent as under section 7-1.05.

The Department does not allow temporary residences within the site.

6 CONTROL OF MATERIALS

Replace section 6-1.05 with:

6-1.05 SPECIFIC BRAND OR TRADE NAME AND SUBSTITUTION

Unless substitution is expressly precluded in the special provisions, a reference to a specific brand or trade name establishes a quality standard and is not intended to limit competition. Unless the Department has made a public interest finding expressly authorizing sole source procurement of a particular item, you may use a product that is equal to or better than the specified brand or trade name if authorized.

Submit a substitution request with a time period that:

1. Follows Contract award
2. Allows 30 days for review
3. Causes no delay

Include substantiating data with the substitution request that proves that substitution:

1. Causes no delay
2. Is of equal or better quality and suitability

If the special provisions disallow substitution of a particular item, provide the specified item and do not propose substitution.

The Department has made a public interest finding and has determined that the products listed under paragraph 2.1 of Section 01 60 00 Product Requirements shall be used for the project, and no substitution therefor shall be allowed.

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Replace the 2nd Paragraph of Section 7-1.02K(2) with:

The general prevailing wage rates and any applicable changes to these wage rates are available:

1. From Design Services
2. From the Department of Industrial Relations' Web site

Replace section 7-1.02K(3) with:

Keep accurate payroll records.

Submit a copy of your certified payroll records, weekly, including those of subcontractors. Include:

1. Each employee's:
 - 1.1. Full name
 - 1.2. Address
 - 1.3. Social security number
 - 1.4. Work classification
 - 1.5. Straight time and overtime hours worked each day and week
 - 1.6. Actual wages paid for each day to each:
 - 1.6.1. Journeyman
 - 1.6.2. Apprentice
 - 1.6.3. Worker
 - 1.6.4. Other employee you employ for the work
 - 1.7. Pay rate
 - 1.8. Itemized deductions made
 - 1.9. Check number issued
 - 1.10. Fringe Benefits
2. Apprentices and the apprentice-to-journeyman ratio

Each certified payroll record must include a Statement of Compliance form signed under penalty of perjury that declares:

1. Information contained in the payroll record is true, correct, and complete
2. Employer has complied with the requirements of sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project
3. Wage rates paid are at least those required by the Contract

Submitted certified payrolls for hauling and delivering ready-mixed concrete must be accompanied by a written time record. The time record must include:

1. Truck driver's full name and address
2. Name and address of the factory or batching plant
3. Time the concrete was loaded at the factory or batching plant
4. Time the truck returned to the factory or batching plant
5. Truck driver's signature certifying under penalty of perjury that the information contained in this written time record is true and correct

Make certified payroll records available for inspection at all reasonable hours at your main office on the following basis:

1. Upon the employee's request or upon request of the employee's authorized representative, make available for inspection a certified copy of the employee's payroll record.

2. Refer the public's requests for certified payroll records to the Department. Upon the public's request, the Department makes available for inspection or furnishes copies of your certified payroll records. Do not give the public access to the records at your main office.

Make all payroll records available for inspection and copying or furnish a copy upon request of a representative of the:

1. Department
2. Division of Labor Standards Enforcement of the Department of Industrial Relations
3. Division of Apprenticeship Standards of the Department of Industrial Relations

Furnish the Department the location of the records. Include the street address, city, and county. Furnish the Department a notification of a location and address change within 5 business days of the change.

Comply with a request for the records within 10 days after you receive a written request. If you do not comply within this period, the Department withholds from progress payments a \$100 penalty for each day or part of a day for each worker until you comply. You are not assessed this penalty for a subcontractor's failure to comply with Labor Code § 1776.

The Department withholds from progress payments for delinquent or inadequate records (Labor Code § 1771.5). If you have not submitted an adequate record by the month's 15th day for the period ending on or before the 1st of that month, the Department withholds up to 10 percent of the monthly progress estimate, exclusive of mobilization. The Department does not withhold more than \$10,000 or less than \$1,000.

7-1.02K(4)i Apprenticeship Requirements for non-Federal Projects

- A. Pursuant to Sections 1770-1780 of the Labor Code of the State of California, the Director of the Department of Industrial Relations has determined the general prevailing rate of wages in the locality for each craft or type of worker needed to execute the work. Said wage rates pursuant to Section 1773.2 of the Labor Code are on file with the Clerk to the Fresno County Board of Supervisors, and will be made available to any interested person on request. A copy of this wage scale may also be obtained at the following Web Site: www.dir.ca.gov/dlsr.
- B. Pursuant to Section 1775 of the Labor Code of the State of California, nothing in this Article shall prevent the employment of properly registered apprentices upon public works. Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which he/she is registered.
- C. Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3, of the Labor Code, are eligible to be employed on public works. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.
- D. Fresno County is committed to increasing the availability of employment and training opportunities, with particular attention to the plight of those who are most economically disadvantaged. In an effort to advance that purpose, the County will require that the Contractor and each subcontractor employed on this Project shall use their best efforts to ensure that thirty-three percent (33%) of apprentice hours, as determined by California Labor Code Section 1777.5 for each contractor and subcontractor of any tier on this Project, are performed by qualified participants in state approved apprenticeship programs who also are current or former "Welfare-to-Work" participants in the CalWORKs program. Provided, that nothing contained in this Paragraph D shall be interpreted to relieve or in any way diminish the obligation of the Contractor and each subcontractor to comply fully with all applicable

apprenticeship laws in accordance with the California Labor Code and the California Code of Regulations; and accordingly such requirements as are contractually imposed by this Paragraph D shall be in addition to such legally mandated requirements, and applicable only to the extent fully consistent therewith.

Replace Section 7-1.02M(2) with:

7-1.02M(2) Fire Prevention

Cooperate with local fire prevention authorities in eliminating hazardous fire conditions.

Obtain the phone numbers of the nearest fire suppression agency, California Department of Forestry and Fire Protection (Cal Fire) unit headquarters, United States Forest Service (USFS) ranger district office, and U.S. Department of Interior (USDI) BLM field office. Submit these phone numbers to the Engineer before the start of job site activities.

Immediately report to the nearest fire suppression agency fires occurring within the project limits.

Prevent project personnel from setting open fires that are not part of the work.

Prevent the escape of and extinguish fires caused directly or indirectly by job site activities

Except for motor trucks, truck tractors, buses, and passenger vehicles, equip all hydrocarbon-fueled engines, both stationary and mobile including motorcycles, with spark arresters that meet USFS standards as specified in the *Forest Service Spark Arrester Guide*. Maintain the spark arresters in good operating condition. Spark arresters are not required by Cal Fire, the BLM, or the USFS on equipment powered by properly maintained exhaust-driven turbo-charged engines or equipped with scrubbers with properly maintained water levels. The *Forest Service Spark Arrester Guide* is available at the district offices.

Each toilet must have a metal ashtray at least 6 inches in diameter by 8 inches deep half-filled with sand and within easy reach of anyone using the facility.

Locate flammable materials at least 50 feet away from equipment service, parking, and gas and oil storage areas. Each small mobile or stationary engine site must be cleared of flammable material for a radius of at least 15 feet from the engine.

Each area to be cleared and grubbed must be cleared and kept clear of flammable material such as dry grass, weeds, brush, downed trees, oily rags and waste, paper, cartons, and plastic waste. Before clearing and grubbing, clear a fire break at the outer limits of the areas to be cleared and grubbed. Other fire breaks may be ordered and are change order work.

Furnish the following fire tools:

1. 1 shovel and 1 fully charged fire extinguisher UL rated at 4 B:C or more on each truck, personnel vehicle, tractor, grader, or other heavy equipment.
2. 1 shovel and 1 backpack 5-gallon water-filled tank with pump for each welder.
3. 1 shovel or 1 chemical pressurized fire extinguisher, fully charged, for each gasoline-powered tool, including chain saws, soil augers, and rock drills. The fire tools must always be within 25 feet from the point of operation of the power tool. Each fire extinguisher must be of the type and size required by the Pub Res Code § 4431 and 14 CA Code of Regs § 1234. Each shovel must be size O or larger and at least 46 inches long.

Furnish a pickup truck and driver for the sole purpose of fire control during working hours. The truck must be equipped with:

1. 10 shovels, 5 axes, 2 backpack 5-gallon water-filled tanks with pumps
2. 100-gallon tank of water with a gasoline motor powered pump and 100 feet of 3/4-inch hose on a reel.

The pickup truck and operator must patrol the area of construction for at least 1/2 hour after job site activities have ended.

In addition to being available at the site of the work, the truck and operator must patrol the area of construction from noon until at least 1/2 hour after job site activities have ended. If the fire danger rating is very high or extreme, the truck and operator must patrol the area of construction while work is being done and for at least 1/2 hour after job site activities have ended.

Cal Fire, USFS, and BLM have established the following adjective class ratings for 5 levels of fire danger for use in public information releases and fire protection signing: low, moderate, high, very high, extreme. Obtain the fire danger rating daily for the project area from the nearest Cal Fire unit headquarters, USFS ranger district office, or BLM field office.

Arrangements have been made with Cal Fire, USFS, and BLM to notify the Department when the fire danger rating is very high or extreme. This information will be furnished to the Engineer who will notify you for dissemination and action in the area affected. If a discrepancy between this notice and the fire danger rating obtained from the nearest office of either Cal Fire or USFS exists, you must conduct operations according to the higher of the two fire danger ratings.

If the fire danger rating reaches very high:

1. Falling of dead trees or snags must be discontinued.
2. No open burning is permitted and fires must be extinguished.
3. Welding must be discontinued except in an enclosed building or within an area cleared of flammable material for a radius of 15 feet.
4. Blasting must be discontinued.
5. Smoking is allowed only in automobiles and cabs of trucks equipped with an ashtray or in cleared areas immediately surrounded by a fire break unless prohibited by other authority.
6. Vehicular travel is restricted to cleared areas except in case of emergency.

If the fire danger rating reaches extreme, take the precautions specified for a very high fire danger rating except smoking is not allowed in an area immediately surrounded by a firebreak and work of a nature that could start a fire requires that properly equipped fire guards be assigned to such operation for the duration of the work.

The Engineer may suspend work wholly or in part due to hazardous fire conditions. The days during this suspension are non-working days.

If field and weather conditions become such that the determination of the fire danger rating is suspended, section 7-1.02M(2) will not be enforced for the period of the suspension of the determination of the fire danger rating. The Engineer will notify you of the dates of the suspension and resumption of the determination of the fire danger rating.

Replace Section 7-1.04 with:

7-1.04 PUBLIC SAFETY

7-1.04A GENERAL

You are responsible to provide for public safety.

Do not construct a temporary facility that interferes with the safe passage of traffic.

Control dust resulting from the work, inside and outside the right-of-way.

Move workers, equipment, and materials without endangering traffic.

Whenever your activities create a condition hazardous to the public, furnish, erect and maintain those fences, temporary railing, barricades, lights, signs, and other devices and take any other necessary protective measures to prevent damage or injury to the public.

Any fences, temporary railing, barricades, lights, signs, or other devices furnished, erected and maintained by you are in addition to those for which payment is provided elsewhere in the specifications.

Provide flaggers whenever necessary to ensure that the public is given safe guidance through the work zone. At locations where traffic is being routed through construction under one-way controls, move your equipment in compliance with the one-way controls unless otherwise ordered.

Use of signs, lights, flags, or other protective devices must comply with the *California MUTCD* and any directions of the Engineer. Signs, lights, flags or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.

Keep existing traffic signals and highway lighting in operation. Other forces within the Department will perform routine maintenance of these facilities during the work.

Cover signs that direct traffic to a closed area.

Install temporary illumination in a manner which the illumination and the illumination equipment does not interfere with public safety. The installation of general roadway illumination does not relieve you from furnishing and maintaining any protective devices.

Equipment must enter and leave the highway via existing ramps and crossovers and must move in the direction of traffic. All movements of workmen and construction equipment on or across lanes open to traffic must be performed in a manner that do not endanger the public. Your vehicles or other mobile equipment leaving an open traffic lane to enter the construction area must slow down gradually in advance of the location of the turnoff to give the traffic following an opportunity to slow down. When leaving a work area and entering a roadway carrying traffic, your vehicles and equipment must yield to traffic.

Immediately remove hauling spillage from a roadway lane or shoulder open to traffic. When hauling on roadways, trim loads and remove material from shelf areas to minimize spillage.

Notify the Engineer not less than 5 days before the anticipated start of an activity that will change the vertical or horizontal clearance available to traffic, including shoulders.

If vertical clearance is temporarily reduced to 15.5 feet or less, place low clearance warning signs in compliance with the *California MUTCD* and any directions of the Engineer. Signs must comply with the dimensions, color, and legend requirements of the *California MUTCD* and section 12-3.06 except that the signs must have black letters and numbers on an orange retroreflective background. W12-2P signs must be illuminated so that the signs are clearly visible.

Pave or provide full width continuous and cleared wood walks for pedestrian openings through falsework. Protect pedestrians from falling objects and concrete-curing water. Extend overhead protection for pedestrians at least 4 feet beyond the edge of the bridge deck. Illuminate all pedestrian openings through falsework. Temporary pedestrian facilities must comply with the *California MUTCD*, Part 6, Chapter 6D, "Pedestrian and Worker Safety."

Do not store vehicles, material, or equipment in a way that:

1. Creates a hazard to the public
2. Obstructs traffic control devices

Do not install or place temporary facilities used to perform the work which interfere with the free and safe passage of traffic.

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop

drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

If you appear to be neglectful or negligent in furnishing warning devices and taking protective measures, the Engineer may direct your attention to the existence of a hazard. You must furnish and install the necessary warning devices. If the Engineer points out the inadequacy of warning devices and protective measures, that action on the part of the Engineer does not relieve you from your responsibility for public safety or abrogate your obligation to furnish and pay for these devices and measures.

Install Type K temporary railing or other authorized protective systems under any of the following conditions:

1. Excavations: Where the near edge of the excavation is within 15 feet from the edge of an open traffic lane
2. Temporarily unprotected permanent obstacles: When the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and you elect to install the obstacle before installing the protective system; or you, for your convenience and as authorized, remove a portion of an existing protective railing at an obstacle and do not replace such railing completely the same day
3. Storage areas: When material or equipment is stored within 15 feet of the edge of an open traffic lane and the storage is not otherwise prohibited by the Contract
4. Height differentials: When construction operations create a height differential greater than 0.15 feet within 15 feet of the edge of traffic lane

Installation of Type K temporary railing is not required if an excavation within 15 feet from the edge of an open traffic lane is protected by any of the following:

1. Steel plate or concrete covers of adequate thickness to prevent accidental entry by traffic or the public
2. Side slope where the downhill slope is 4:1 (horizontal: vertical) or less unless a naturally occurring condition
3. Barrier or railing

Offset the approach end of Type K temporary railing a minimum of 15 feet from the edge of an open traffic lane. Install the temporary railing on a skew toward the edge of the traffic lane of not more than 1 foot transversely to 10 feet longitudinally with respect to the edge of the traffic lane. If the 15-foot minimum offset cannot be achieved, the temporary railing must be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules must be installed at the approach end of the temporary railing.

Secure Type K temporary railing in place before starting work for which the temporary railing is required.

Where 2 or more lanes in the same direction are adjacent to the area where the work is being performed, including shoulders, the adjacent lane must be closed under any of the following conditions:

1. Work is off the traveled way but within 6 feet of the edge of the traveled way, and the approach speed is greater than 45 miles per hour
2. Work is off the traveled way but within 3 feet of the edge of the traveled way, and the approach speed is less than 45 miles per hour

Closure of the adjacent traffic lane is not required when performing any of the following:

1. Working behind a barrier
2. Paving, grinding, or grooving
3. Installing, maintaining, or removing traffic control devices except Type K temporary railing

Do not reduce an open traffic lane width to less than 10 feet. When traffic cones or delineators are used for temporary edge delineation, the side of the base of the cones or delineators nearest to traffic is considered the edge of the traveled way.

If a traffic lane is closed with channelizers for excavation work, move the devices to the adjacent edge of the traveled way when not excavating. Space the devices as specified for the lane closure.

Do not move or temporarily suspend anything over a traffic lane open to the public unless the public is protected.

7-1.04B WORK ZONE SAFETY AND MOBILITY

7-1.04B(1) POLICY

In order to ensure safe and efficient flow of traffic through work zones, the County of Fresno, via its General Plan, Transportation and Circulation Element, Policy TRA-1, has adopted the use of AASHTO Standards as supplemented by Caltrans and County Department of Public Works and Planning Standards.

7-1.04B(2) TRAFFIC MANAGEMENT PLAN

Perform traffic management shall be in accordance with Section 12, "TEMPORARY TRAFFIC CONTROL," of these special provisions.

7-1.04B(3) TEMPORARY TRAFFIC CONTROL PLAN

Prepare traffic control plan(s) in accordance with Section 12, "TEMPORARY TRAFFIC CONTROL," of these special provisions.

7-1.04B(4) PUBLIC INFORMATION

Provide notice to public agencies and others to the extent required, if any, elsewhere in these special provisions. The Engineer provides other noticing not identified to be performed by the Contractor.

Replace Section 7-1.06 with:

7-1.06 INSURANCE

7-1.06A General

Nothing in the Contract is intended to establish a standard of care owed to any member of the public or to extend to the public the status of a third-party beneficiary for any of these insurance specifications.

7-1.06B Casualty Insurance

Obtain and maintain insurance on all of your operations with companies acceptable to the Department as follows:

1. Keep all insurance in full force and effect from the start of the work through Contract acceptance.
2. All insurance must be with an insurance company with a rating from A.M. Best Financial Strength Rating of A or better and a Financial Size Category of VIII or better.
3. Maintain completed operations coverage with a carrier acceptable to the State through the expiration of the patent deficiency in construction statute of repose set forth in Civ Pro Code § 337.1.

7-1.06C Workers' Compensation and Employer's Liability Insurance

Under Labor Code § 1860, secure the payment of worker's compensation under Labor Code § 3700.

Submit to the Department the following certification before performing the work (Labor Code § 1861):

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

Contract signing constitutes certification submittal.

Provide Employer's Liability Insurance in amounts not less than:

1. \$1,000,000 for each accident for bodily injury by accident
2. \$1,000,000 policy limit for bodily injury by disease
3. \$1,000,000 for each employee for bodily injury by disease

If there is an exposure of injury to your employees under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations, or statutes applicable to maritime employees, coverage must be included for such injuries or claims.

7-1.06D Liability Insurance

7-1.06D(1) General

Carry General Liability and Umbrella or Excess Liability Insurance covering all operations by or on behalf of you providing insurance for bodily injury liability and property damage liability for the following limits and including coverage for:

1. Premises, operations and mobile equipment
2. Products and completed operations
3. Broad form property damage (including completed operations)
4. Explosion, collapse, and underground hazards
5. Personal injury
6. Contractual liability

7-1.06D(2) Liability Limits/Additional Insureds

Refer to the *Agreement* of these special provisions

Additional insured coverage must be provided by a policy provision or by an endorsement providing coverage at least as broad as *Additional Insured* (Form B) endorsement form CG 2010, as published by the Insurance Services Office (ISO), or other form designated by the Department.

7-1.06D(3) Contractor's Insurance Policy is Primary

The policy must stipulate that the insurance afforded the additional insureds applies as primary insurance. Any other insurance or self-insurance maintained by the State is excess only and must not be called upon to contribute with this insurance.

7-1.06E Automobile Liability Insurance

Comply with requirements in the *Agreement* of these special provisions

7-1.06F Policy Forms, Endorsements, and Certificates

Provide your General Liability Insurance under Commercial General Liability policy form no. CG0001 as published by the Insurance Services Office (ISO) or under a policy form at least as broad as policy form no. CG0001.

7-1.06G NOT USED

7-1.06H Enforcement

The Department may assure your compliance with your insurance obligations. Ten days before an insurance policy lapses or is canceled during the Contract period you must submit to the Department evidence of renewal or replacement of the policy.

If you fail to maintain any required insurance coverage, the Department may maintain this coverage and withhold or charge the expense to you or terminate your control of the work.

You are not relieved of your duties and responsibilities to indemnify, defend, and hold harmless the State, its officers, agents, and employees by the Department's acceptance of insurance policies and certificates.

Minimum insurance coverage amounts do not relieve you for liability in excess of such coverage, nor do they preclude the State from taking other actions available to it, including the withholding of funds under this Contract.

7-1.06I Self-Insurance

Comply with the *Agreement* of these special provisions

Replace Section 7-1.07 with:

7-1.07 LEGAL ACTIONS AGAINST THE DEPARTMENT

7-1.07A General

If legal action is brought against the Department over compliance with a State or federal law, rule, or regulation applicable to highway work, then:

1. If the Department in complying with a court order prohibits you from performing work, the resulting delay is a suspension related to your performance, unless the Department terminates the Contract.
2. If a court order other than an order to show cause or the final judgment in the action prohibits the Department from requiring you to perform work, the Department may delete the prohibited work or terminate the Contract.

Add between the 1st and 2nd paragraphs of section 7-1.11A:

Comply with 46 CFR 381.7(a)–(b).

8 PROSECUTION AND PROGRESS

Replace the headings and paragraphs in Section 8 with:

8-1.01 GENERAL

Section 8 includes specifications related to prosecuting the Contract and work progress.

8-1.01A Work Hours

Perform all work on working days during daytime between the hours of 6:00 a.m. and 6:00 p.m. The site gate will open at 7:00 a.m. and shall be closed by 3:00 p.m. Monday – Friday. Contractor will not be allowed to dispose of material or work inside the disposal site before 7:00 a.m. or after 3:00 p.m. Monday – Friday. The site shall be cleared by 6:00 PM without exception.

You may request approval to work on a holiday or on a non-working day. If, pursuant to such request, the Engineer authorizes you to work on a holiday or on a non-working day, you pay the actual cost incurred by the Department to perform all inspection, surveying, testing, and all other project-related work by the Department on such holiday or non-working day. Such payment will be deducted from monies due or which may become due to the Contractor.

Plan work so that all construction operations performed each day, including cleanup of the project site, establishment of appropriate traffic control and any other work necessary for the safety of the public shall be completed within the daytime hours.

For work, if you fail to complete work during the above-mentioned hours, the Engineer will stop all work and order you to perform any and all work the Engineer deems necessary to ensure the safety of the public and site is cleared by 6:00 p.m

You are not entitled to any additional compensation or extension of the contract time as a result of the Engineer stopping the work due to the onset of nighttime.

8-1.02 SCHEDULE

8-1.02A General

Upon completion of all work, the Department returns the withholds associated with section 8-1.02 and makes a payment adjustment for work not performed in the same manner as work-character changes.

8-1.02B Level 1 Critical Path Method Schedule

8-1.02B(1) General

No pay item is provided for Level 1 Critical Path Project Schedule. Payment is considered to be included in the various items of work. See section 01 20 00 for payment and schedule.

Before or at the preconstruction conference, submit a CPM baseline schedule.

8-1.02B(2) Schedule Format

On each schedule, show:

1. Planned and actual start and completion dates of each work activity, including applicable:
 - 1.1. Submittal development
 - 1.2. Submittal review and acceptance
 - 1.3. Material procurement
 - 1.4. Mobilization
 - 1.5. Installation of landfill gas extraction wells and collectors
 - 1.6. Installation of landfill gas header and lateral pipe systems
 - 1.7. Installation of wellheads
 - 1.8. Final inspection
 - 1.9. Final cleanup and demobilization
 - 1.10. Submittal of Record Drawings
2. Order that you propose to prosecute the work
3. Logical links between the time-scaled work activities
4. All controlling activities
5. Legible description of each activity
6. At least 1 predecessor and 1 successor to each activity except for project start and project end milestones
7. Duration of at least 1 working day for each activity
8. Start milestone date as the Contract approval date

8-1.02B(3) Updated Schedule

Submit a monthly updated schedule that includes the status of work completed to date and the work yet to be performed as planned.

You may include changes to updated schedules that do not alter a critical path or extend the scheduled completion date compared to the current schedule. Changes may include:

1. Adding or deleting activities
2. Changing activity constraints
3. Changing durations
4. Changing logic

If any proposed change in planned work would alter the critical path or extend the scheduled completion date, submit a revised schedule within 15 days of the proposed change.

8-1.02C–8-1.02F Reserved

8-1.03 PRECONSTRUCTION CONFERENCE

Attend a preconstruction conference with key personnel, including your assigned representative, at a time and location determined by the Engineer. Submit documents as required before the preconstruction conference.

Be prepared to discuss the topics and documents shown in the following table:

Topic	Document
Potential claim and dispute resolution	Potential claim forms
Contractor's representation	Assignment of Contractor's representative
DBE	Final utilization reports
Equipment	Equipment list
Labor compliance and equal employment opportunity	Job site posters and benefit and payroll reports
Material inspection	Notice of Materials to be Used form
Materials on hand	Request for Payment for Materials on Hand form
Measurements	--
Partnering	--
Quality control	QC plans
Safety	Injury and Illness Prevention Program and job site posters
Schedule	Baseline schedule and Weekly Statement of Working Days form
Subcontracting	Subcontracting Request form
Surveying	Survey Request form
Traffic control	Traffic contingency plan and traffic control plans
Utility work	--
Weight limitations	--
Water pollution control	SWPPP or WPCP
Work restrictions	PLACs
Action submittals	--

8-1.04 START OF JOB SITE ACTIVITIES

8-1.04A General

Provide signed contracts, bonds, and evidence of insurance timely as required.

This section, 8-1.04, "Start of Job Activities," does not modify remedies available to the Department should you fail to provide signed contracts bonds and insurance timely.

Submit a notice 72 hours before starting job site activities. If the project has more than 1 location of work, submit a separate notice for each location.

You may start job site activities before receiving notice of Contract approval if you:

1. Deliver the signed Contract, bonds, and evidence of insurance to the Department
2. Submit 72-hour notice
3. Obtain an encroachment permit from the Department
4. Are authorized by the Department to start
5. Perform work at your own risk
6. Perform work under the Contract

If the Contract is approved, work already performed that complies with the Contract is authorized.

If the Contract is not approved, leave the job site in a neat condition. If a facility has been changed, restore it to its former condition or an equivalent condition. The Department does not pay for the restoration.

8-1.04B Standard Start

Be prepared to begin work at the project site no later than the 20th business day after award of the Contract by the Department.

The Engineer may issue a notice to proceed as soon as the Contracts, including bonds and insurance certificates, have been approved.

Start work on the day shown in the notice to proceed, unless an early start has been approved.

The Engineer may issue a notice of commencement of contract time if you fail to provide Contracts, including bonds and insurance certificates or other required documents timely.

A notice of commencement of contract time does not authorize you to start work on the project site, but contract time begins to elapse on the date shown in the notice of commencement of contract time.

**Complete work before the expiration of
EIGHTY (80) WORKING DAYS**

from the date shown in said Notice to Proceed, or in the Notice of Commencement of Contract Time, whichever comes first.

Complete all work, including corrective work and punch list work, prior to the expiration of the allotted working days. Working days continue to accrue until corrective work and punch list work is completed and accepted.

**Pay to the County of Fresno the sum of
FOUR THOUSAND DOLLARS (\$4000.00)**

per day for each and every calendar day's delay in finishing the work, including corrective work and punch list work, in excess of the total number of working days prescribed above.

Special attention is directed to Paragraph 1.3 of Section 01 78 39 "PROJECT RECORD DOCUMENT". Contractor is responsible to submit final documents as stated within Section 01 78 39.

**Complete such work before the expiration of
FORTY (40) WORKING DAYS**

from the date the final walk through is performed.

**Pay to the County of Fresno the sum of
ONE HUNDRED DOLLARS (\$100.00)**

per day for each and every calendar day's delay in finishing the work. Corrections to the final documents as deemed necessary by the ENGINEER shall be addressed within the above prescribed time. The time necessary by County ENGINEER to review the final documents will not be considered as part of the allotted time to the Contractor.

Replace Section 8-1.04B with:

8-1.04B Reserved

8-1.05 TIME

Contract time starts on the day specified in the notice to proceed or in the notice of commencement of contract time as described in section 8-1.04 or on the day you start job site activities, whichever occurs first.

Complete the work within the Contract time.

Meet each specified interim work completion date.

The Engineer issues a *Weekly Statement of Working Days* by the end of the following week.

The *Weekly Statement of Working Days* shows:

1. Working days and non-working days during the reporting week
2. Time adjustments
3. Work completion date computations, including working days remaining
4. Controlling activities

8-1.06 SUSPENSIONS

The Engineer may suspend work wholly or in part due to conditions unsuitable for work progress. Provide for public safety and a smooth and unobstructed passageway through the work zone during the suspension as specified in sections 7-1.03 and 7-1.04. Providing the passageway is force account work. The Department makes a time adjustment for the suspension due to a critical delay.

The Engineer may suspend work wholly or in part due to your failure to (1) fulfill the Engineer's orders, (2) fulfill a Contract part, or (3) perform weather-dependent work when conditions are favorable so that weather-related unsuitable conditions are avoided or do not occur. The Department may provide for a smooth and unobstructed passageway through the work during the suspension and deduct the cost from payments. The Department does not make a time adjustment for the suspension.

Upon the Engineer's order of suspension, suspend work immediately. Resume work when ordered.

8-1.07 DELAYS

8-1.07A General

To request a delay-related time or payment adjustment, submit an RFI.

8-1.07B Time Adjustments

The Department may make a time adjustment for a critical delay. The Engineer uses information from the schedule to evaluate requests for time adjustments.

To request an adjustment, submit a revised schedule showing the delay's effect on the controlling activity. If the delay has:

1. Occurred, submit records of the dates and what work was performed during the delayed activity
2. Not occurred, submit the expected dates or duration of the delayed activity

Update the schedule to the last working day before the start of the delay if ordered.

8-1.07C Payment Adjustments

The Department may make a payment adjustment for an excusable delay that affects your costs.

Only losses for idle equipment, idle workers, and moving or transporting equipment are eligible for delay-related payment adjustments.

The Engineer determines payment for idle time of equipment in the same manner as determinations are made for equipment used in the performance of force account work under section 9-1.04 with the following exceptions:

1. Delay factor in the *Labor Surcharge and Equipment Rental Rates* applies to each equipment rental rate.
2. Daily number of payable hours equals the normal working hours during the delay, not to exceed 8 hours per day.
3. Delay days exclude non-working days.
4. Markups are not added.

The Engineer determines payment adjustment for the idle workers under section 9-1.04B, but does not add markups.

The Engineer includes costs due to necessary extra moving or transporting of equipment.

The Department does not make a payment adjustment for overhead incurred during non-working days of additional construction seasons experienced because of delay.

8-1.08–8-1.09 RESERVED

8-1.10 LIQUIDATED DAMAGES

8-1.10A General

The Department specifies liquidated damages (Pub Cont Code § 10226). Liquidated damages, if any, accrue starting on the 1st day after the expiration of the working days through the day of Contract acceptance except as specified in sections 8-1.10B and 8-1.10C.

The Department withholds liquidated damages before the accrual date if the anticipated liquidated damages may exceed the value of the remaining work.

Liquidated damages are specified in section 8-1.04.

8-1.10B Failure to Complete Work Parts within Specified Times

The Department may deduct specified damages from payments for each day needed to complete a work part in excess of the time specified for completing the work part.

Damages for untimely completion of work parts may not be equal to the daily amount specified as liquidated damages for the project as a whole, but the Department does not simultaneously assess damages for untimely completion of work parts and for the whole work.

Damages accrue starting the 1st day after a work part exceeds the specified time through the day the specified work part is complete.

8-1.10C Failure to Complete Work Parts by Specified Dates

The Department may deduct specified damages from payments for each day needed to complete a work part in excess of the specified completion date for the work part.

Damages for untimely completion of a work part may not be equal to the daily amount specified as liquidated damages for the project as a whole, but the Department does not simultaneously assess damages for untimely completion of a work part and the whole work.

Damages accrue starting the 1st day after an unmet completion date through the day the work part is complete.

8-1.10D RESERVED

8-1.11–8-1.12 RESERVED

8-1.13 CONTRACTOR'S CONTROL TERMINATION

The Department may terminate your control of the work for failure to do any of the following (Pub Cont Code § 10253):

1. Supply an adequate workforce
2. Supply material as described
3. Pay subcontractors (Pub Cont Code §10262)
4. Prosecute the work as described in the Contract

The Department may also terminate your control for failure to maintain insurance coverage.

For a federal-aid project, the Department may terminate your control of the work for failure to include "Required Contract Provisions, Federal-Aid Construction Contracts" in subcontracts.

The Department gives notice to you and your surety at least 5 business days before terminating control. The notice describes the failures and the time allowed to remedy the failures. If failures are not remedied within the time provided, the Department takes control of the work.

The Department may complete the work if the Department terminates the Contractor's control or you abandon the project (Pub Cont Code § 10255). The Department determines the unpaid balance under Pub Cont Code § 10258 and the Contract.

At any time before final payment of all claims, the Department may convert a Contractor's control termination to a Contract termination.

8-1.14 CONTRACT TERMINATION

8-1.14A General

The Director may terminate the Contract if it serves the State's best interest. The Department issues you a written notice, implements the termination, and pays you.

8-1.14B Relief from Responsibility for Work

Upon receiving a termination notice:

1. Stop work
2. Notify subcontractors and suppliers of the Contract termination and stop Contract-related work
3. Perform the Engineer-ordered work to secure the job site for termination
4. Remove equipment
5. Subject to the Engineer's authorization, settle termination-related claims and liabilities involving subcontractors and suppliers; assign to the Department the rights, titles, or interests held by you with respect to these parties

8-1.14C Responsibility for Materials

Upon receiving a termination notice, protect unused material until:

1. You submit an inventory of materials already produced, purchased, or ordered but not yet used; include the location of the material.
2. The Engineer identifies materials that will be retained by the Department. Submit bills of sales or other records of material title.
3. The Engineer confirms that unused materials paid by progress payment and materials furnished by the State have been delivered and stored as ordered.
4. The titles are transferred for materials purchased by the Department.

Dispose of materials that will not be retained by the Department.

8-1.14D Contract Acceptance after Termination

The Engineer recommends Contract acceptance after determining the completion of:

1. Work ordered to be completed before termination
2. Other work ordered to secure the project before termination
3. Material delivery and title transfer

The Department pays you under section 9-1.17.

8-1.14E Payment Adjustment for Termination

If the Department issues a termination notice, the Engineer determines the payment for termination based on the following:

1. Direct cost for the work:
 - 1.1. Including:
 - 1.1.1. Mobilization.
 - 1.1.2. Demobilization.
 - 1.1.3. Securing the job site for termination.
 - 1.1.4. Losses from the sale of materials.
 - 1.2. Not including:
 - 1.2.1. Cost of materials you keep.

- 1.2.2. Profit realized from the sale of materials.
- 1.2.3. Cost of material damaged by:
 - 1.2.3.1. Act of God.
 - 1.2.3.2. Act of a public enemy.
 - 1.2.3.3. Fire.
 - 1.2.3.4. Flood.
 - 1.2.3.5. Governor-declared state of emergency.
 - 1.2.3.6. Landslide.
 - 1.2.3.7. Tsunami.
- 1.2.4. Other credits.
- 2. Cost of remedial work, as estimated by the Engineer, is not reimbursed.
- 3. Allowance for profit not to exceed 4 percent of the cost of the work. Prove a likelihood of having made a profit had the Contract not been terminated.
- 4. Material handling costs for material returned to the vendor or disposed of as ordered.
- 5. Costs in determining the payment adjustment due to the termination, excluding attorney fees and litigation costs.

Termination of the Contract does not relieve the surety of its obligation for any just claims arising out of the work performed.

8-1.15–8-1.16 RESERVED

9 PAYMENT

Add to Section 9-1.01:

Refer to Section 01 20 00 “MEASURE AND PAYMENT” of the Technical Specifications for bid items descriptions

Add Section 9-1.01A:

9-1.01A COMPENSATION

The bid items shown in the bid item list represent full compensation for performing all work. Full compensation for any work for which there is no bid item shall be considered to be included in the various items of work.

Replace Section 9-1.03 with:

9-1.03 PAYMENT SCOPE

The Department pays you for furnishing the resources and activities required to complete the work. The Department’s payment is full compensation for furnishing the resources and activities, including:

- 1. Risk, loss, damage repair, or cost of whatever character arising from or relating to the work and performance of the work
- 2. PLACs and taxes
- 3. Any royalties and costs arising from patents, trademarks, and copyrights involved in the work

The Department does not pay for your loss, damage, repair, or extra costs of whatever character arising from or relating to the work that is a direct or indirect result of your choice of construction methods, materials, equipment, or manpower, unless specifically mandated by the Contract.

Payment is:

- 1. Full compensation for all work involved in each bid item shown on the Bid Item List by the unit of measure shown for that bid item
- 2. For the price bid for each bid item shown on the Bid Item List or as changed by change order with a specified price adjustment

Full compensation for work specified in divisions I, II, and X is included in the payment for the bid items unless:

1. Bid item for the work is shown on the Bid Item List
2. Work is specified as change order work

Work paid for under one bid item is not paid for under any other bid item.

Payment for a bid item includes payment for work in sections referenced by the section set forth by that bid item.

Notwithstanding anything to the contrary in these special provisions, full compensation for performing all work as shown, as specified, and as directed by the Engineer is considered to be included in the various bid items, and no additional payment will be made, except pursuant to a contract change order to perform work not shown and/or specified.

If one or more bid item(s) is/are not included, perform the work as shown and as specified and payment therefor is considered to be included in the various items of work.

If an alternative is described in the Contract, the Department pays based on the bid items for the details and specifications not described as an alternative unless the bid item is described as an alternative, in which case, the Department pays based on the details and specifications for that alternative.

The Department pays for change order work based on one or a combination of the following:

1. Bid item prices
2. Force account
3. Agreed price
4. Specialist billing

If the Engineer chooses to pay for change order work based on an agreed price, but you and the Engineer cannot agree on the price, the Department pays by force account.

If a portion of extra work is covered by bid items, the Department pays for this work as changed quantities in those items. The Department pays for the remaining portion of the extra work by force account or agreed price.

If the amount of a deduction or withhold exceeds final payment, the Department invoices you for the difference, to be paid upon receipt.

Pay your subcontractors within 10 days of receipt of each progress payment under Pub Cont Code §§ 10262 and 10262.5.

Replace Section 9-1.07 with:

9-1.07 PAYMENT ADJUSTMENTS FOR PRICE INDEX FLUCTUATIONS DOES NOT APPLY TO THIS PROJECT

Replace Section 9-1.16F with:

9-1.16F Retentions

The Department, once in each month, shall cause an estimate in writing to be made by the Engineer. The estimate shall include the total amount of work done and acceptable materials furnished, provided the acceptable materials are listed as eligible for partial payment as materials in the special provisions and are furnished and delivered by the Contractor on the ground and not used or are furnished and stored for use on the contract, if the storage is within the State of California and the Contractor furnishes evidence satisfactory to the Engineer that the materials are stored subject to or under the control of the Department, to the time of the estimate, and the value thereof. The estimate shall also include any amounts payable for mobilization. Daily extra work reports furnished by the Contractor less than 5 calendar days, not including Saturdays, Sundays and legal holidays, before the preparation of the monthly progress estimate shall not be eligible for payment until the following month's estimate.

The amount of any material to be considered in making an estimate will in no case exceed the amount thereof which has been reported by the Contractor to the Engineer on State-furnished forms properly

filled out and executed, including accompanying documentation as therein required, less the amount of the material incorporated in the work to the time of the estimate. Only materials to be incorporated in the work will be considered. The estimated value of the material established by the Engineer will in no case exceed the contract price for the item of work for which the material is furnished.

The Department shall retain 5 percent of the estimated value of the work done and 5 percent of the value of materials so estimated to have been furnished and delivered and unused or furnished and stored as aforesaid as part security for the fulfillment of the contract by the Contractor. The Department will not hold retention for mobilization or demobilization.

The Department shall pay monthly to the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the contract. No monthly estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the contract.

No monthly estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

Attention is directed to the prohibitions and penalties pertaining to unlicensed contractors as provided in Business and Professions Code Sections 7028.15(a) and 7031.

Add Section 9-1.23:

9-1.23 RESOLUTION OF CONTRACT CLAIMS

Public works contract claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a Contractor and a local public agency shall be resolved in accordance with the provisions of California Public Contract Code Sections 20104-20104.6, inclusive. In addition, California Public Contract Code Section 9204 requires that the procedure established therein shall apply to all claims (as therein defined) filed by a contractor in connection with a public works project. Accordingly, this contract expressly incorporates all of the terms and conditions of those statutory provisions, which are as follows:

California Public Contract Code Section 9204

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)(A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of

the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

California Public Contract Code Sections 20104 – 20104.6

Section 20104

(a)(1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b)(1) "Public work" means "public works contract" as defined in Section 1101 but does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) "Claim" means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

Section 20104.2

For any claim subject to this article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b) (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time

no greater than that taken by the claimant in producing the additional information, whichever is greater.

(c) (1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

Section 20104.4

The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

Section 20104.6

(a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Add to the end of Section 10-1.02C(2):

Protect any irrigation component to be relocated before performing any other construction activity in the area.

Add to Section 10-6 WATERING:

A construction water supply (non-potable) is available on-site. Contractor is responsible for all materials and equipment necessary to pump water from the pond and haul it to the construction site.

12 TEMPORARY TRAFFIC CONTROL

Replace section 12-1.04 with:

12-1.04 FLAGGING COSTS

You pay the cost of furnishing all flaggers, including transporting flaggers and furnishing stands and towers for flaggers to provide for the passage of traffic through the work as specified in sections 7-1.03 and 7-1.04.

Replace Section 12-3.01C with:

12-3.01C Construction

If channelizing devices are used on the project, perform all layout work necessary to place channelizing devices:

1. On the proper alignment
2. Uniformly at the location and spacing described
3. Straight on a tangent alignment
4. On a true arc in a curved alignment

If temporary traffic control devices are damaged, displaced, or stop operating or functioning as described from any cause during the progress of the work, immediately repair, repaint, or replace the components and restore them to their original locations and positions.

If ordered, furnish and place additional temporary traffic control devices. This work is not change order work if:

1. Required to conform with your traffic control plan
2. Required to conform with the MUTCD
3. Necessary for public safety or convenience as determined by the Engineer
4. Required to perform staged construction shown on the plans

Replace Section 12-3.03C with:

12-3.03C Construction

If plastic traffic drums are used on project, use 1 type of plastic traffic drum on the project.

Use the same type and brand of retroreflective sheeting for all plastic traffic drums used on the project.

Do not use sandbags or comparable ballast.

Moving plastic traffic drums from location to location if ordered after initial placement is not change order work if:

1. Required to conform with your traffic control plan
2. Required to conform with the MUTCD
3. Necessary for public safety or convenience as determined by the Engineer
4. Required to perform staged construction shown on the plans

Replace Section 12-3.10C with:

12-3.10C Construction

If barricades are used on the project, place each barricade such that the stripes slope downward in the direction road users are to pass.

Place each sand-filled bag near the ground level on the lower parts of the frame or stays to serve as ballast for the barricades. Do not place ballast on top of barricades or over any retroreflective barricade rail face that is facing traffic.

Do not remove barricades that are shown to be left in place at the time of work completion.

Moving a barricade from location to location is change order work if ordered after initial placement of the barricade unless.

1. Required to conform with your traffic control plan
2. Required to conform with the MUTCD
3. Necessary for public safety or convenience as determined by the Engineer

4. Required to perform staged construction shown on the plans

Add to section 12-3.32C:

Start displaying the message (“CONSTRUCTION WORK ON SITE START MONTH/DAY/YEAR” “EXPECT DELAYS”) on message boards 7 days prior to the start of construction. The sign shall be at least four feet tall by eight feet wide and made of ¾ inch thick exterior grade plywood. The sign shall be supported by two 16 feet tall, 4x4 smooth wood posts, painted white. The sign shall be prepared in a professional manner with all the message clearly visible. The sign shall be kept in good condition for the duration of construction.

Place the message sign in advance of the 1st warning sign for each:

1. Lanfill Entrance
2. At one other location directed by Engineer

**Replace Section 12-4 with:
12-4 MAINTAINING TRAFFIC**

12-4.01 GENERAL

12-4.01A General

Section 12-4.01 includes general specifications for maintaining traffic through construction work zones.

If local authorities regulate traffic, notify them at least 5 business days before the start of job site activities. Cooperate with the local authorities to handle traffic through the work zone and to make arrangements to keep the work zone clear of parked vehicles.

12-4.01B Materials

Not Used

12-4.01C CONSTRUCTION

Furnishing and operating pilot cars is not change order work.

12-4.01D Payment

Not Used

12-4.02 TRAFFIC CONTROL SYSTEMS

12-4.02A General

12-4.02A(1) Summary

Section 12-4.02 includes specifications for providing a traffic control system to maintain safety within the Disposal site.

A traffic control system for a closure includes the temporary traffic control devices described as part of the traffic control system. Temporary traffic control devices must comply with section 12-3.

12-4.02A(2) Definitions

designated holidays: Designated holidays are shown as “holidays” in Section 1-1.07B.

12-4.02A(3) Submittals

12-4.02A(3)(a) General

The Contractor shall prepare and submit to the County Construction Engineer for acceptance, a traffic control system plan indicating the means and methods he will employ to institute and maintain traffic control for all phases of the work within the project. The traffic control system plan shall be submitted to the County Construction Engineer as early as possible, preferably **five (5) working days** prior to pre-

construction meeting. The Engineer will require five (5) working days to review the initial submittal of the traffic control system plan and an additional five (5) working days for each successive review.

No work at the project site whatsoever, including preparatory work, shall commence until the traffic control system plan has been accepted in writing by the Engineer. In the event that the traffic control system plan is not submitted timely, the Engineer may issue a notice of commencement of contract time prior to acceptance of the traffic control system plan, and working days will begin to accrue against the allotted contract time.

Late submittal of the traffic control plan or revisions thereafter required, due to the inadequacy of the plan, shall not be accepted as justification for the delay in the start of the working days for the project.

If the Contractor's haul route crosses the existing operation roads of the disposal site, then the Contractor shall provide a flagman at each point of crossing during hauling operations. Said flagman shall stop construction, yielding pass to traffic entering or exiting the disposal site or site of active garbage dumping as necessary. If vehicles accessing or exiting the Disposal site traffic shall be stopped to avoid any hazardous condition, they shall not be delayed for more than one minute or as determined by the Engineer.

The Contractor is responsible for placing appropriate traffic control signs as directed by the Engineer at the point of crossing and in advance of the location. Said signing shall be placed on American Avenue if necessary to warn traffic entering the Disposal Site.

If the Contractor does not provide the traffic control and it becomes necessary for the Engineer to notify the Contractor, the Engineer will direct to cease any construction activities immediately.

Traffic will be controlled by flagmen by eyesight, radio (walkie-talkie), or baton. In the event these methods do not work satisfactorily, as determined by the Engineer, a pilot car will be required.

Providing, installing, maintaining, and removing all traffic control, including portable changeable message signs if required, , and providing all traffic control operations shall be the responsibility of the contractor, and no additional compensation will be allowed therefor.

12-4.02C(3)(o) Closure of Conventional County Roads

The type and location of signs, lights, flags, flagmen, and other traffic control and safety devices shall be in accordance with the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD) issued by the State of California, Department of Transportation (Caltrans).

Allow public traffic to pass through construction at all times unless otherwise specified herein.

No work that would require a public traffic lane closure shall be performed.

The full width of the traveled way shall be open for use by public traffic even when construction operations are actively in progress.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders including sections closed to public traffic.

The Contractor's equipment and materials shall not remain in a lane except when such lane is closed to traffic and the lane is being used for contract operations.

13 WATER POLLUTION CONTROL

Replace 13-1.01A with:

13-1.01A Summary

Section 13-1 includes general specifications for preventing, controlling, and abating water pollution within waters of the State.

Information on forms, reports, and other documents is in the following Caltrans manuals:

1. Field Guide to Construction Site Dewatering
2. Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual
3. Construction Site Best Management Practices (BMPs) Manual
4. Construction Site Monitoring Program Guidance Manual

You may view these manuals at the Stormwater and Water Pollution Control Information link at the Caltrans Division of Construction website or purchase them at the Caltrans Publication Distribution Unit.

A WPCP and a SWPPP must comply with the Caltrans Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual and must be prepared using the latest template posted on the Construction stormwater website.

Replace Section 13-1.01D92) with

13-1.01D(2) Regulatory Requirements

Comply with the discharge requirements in the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities; Order No. 2009-000 9-DWQ, CAS000002 (Construction General Permit) and any amendments thereto issued by the SWRCB. The Construction General Permit may be found at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Discharges from manufacturing facilities, such as batch plants and crushing plants, must comply with the discharge requirements in the NPDES General Permit for Storm Water Discharges Associated with Industrial Activities; Order No. 2014-0057-DWQ, CAS000001 (Industrial General Permit), issued by the SWRCB. For the Industrial General Permit, go to the SWRCB website.

For a batch plant and crushing plant outside a job site or within a job site that serves one or more contracts, obtain coverage under the Industrial General Permit before operating a batch plant to manufacture concrete, HMA, or other material or a crushing plant to produce rock or aggregate.

This Project disturbs **less than 1** acre of soil.

A WPCP is required for this project.

Replace Section 13-1.01D(4)(b) with:

13-1.01D(4)(b) Qualifications

The WPC manager must:

1. Comply with the requirements provided in the Construction General Permit for:
 - 1.1. QSP if the project requires a WPCP
 - 1.2. QSD if the project requires a SWPPP
2. Complete the stormwater management training described at the Stormwater and Water Pollution Control Information link at the Caltrans Division of Construction website

Replace Section 13-3.01C(2)(b)(iv) with:

13-3.01C(2)(b)(iv) Sampling and Analysis Plan

If a sampling and analysis plan is required, submit a sampling and analysis plan that complies with the Caltrans *Construction Site Monitoring Program Guidance Manual*.

The sampling and analysis plan must describe:

1. Sampling equipment and sample containers.
2. Preparation of samples.
3. Collection and holding times.
4. Field measurement methods.
5. Analytical methods.
6. Quality assurance and quality control.
7. Sample preservation and labeling.
8. Collection documentation, including the names of personnel collecting samples and their training.
9. Shipment of samples.
10. Chain of custody.
11. Data management and reporting.
12. Precautions from the construction site health and safety plan, including procedures for collecting samples during precipitation. List the conditions under which you are not required to collect samples, such as:
 - 12.1. Dangerous weather
 - 12.2. Flooding or electrical storms
 - 12.3. Times outside of normal working hours
13. Procedures for collecting and analyzing at least 3 samples for each day of each qualifying rain event for a risk level 2 or risk level 3 project.
14. Procedures for collecting effluent samples at all locations where the stormwater is discharged off the job site.

The sampling and analysis plan must identify the State-certified laboratory that will perform the analyses. For a list of State-certified laboratories, go to the SWRCB's website.

Submit a revised plan if discharges or sampling locations change because of changed work activities or knowledge of site conditions.

Replace Section 13-4.03G with:

13-4.03G Dewatering

Dewatering consists of discharging accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities.

If dewatering is required, perform dewatering work as specified for the work items involved, such as a temporary ATS or dewatering and discharge.

If dewatering and discharging activities are not specified for a work item and you perform dewatering activities:

1. Conduct dewatering activities under the Caltrans *Field Guide for Construction Site Dewatering*.

2. Ensure any dewatering discharge does not cause erosion, scour, or sedimentary deposits that could impact natural bedding materials.
3. Discharge the water within the project limits. Dispose of the water if it cannot be discharged within project limits due to site constraints or contamination.
4. Do not discharge stormwater or nonstormwater that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface. Immediately notify the Engineer upon discovering any such condition.

14 ENVIRONMENTAL STEWARDSHIP

Add Section 14-12.04:

14-12.04 RELATIONS WITH SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD)

You are responsible for compliance with all applicable SJVAPCD regulations and requirements. This section is provided for your information, and nothing herein or elsewhere within these special provisions shall be construed as limiting your responsibility for complying with all applicable rules and regulations.

This Project disturbs less than 1 acre of soil.

Replace Section 14-12.04–14.12.08 With:

14-12.05–14.12.08 RESERVED

DELETE DIVISION III THROUGH DIVISION XII AND REPLACE WITH THE FOLLOWING

Technical Specifications

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SECTION 00 01 15

LIST OF DRAWINGS

**FRESNO COUNTY
AMERICAN AVENUE DISPOSAL SITE
KERMAN, CALIFORNIA**

PHASE III – MODULES 3-8 LFGCCS EXPANSION

- SHEET 1 – TITLE SHEET
- SHEET 2 – ABBREVIATIONS
- SHEET 3 – SITE PLAN/INDEX/SURVEY CONTROL PLAN
- SHEET 4 – LFGCCS EXPANSION PLAN
- SHEET 5 – LFGCCS EXPANSION PLAN
- SHEET 6 – LFGCCS EXPANSION PLAN
- SHEET 7 – LANDFILL BASE GRADES WITH PROPOSED WELLS
- SHEET 8 – LFGCCS DETAILS
- SHEET 9 – LFGCCS DETAILS
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- SHEET 14 – LFGCCS DETAILS
- SHEET 15 – LFGCCS DETAILS
- SHEET 16 – CONDENSATE PUMP STATION DETAIL

SECTION 00 73 19
HEALTH AND SAFETY CONSIDERATIONS

PART 1 - GENERAL

1.1 Section Includes

- A. Preparing project Site Specific Health & Safety Plan and Traffic Control Plan.
- B. Implementing project Site Specific Health & Safety Plan and Traffic Control Plan.

1.2 Other

- A. The exact nature of materials and wastes disposed of at the landfill is unknown. The possibility exists of encountering gases and/or other substances during the Work that may be potentially hazardous to the safety and health of personnel, especially those working in the vicinity of open excavations and pipes venting gases.
- B. The CONTRACTOR is advised that decomposing refuse produces landfill gas which is approximately 50 percent methane (natural gas) by volume. Landfill gas is colorless, can be odorless, may contain hydrogen sulfide, toxic or hazardous material, is combustible, and may contain no 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 and asphyxiation when working on the landfill and in or near excavations on the project site.

1.3 Submittals

- A. CONTRACTOR shall submit, after Notice of Award but prior to pre-construction meeting, a Site Specific Health & Safety Plan and Traffic Control Plan to OWNER (See Section 01 33 00). Acceptance of the plans by the ENGINEER does not release the CONTRACTOR of liability in the event of an accident or injury, nor does it place any liability on the OWNER.
- B. Submittals may be completed electronically.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Construction

- A. CONTRACTOR shall be solely and completely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Take all necessary precautions for the safety of, and provide the necessary protection to prevent injury or loss to all CONTRACTOR'S employees.

- B. CONTRACTOR shall comply with all applicable California Occupational Safety and Health Agency (OSHA) regulations. The CONTRACTOR'S Health and Safety Plan does not supersede or in any way relieve the CONTRACTOR of obligations under any applicable OSHA regulations including (but not limited to) 29 CFR 1910: Occupational Safety and Health Standards and 29 CFR 1926: Health and Safety Regulations for Construction.
- C. CONTRACTOR shall be responsible for ensuring that all Subcontractors abide with the contents of this section.
- D. CONTRACTOR shall become familiar with potential hazardous health and safety conditions and risks associated with working in or near decomposing refuse at a landfill site and take the applicable precautions for work at the project site.
- E. CONTRACTOR shall be solely responsible for determining and providing an appropriate health and safety program, including monitoring, equipment, plans in event of problems and/or emergencies, and other related items as needed.

3.2 Site Restrictions

- A. Smoking and vaping will not be permitted at the project site unless a smoking area is designated and approved by OWNER. Smoking is prohibited on the landfill
- B. Reflective safety vests, hard hats and steel toed and puncture resistant boots shall be worn by all personnel during work. Other personal protective equipment will be worn as necessary.
- C. CONTRACTOR shall adhere to the posted speed limit at all times. CONTRACTOR shall further limit vehicle speeds as necessary for safe operation based on road conditions and construction traffic.
- D. Heavy equipment operating around exposed waste shall be equipped with vertical exhaust piping and spark arrestors to prevent fire. CONTRACTOR shall maintain a minimum of one fire extinguisher with a rating of ABC available with each trailer and construction vehicle.
- E. Landfill Equipment will have right-of-way. The CONTRACTOR shall yield when Landfill Equipment is approaching.
- F. Site working hours are Monday through Saturday from 6:00 AM to 6:00 PM.

3.3 Site Specific Health and Safety Program

- A. Develop and implement a Health and Safety Program in accordance with all applicable California Health and Safety regulations, Federal OSHA regulations, 29 CFR 1910 and 29 CFR 1926, and any other applicable federal, state, or local agency regulations or requirements. 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. The CONTRACTOR'S Health and Safety Plan shall include as appropriate, but shall not necessarily be limited to, the items required by OSHA 29 CFR 1910.120:

1. Organizational structure
 2. Comprehensive work plan
 3. Hazard analysis for each site task
 4. Employee training
 5. Personal protective equipment to be used for each task
 6. Medical surveillance
 7. Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used.
 8. Site control measures
 9. Decontamination procedures
 10. Emergency response plan
 11. Confined space entry procedures (if part of scope of work)
 12. Spill containment program
 13. Cell phone use policy while driving or operating equipment
- B. Provide to the OWNER, prior to the start of any field activities, certification that requirements of this Section have been met. This certification shall include:
1. Documentation of the training required under OSHA 29 CFR 1910.120 for site personnel and supervisors.
 2. Documentation of current first aid and CPR training for at least two employees per work shift.
 3. Documentation of participation of all site personnel in a medical surveillance program in accordance with OSHA 29 CFR 1910.120.
 4. Documentation that all site personnel expected to wear respiratory protection have been medically examined and approved for wearing such equipment and have been fit tested in accordance with OSHA regulations.
- C. The CONTRACTOR shall maintain a copy of the plan at the site for the duration of work.
- D. If the OWNER observes any of the CONTRACTOR's employees or Subcontractors engaging in an unsafe act or procedure that may result in serious injury or death to the person performing the act/procedure, or to any other person, the OWNER shall have the right, but not the duty, to stop the work until the condition is corrected. The CONTRACTOR shall be held responsible for any increased costs that result from this work stoppage.
- E. The CONTRACTOR shall be responsible for holding mandatory weekly safety meetings on the site. The OWNER shall be notified of the time and place for these meetings, so that they may attend if they desire. Meetings shall reiterate all safety measures to be taken and shall discuss any violations committed and preventive measures. The CONTRACTOR shall provide the OWNER with a copy of the minutes and the attendance upon request.

- F. The CONTRACTOR shall provide all personnel working on the project with required orientation and training on the potential hazards and the appropriate use of safety equipment.
- G. The CONTRACTOR shall meet at all times during drilling and excavations, applicable OSHA health and safety requirements. The CONTRACTOR shall secure all work areas and close any open holes or excavations when not working by marking with ribbons and cones, and posting of signs indicating to the public to stay away due to the existence of deep open excavation.
- H. The CONTRACTOR shall provide continuous lower explosive limit (LEL) gas detection monitoring and oxygen monitoring in enclosed areas prone to gas build-up or during drilling.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Measurement and Payment

- A. Reference Section 01 20 00.

*** END OF SECTION ***

SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 Project Locations and Access

A. Project Location:

1. The Site (also referred to as Project Site) is the American Avenue Disposal Site owned and operated by the County of Fresno. The physical address is:

American Avenue Disposal Site
18950 W. American Avenue
Kerman, CA 93630

1.2 Scope of Work

- A. General: The Work included in the contract consists of construction of improvements to the landfill gas collection and control system (LFGCCS). The Work is more fully detailed in the Construction Drawings and Specifications included herein.

B. Principal features include:

1. Mobilization and demobilization of equipment, labor, and construction of temporary facilities.
2. Installation of LFGCCS components, which include but are not limited to the following:
 - a. Vertical Landfill Gas Extraction Wells and Wellheads
 - b. Horizontal Landfill Gas Collectors and Wellheads
 - c. High density polyethylene (HDPE) landfill gas header and lateral piping
 - d. Road crossings
 - e. Miscellaneous fittings
 - f. Valves
 - g. Connections to leachate collection and removal system (LCRS)
 - h. Condensate Sumps
 - i. Manifolds
 - j. Bollards
3. Welding of HDPE pipe.
4. Drilling in the waste footprint.
5. Trenching and backfilling both in and out of the waste footprint.

- C. The above description of the Work is for general information only and does not limit

the responsibility of the CONTRACTOR to accomplish the Work in strict accordance with the Construction Drawings and Specifications.

- D. Environmental Observations: The Work shall be performed in strict accordance with the applicable requirements of the federal, state, and local agencies having jurisdiction, and in accordance with the requirements of the Construction Drawings, General Conditions, Supplementary Conditions, and these Specifications.

1.3 Existing Site Conditions

- A. The CONTRACTOR is advised that construction of this project is at a municipal solid waste landfill and will entail working in, on, and adjacent to buried solid wastes and refuse. As buried organic material decomposes anaerobically, it generates landfill gas (LFG). This LFG normally consists of approximately 45 percent carbon dioxide (CO₂), 55 percent methane (CH₄) and other gases that may include volatile organic compounds (VOCs), depending on the composition of the buried materials. Hydrogen sulfide (H₂S) and other toxic gases have been encountered at landfills even though the sites were not classified as hazardous waste disposal sites.
- B. The American Avenue Disposal Site is permitted for the disposal of "nonhazardous solid waste." Notwithstanding the above, the OWNER cannot guarantee that toxic or hazardous materials or vapors will not be encountered by the CONTRACTOR during the construction of this project.
- C. The Contractor should review and adhere to all restrictions and implement all requirements of the American Avenue Disposal Site. Some additional safety items (e.g. lock out tag out, confined space) are separate programs. American Avenue Disposal Site will provide copies of available training and operating procedures as needed for the project.

1.4 Construction Drawings

- A. Where "as shown," "as detailed," "as noted," or words of like meaning are used in these Specifications, it shall be understood that reference is being made to the Construction Drawings unless otherwise specified.

1.5 Codes and Standards

- A. All work to be done and materials and equipment transported, handled, stored or installed shall be done in strict conformance with the applicable orders, rules and regulations of the United States Government, the State of California, and with all other County, City, and District requirements. Nothing contained in these specifications or shown or noted on the plans shall be construed to permit work not conforming to these orders, rules, and regulations.
- B. When the Construction Drawings and/or Specifications call for material or construction of a better quality or larger size or capacity than may be required by applicable codes or standards, the provisions of the Construction Drawings and/or Specifications shall take precedence over the requirements of the code or standard. If there is any other conflict between the Construction Drawings and/or

Specifications and the requirements of applicable codes and standards, the more stringent provisions shall govern.

C. See also Section 01 42 00 - References.

1.6 Manufacturers' Specifications and Instructions

- A. Unless otherwise indicated or specified, all manufactured materials, products, processes, equipment, or the like shall be installed or applied in accordance with the manufacturers' instructions, directions, or specifications. Said installation or application shall be in accordance with printed instructions furnished by the manufacturer of the material or equipment concerned for use under conditions similar to those at the job site. Copies of such instructions shall be furnished to the ENGINEER and their acceptance thereof obtained before work is begun.
- B. Any deviation from the manufacturers' printed recommendations shall be explained and acknowledged as correct for the circumstances, in writing by the particular manufacturer. The CONTRACTOR will be held responsible for all installations not conforming to the manufacturers' recommendations. If any item of material or equipment is installed not in accordance with the manufacturer's recommendations, the CONTRACTOR shall make all changes necessary to achieve such compliance.

1.7 Work Quality

- A. Shop and field work shall be performed by mechanics and workers skilled and experienced in the fabrication and installation of the work feature involved. All Work under this Contract shall be performed in accordance with the standard practices of the various trades involved and in accordance with the Construction Drawings, reviewed shop drawings, these Specifications and all applicable codes and regulations.
- B. All Work shall be erected and installed plumb, level, square and true, or true to indicated angle, and in proper alignment and relationship to the work of other trades. All finished Work shall be free from defects and damage.
- C. The ENGINEER reserves the right to reject any materials and work quality which is not considered to be up to the general standards of the various trades involved. Such inferior material or work quality shall be repaired or replaced, as directed, at no additional cost to the OWNER.

1.8 Field Measurement and Templates

- A. CONTRACTOR shall secure all field measurements required for proper and accurate fabrication and installation of the Work included in this Contract. Exact measurements are the CONTRACTOR's responsibility. CONTRACTOR shall also furnish or obtain all templates, patterns, and setting instructions required for the installation of all Work. All dimensions shall be verified by the CONTRACTOR in the field.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

*** END OF SECTION ***

SECTION 01 20 00
MEASURE AND PAYMENT

PART 1 - GENERAL

1.1 Section Includes

- A. General measurement methods
- B. General payment requirements.
- C. Calculation of quantities.
- D. Value of unit prices.
- E. Changes and extra work.
- F. Rejected materials.
- G. Force account work.
- H. Specific measurement and payment descriptions for contract bid items.

1.2 References

- A. State of California, Department of Transportation, Standard Specifications, 2015 edition, as amended.

1.3 Measurement

- A. Performed according to United States Standard measure.
- B. Based on actual units installed or neat line dimensions of work completed.
- C. CONTRACTOR shall be responsible for measurement for payment, including surveying. ENGINEER shall have the option of verifying CONTRACTOR's measurements.

1.4 Payment

- A. In accordance with lump sum, unit prices, or force account rates shown on the Bid Form.
- B. Includes all costs for overhead and profit and for supplying materials, labor, equipment, and tools, necessary to complete the Work in accordance with the Standard Specifications, Special Provisions, Technical Specifications, and Project Drawings.

1.5 Calculation of Quantities

- A. Progress Payment Quantities:
 - 1. ENGINEER will compute all quantities of Work performed, or of materials and equipment delivered to the site for progress payment purposes.

- B. Final Payment Quantities: ENGINEER will compute all quantities of Work performed, or of materials and equipment delivered to the site for final payment purposes.
- C. Earthwork quantities: Earthwork (excavating, trenching, backfilling, and placing earthfill) will be required and is considered to be incidental to the bid item. Separate calculation of earthwork quantities will not be made. Include all costs related to earthwork in the appropriate bid item prices.

1.6 Value of Unit Prices

- A. The number of units and quantities contained in the Bid Schedule are approximate only, and final payment will be made for the actual number of units and quantities incorporated in the work or made necessary to complete the project and measured in accordance with this Section.
- B. In the event that work and materials or equipment are required to be furnished to a greater or lesser extent than is indicated by the Contract Documents, such work and materials or equipment will be furnished in greater or lesser quantities.

1.7 Rejected Materials

- A. Quantities of material wasted or disposed in a manner not called for in the Technical Specifications; rejected loads of material, including material rejected after it has been placed by reasons of the failure of the CONTRACTOR to conform to the provisions of the Technical Specifications; material not unloaded from the transporting vehicle; material placed outside the limits indicated by the Drawings or established by the ENGINEER or material remaining on hand after completion of the Work, will not be paid for, and such quantities will not be included in the final total quantities.
- B. No compensation will be permitted for loading, hauling, and disposing of rejected material.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Measurement and Payment

- A. CONTRACTOR shall submit a force account rate sheet for labor and equipment utilized on a time and materials (force account) basis under this contract.
 - 1. Provide labor rates, based on California prevailing wage rates that are fully burdened including profit and represent the full hourly rate that will be invoiced to the ENGINEER.
 - 2. Provide equipment rental rates, based on Caltrans equipment rental rates that represent the full hourly rate for each piece of equipment that will be invoiced to the ENGINEER and includes the cost of the operator, fuel, and profit.

PART 4 - MEASUREMENT AND PAYMENT DESCRIPTIONS

4.1 For Contract Base Bid Items

Bid Item 1 – Supplemental Work

1. Supplemental Work is provided to compensate the CONTRACTOR for new and unforeseen work necessary to construct the project as designed and intended. Supplemental Work is not for design changes. Supplemental Work will be classed as extra work in accordance with the provisions of Section 4-1.05 "Changes & Extra Work" of the 2015 Caltrans Standard Specifications. The amount shown in the Proposal shall be included in each Bidder's proposal. Supplemental Work cannot proceed without first going through County Authorization.
2. The amount shown in the Proposal shall be included in each Bidder's proposal. This item may be increased, decreased or deleted entirely by OWNER, if the ENGINEER determines that it is unnecessary. If the item is deleted, no compensation will be made therefor. No costs shall be incurred pertaining to this item unless directed by the ENGINEER. This item is excluded from the adjustment of changed quantities as specified in Standard Specifications Section 9-1.06 "Changed Quantity Payment Adjustments".

Bid Item 2 – Mobilization/Demobilization

1. Work includes, but is not limited to mobilization and demobilization of all equipment, materials, and labor; preparing and implementing Health and Safety Plan and procedures; preparing CONTRACTOR staging and storage areas; providing temporary facilities and temporary controls (including but not limited to pollution control, dust control, safety control); protection of all utilities and features; and any other indirect services necessary or described in Division 1.
2. Basis of Measurement: Measurement for this item shall be by Lump Sum (LS). No separate measurement will be made.
3. Basis for Payment: Payment for this item will be for all direct and indirect costs associated with furnishing all labor, materials, equipment, and incidentals required to prepare for and complete the Work as indicated in the Contract Documents (Per Pub Cont. Code § 10264).

Bid Item 3 – Traffic Control

1. This bid item includes full compensation for furnishing all labor (including flagmen), materials (including signs), tools, equipment, and incidentals, and for performing all work involved in placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the Traffic Control system, and for furnishing and operating the pilot car (including driver, radios, other equipment, and labor needed), if required, in accordance with Section 12 of Special Provisions and Standard Specifications.
2. Basis of Measurement: Lump Sum (LS). Separate measurement of Traffic Control will not be made.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide Traffic Control.

4. Payment during the agreed contract payment period will be based on a weekly amount as agreed by the ENGINEER, of work performed for that contract payment period for Traffic Control placed and used on the project, as described above.

Bid Item 4 - Construction Site Management

1. This bid item includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals for preparing and implementing a Water Pollution Control Plan (WPCP), performing all work involved in spill prevention and control, material management, stockpile management, waste management, non-stormwater management, dewatering, and identifying, sampling, testing, handling, and disposing of hazardous waste resulting from construction activities in accordance with Section 13 of the Standard Specifications and the Special Provisions.
2. Basis of Measurement: Lump Sum (LS). Separate measurement of Construction Site Management will not be made.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide Construction Site Management.

Bid Item 5 - Grade Checking

1. Layout Work, as necessary, and as shown on Drawings using stakes and reference marks set by CONTRACTOR
2. Document as-constructed conditions and provide information to ENGINEER for preparation of record drawings depicting as-constructed conditions.
3. Protect existing above- and below-ground facilities that may be impacted by Work.
4. Basis of Measurement: Lump Sum (LS). Separate measurement of grade checking and protection of existing facilities will not be performed.
5. Basis for Payment: Payment for this item includes all labor, equipment and materials to perform surveying and layout, and to prepare record drawings.
6. This item may be increased, decreased or deleted entirely by OWNER, if the ENGINEER determines that it is unnecessary. If the item is deleted, no compensation will be made therefor. No costs shall be incurred pertaining to this item unless directed by the ENGINEER. This item is excluded from the adjustment of changed quantities as specified in Standard Specifications Section 9-1.06 "Changed Quantity Payment Adjustments".

Bid Item 6 - Vertical Landfill Gas Well Drilling (Sheets 4, 7, and 8)

1. Furnish all labor, materials, tools, equipment, and incidentals to drill vertical LFG extraction wells at the locations and depths shown on the Project Drawings and to dispose of waste generated during drilling.
2. Basis of Measurement: Linear Feet (LF). Based on the total linear feet of completed vertical LFG well drilling.
3. Basis for Payment: Payment for this item shall be based on the linear feet

of completed vertical LFG extraction well drilling.

Bid Item 7 - Vertical Landfill Gas Extraction Well Installation and Backfill (Sheets 4, 7, and 8)

1. Furnish all labor, materials, tools, equipment, and incidentals to install single LFG extraction wells. This bid item includes, but is not limited to, all casing and perforated pipe, casing centralizer, pipe fittings, end cap, filter media, bentonite plug, gravel, excavation, hauling, and placement of soil for select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF). Based on the linear feet of complete and fully functional LFG extraction wells installed.
3. Basis for Payment: Payment for this item is based on the linear feet of complete and fully functional LFG extraction wells installed.

Bid Item 8 - Horizontal Landfill Gas Well Installation and Backfill (Sheets 5, 6, 8 and 9)

1. Furnish all labor, materials, tools, equipment, and incidentals to install horizontal LFG extraction wells. This bid item includes, but is not limited to, all perforated pipe, pipe fittings, filter media, geotextile, bentonite plug, gravel, excavation, hauling, and placement of soil for select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF). Based on the linear feet of complete and fully functional horizontal LFG extraction wells installed.
3. Basis for Payment: Payment for this item is based on the linear feet of complete and fully functional single LFG extraction wells installed.

Bid Item 9 - Vertical and Horizontal Landfill Gas Extraction Well Wellhead Installation and Connection to Lateral (Sheets 8 and 9)

1. Furnish all labor, materials, tools, equipment, and incidentals to install LFG extraction well wellheads and connect to laterals. This bid item includes, but is not limited to, all well caps, wellheads, flex hose, hose clamps, piping, fittings, and appurtenances.
2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional LFG extraction well wellheads installed and connected to laterals.
3. Basis for Payment: Payment for this item is based on the number of complete and fully functional LFG extraction well wellheads installed and connected to laterals.

Bid Item 10 - Landfill Gas Extraction Well, Drill to Refusal and Backfill (Sheet 8)

1. Furnish all labor, materials, tools, equipment, and incidentals to abandon obstructed LFG extraction well borings in accordance with backfilling requirements in Technical Specification Section 31 23 33. This bid item includes, but is not limited to, granular fill material, bentonite plug, and excavation, hauling, and placement of select soil backfill material.
2. Drilling equipment lost in an obstructed boring is incidental to this bid item.
3. The unit price for this item shall be applicable regardless of the total depth of obstructed borings abandoned.

4. Basis of Measurement: Linear Feet (LF). Based on 10 percent on total estimated drilling depths per the Construction Drawings.
5. Basis for Payment: Payment for this item is based on the linear feet of obstructed LFG extraction well borings.
6. The amount shown in the Proposal shall be included in each Bidder's proposal. This item may be increased, decreased or deleted entirely by OWNER, if the ENGINEER determines that it is unnecessary. If the item is deleted, no compensation will be made therefor. No costs shall be incurred pertaining to this item unless directed by the ENGINEER. This item is excluded from the adjustment of changed quantities as specified in Standard Specifications Section 9-1.06 "Changed Quantity Payment Adjustments".

Bid Item 11 – Provide and Install 2-inch HDPE SDR-9 Air Supply Pipe (Above Grade or in Common Trench) and 2-Inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 15, and 16)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, valves, guides, supports, and related materials to provide a complete and fully functional piping system connecting air supply piping. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil for select backfill, guides, anchors, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, including valve lengths, and other sections that are incident to the installation of the 2-inch diameter HDPE SDR-9 pipe.
3. Basis for Payment: Payment for this item is based on the linear feet of 2-inch SDR-9 air supply pipe installed, including pipe fittings and valve lengths.

Bid Item 12 – Provide and Install 2-inch HDPE SDR-11 Condensate Force Main Pipe, (Above Grade or in Common Trench) and 2-Inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 15, and 16)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, valves, guides, supports, and related materials to provide a complete and fully functional piping system connecting condensate force main piping. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil for select backfill, guides, anchors, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, including valve lengths, and other sections that are incident to the installation of the 2-inch diameter HDPE SDR-11 pipe.
3. Basis for Payment: Payment for this item is based on the linear feet of 2-inch SDR-9 condensate force main pipe installed, including pipe fittings and valve lengths.

Bid Item 13 – Provide and Install 6-inch HDPE SDR-11 Piping, with Anchors and Guides (Above Grade) and 6-inch Fittings (Sheets 4, 5, 6, 8, 9, 10, 11, 12, and 14)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, guides, supports, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil pipe anchors, guides, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, including for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 6-inch diameter HDPE pipe, excluding valve lengths.
3. Basis for Payment: Payment for this item is based on the linear feet of 6-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 14 – Provide and Install 6-inch HDPE SDR-11 Piping (Below Grade) and 6-inch Fittings (Sheets 4, 5, 6, 8, 9, 10, 11, 12, and 14)

4. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, trenching, excavation, hauling and placing backfill, appurtenances, and pipe leak testing.
5. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, including for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 6-inch diameter HDPE pipe, excluding valve lengths.
6. Basis for Payment: Payment for this item is based on the linear feet of 6-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 15 – Provide and Install 12-inch HDPE SDR-11 Piping, with Anchors and Guides (Above Grade) and 12-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, and 14)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, guides, supports, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil, guides, anchors, appurtenances, and pipe leak testing.
2. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 12-inch diameter HDPE pipe, excluding valve lengths.

3. Basis for Payment: Payment for this item is based on the linear feet of 12-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 16 – Provide and Install 12-inch HDPE SDR-11 Piping (Below Grade) and 12-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, and 14)

4. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, guides, supports, and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe. This bid item includes, but is not limited to, all pipe, fittings, pipe fittings, connections, trenching, excavation, hauling and placing backfill, appurtenances, and pipe leak testing.
5. Basis of Measurement: Linear Feet (LF) measured along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 12-inch diameter HDPE pipe, excluding valve lengths.
6. Basis for Payment: Payment for this item is based on the linear feet of 12-inch LFG lateral pipe installed, including pipe fittings.

Bid Item 17 – Provide and Install 18-inch HDPE SDR-11 Piping, with Guides (Above Grade) and 18-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 14, and 15)

1. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, supports, guides, and related materials to provide a complete and fully functional header piping system. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, excavation, placement of soil, appurtenances, tie-in connections to existing and new headers, guides, anchors, drainage outlets, soil berm, and pipe leak testing.
2. Basis of Measurement: Measurement for this item shall be by Linear Feet (LF) along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 18-inch diameter HDPE header pipe, excluding valve lengths.
3. Basis for Payment: Payment for this item is based on the linear feet of 18-inch LFG header pipe installed, including pipe fittings and valve lengths.

Bid Item 18 – Provide and Install 18-inch HDPE SDR-11 Piping (Below Grade) and 18-inch Fittings (Sheets 4, 5, 6, 9, 10, 11, 12, 14, and 15)

4. Furnish all labor, materials, tools, equipment, and incidentals to install all materials, fittings, utility boxes, and related materials to provide a complete and fully functional header piping system. This bid item includes, but is not limited to, all pipe, pipe fittings, connections, trenching, excavation, hauling and placing backfill, appurtenances, and pipe leak testing.

5. Basis of Measurement: Measurement for this item shall be by Linear Feet (LF) along the pipe centerline, accounting for pipe snaking lengths to account for pipe thermal changes in Detail 2, Sheet 15 of the Construction Drawings, and other sections that are incident to the installation of the 18-inch diameter HDPE header pipe, excluding valve lengths.
6. Basis for Payment: Payment for this item is based on the linear feet of 18-inch LFG header pipe installed, including pipe fittings.

Bid Item 19 – Provide and Install 6-inch Valves (Sheets 9, 11, 12, and 14)

1. Furnish all labor, materials, tools, equipment, and incidentals to install valves and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe.
2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional valves installed.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide and install 6-inch valves.

Bid Item 20 – Provide and Install 12-inch Valves (Sheet 9)

1. Furnish all labor, materials, tools, equipment, and incidentals to install valves and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe.
 2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional valves installed.
- Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide and install 12-inch valves.

Bid Item 21 – Provide and Install 18-inch Valves (Sheets 8 and 15)

1. Furnish all labor, materials, tools, equipment, and incidentals to install valves and related materials to provide a complete and fully functional piping system connecting LFG well lateral pipes to sub-header or header pipe.
2. Basis of Measurement: Each (EA). Based on the number of complete and fully functional valves installed.
3. Basis for Payment: Payment for this item includes all labor, materials, tools, equipment, and incidentals to provide and install 18-inch valves.

Bid Item 22 – Provide and Install 12-inch Corrugated Steel Pipe (CSP) and Road Crossings (Sheets 4 and 10)

1. Furnish all labor, materials, tools, equipment, and incidentals to install 12-inch diameter CSP and road crossings. This bid item includes, but is not limited to, all CSP and CSP fittings, excavation, marker tape, hauling and placing select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF) measured along the centerline of complete CSP and road crossings.
3. Basis for Payment: Payment for this item is based on the linear feet of CSP and road crossings installed.

Bid Item 23 – Provide and Install 18-inch CSP and Road Crossings (Sheets 4 and 10)

1. Furnish all labor, materials, tools, equipment, and incidentals to install 18-inch diameter CSP and road crossings. This bid item includes, but is not limited to, all CSP and CSP fittings, excavation, marker tape, hauling and placing select soil backfill, and appurtenances.
2. Basis of Measurement: Linear Feet (LF) measured along the centerline of complete CSP and road crossings.
3. Basis for Payment: Payment for this item is based on the linear feet of CSP and road crossings installed.

Bid Item 24 – Connect Existing Leachate Collection and Removal System (LCRS) Riser 10-inch LFG Laterals to 18-inch Header, with Wellhead, Fittings, and Other Appurtenances (Sheet 13)

1. Furnish all labor, materials, tools, equipment, and incidentals to connect existing LCRS riser to LFG header. This bid item includes, but is not limited to, all pipe and pipe fittings, excavation, excavating, hauling, and placing backfill, tie-in connection to LFG header, wellhead, and appurtenances.
2. Basis of Measurement: Each (EA) Based on the number of complete, fully functional LCRS riser connection to the LFG header.
3. Basis for Payment: Payment for this item is based on the number of complete, fully functional existing LCRS connection to the 18-inch LFG header.

Bid Item 25 – Provide and Install New Condensate Sump with Fittings and Other Appurtenances (Sheets 4, 5, 6, and 16)

1. There will be a total of six (6) Auto Sump 7000-R-18-24DC with VP4 Pneumatic Pump by Real Environmental Products, LLC.
2. Furnish all labor, materials, tools, equipment, and incidentals to install a complete and fully functional LFG condensate sump. This bid item includes, but is not limited to, all pipe and pipe fittings, connections, flanges, force main valving sump pump (Viridian pump), excavation, backfill with controlled density fill, vault box, pipe leak testing, protective bollards, appurtenances start-up testing, and commissioning.
3. Basis of Measurement: Each (EA) based on the number of complete, fully functional condensate sumps installed.
4. Basis for Payment: Payment for this item is based on the number of fully complete and functional condensate sumps installed.

Bid Item 26 – Connect LFG Header Drain to Existing Condensate Sump (Sheets 4 and 11)

1. Furnish all labor, materials, tools, equipment, and incidentals to install a complete and fully functional LFG header drain and connection to existing condensate sump. This bid item includes, but is not limited to, LFG header fittings, all other pipe and pipe fittings, flanges, force main valving, excavation,

hauling and placing backfill, connections to condensate sump, and appurtenances.

2. Basis of Measurement: Each (EA) based on the number of fully complete and functional LFG header drains installed.
3. Basis of Payment: Payment for this item is based on the number of fully complete and functional LFG header drains installed.

* * * END OF SECTION * * *

SECTION 01 31 13
PROJECT COORDINATION

PART 1 - GENERAL

1.1 Submittals

1. See Section 01 33 00 Submittal Procedures

1.2 General

- A. Include sequencing constraints as specified herein as a part of Project Construction Schedule.
- B. Refer to Caltrans Standard Specifications Section 12, Temporary Traffic Control and these Special Provisions.

1.3 Work Sequencing/Constraints

- A. Include the following work sequences in the Progress Schedule:
 1. General: The American Avenue Disposal Site (AADS) is a regional landfill for the County of Fresno. As such, the landfill needs to be able to operate in full-time mode whereby the County of Fresno will occupy the premises during the entire construction period to conduct normal business. CONTRACTOR may conduct Work from 6:00 a.m. to 6:00 p.m., Monday - Friday. The CONTRACTOR shall obtain approval of the ENGINEER before working Saturdays. The CONTRACTOR must schedule and conduct activities to enable the facility to operate continuously without obstruction, unless otherwise noted and approved. This includes all access roads, landfill gas system, leachate systems, condensate systems, and all other landfill-related operations. Two-way access roads may be reduced to one travel lane but will require traffic control (flaggers, cones, and other traffic control devices) in accordance to the CONTRACTOR's Traffic Control Plan (as approved by the ENGINEER). The CONTRACTOR shall be responsible for providing all necessary traffic control.
- B. Existing Landfill Gas System:
 1. The CONTRACTOR shall coordinate and schedule all Work affecting the existing landfill gas collection and control system (GCCS) at the landfill facility. CONTRACTOR shall include in their Project Construction Schedule (and Traffic Control Plan) all landfill gas system construction work, testing, switch-over, and commissioning.
 2. Work Responsibilities:
 - a. The ENGINEER will take responsibility for the following Work:
 - 1) Deactivating and reactivating, and oversight of the active GCCS components and condensate system.
 - 2) Operating of GCCS valves and other system components.

- b. The CONTRACTOR shall be responsible for:
- 1) Coordinating with ENGINEER on all Work, and installing and commissioning County-furnished equipment.
 - 2) Providing to the ENGINEER the CONTRACTOR's Project Construction Schedule for installation, connection, and tie-in to the active GCCS. No active system piping shall be disconnected until after 8:00 a.m.; reconnected GCCS piping shall be done and in stable operation during normal facility work hours, unless otherwise approved by ENGINEER.
 - 3) No more than five existing landfill gas collection wells shall be shut down at any one time. Dual collection wells shall be counted as two wells. All landfill gas collection wells shut down during the working day shall be reactivated before the end of the working day.
 - 4) Provide minimum 48 hours written notice to ENGINEER for any Work required by the ENGINEER's forces or representatives, or any work that impacts the facility's operations unless otherwise specified in these Special Provisions.
 - 5) The LFG combustion flare may only be shut down for a total of 96 hours during the Work. The LFG combustion flare may not be shut down beyond the end of the work day. The CONTRACTOR shall be responsible for any fines and/or penalties associated with excess emissions of LFG and/or Notices of Violation as a result of the CONTRACTOR's work.

1.4 Facility Operations

- A. Continuous operation of the landfill facility is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.
- B. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption to facility operations. All Work shall be conducted during normal operating hours for the facility, Monday - Friday. No Work will be permitted outside of normal operating hours, unless approved in advance and in writing by ENGINEER.
- C. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of the facility.
- D. Only landfill personnel are authorized to operate any landfill facilities. CONTRACTOR is to coordinate with the ENGINEER to disconnect any existing facilities.
- E. Do not close lines, open or close valves, or take other action that could affect the operation of existing systems, except as specifically required to do Work and after authorization by ENGINEER. Such authorization will be considered within 48 hours after receipt of CONTRACTOR's written request, unless otherwise specified in these Special Provisions.

- F. Refer to Article Work Sequencing/Constraints. Construct work in phases in order to minimize impact to facility operations.
- G. Process or Facility Shutdown:
 - 1. The following will require shutdown at some time during the Work (limit downtime):
 - a. Existing landfill gas collection and control system and associate condensate pumping and conveyance system.
 - 2. Provide 5 business days advance written request to ENGINEER for approval for need to shut down a process or facility unless otherwise specified in the Special Provisions.
 - 3. Power outages will be considered upon 48 hours written request to ENGINEER. Describe the reason, anticipated length of time, and areas affected by the outage. Provide temporary provisions for continuous power supply to critical facility components.
- H. Install and maintain bypass facilities and temporary connections required to keep facility operations on-line. Sequences other than those specified will be considered upon written request to ENGINEER, provided they afford equivalent continuity of operations. Flare downtime shall not exceed 96 hours during the Work. The LFG combustion flare shall not be shut down beyond the end of the workday. CONTRACTOR shall pay all fines associated with excess air emissions of landfill gas and/or Notices of Violations (NOVs) as a result of the CONTRACTOR's work.
- I. Do not proceed with Work affecting a facility's operation without obtaining ENGINEER's advance approval of the need for and duration of such Work.
- J. Relocation of Existing Facilities:
 - 1. During construction, it is expected that minor relocations of facilities will be necessary.
 - 2. Provide complete relocation of existing structures and facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, and other necessary items.
 - 3. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.
 - 4. Perform relocations to minimize downtime of existing facilities.
 - 5. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by ENGINEER.

1.5 Adjacent Facilities and Properties

- A. Examination:
 - 1. Before Work at Site is started, CONTRACTOR, ENGINEER, and affected utility purveyors shall make a thorough examination of pre-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.

2. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.
- B. Documentation:
1. Record and submit documentation of observations made on examination inspections in accordance with Paragraph 1.08 of this Section.
 2. Upon receipt, ENGINEER will review, sign, and return one record copy of documentation to CONTRACTOR to be kept on file in field office.
 3. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of CONTRACTOR's operations, and is for the protection of adjacent property, CONTRACTOR, and ENGINEER.

1.6 Construction Photographs

- A. Photographically document all phases of the project including preconstruction, construction progress, and post-construction.
- B. ENGINEER will have the right to select the subject matter and vantage point from which photographs are to be taken.
- C. Preconstruction and Post-Construction:
 1. Before Work at Site is started, and again upon issuance of Substantial Completion, take a minimum of 48 digital photographs of construction areas and areas adjacent to perimeter of construction areas.
 2. Particular emphasis shall be directed to structures both inside and outside the construction work areas.
 3. Format: Digital, minimum resolution of 1152 by 864 pixels and 24 bit.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Cutting, Fitting, and Patching

- A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.
- B. Obtain prior written authorization of ENGINEER before commencing Work to cut or otherwise alter:
 1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
 2. Weather- or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of element.
 4. Work of others.

- C. Refinish surfaces to provide an even finish.
 - 1. Refinish continuous surfaces to nearest intersection.
 - 2. Refinish entire assemblies.
 - 3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and Work is evident in finished surfaces.
- D. Restore existing work, underground facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown.
- E. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.
- F. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces and fill voids.
- G. Remove specimens of installed Work for testing when requested by ENGINEER.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 32 23

SURVEYING

PART 1 - GENERAL

1.1 Summary

- A. This section includes the requirements for surveying, field engineering, and record documents.

1.2 CONTRACTOR's Surveyor

- A. CONTRACTOR is required to provide field engineering and surveying services as required for layout and construction of the project as indicated on the Project Drawings and specified herein. The CONTRACTOR's surveyor shall:
 1. Identify and locate existing features and facilities potentially impacted by the Work
 2. Verify existing facility dimensions, elevations and grades
 3. Provide construction stake out and grade control
 4. Provide record locations and elevations of all components and foundations for "as-built" drawings

1.3 Definitions

- A. Existing features: existing features in the area of the Work include but are not limited to the following:
 1. Landfill gas wells, laterals, and headers
 2. Utilities and other buried piping, conduits and wires
 3. Other existing nearby facilities
 4. Survey benchmarks
- B. Independent Surveyor: an organization independent from the CONTRACTOR.

1.4 CONTRACTOR Submittals

At least 5 days before commencing work, submit the following to County for review:

- A. Qualifications of Surveyor: Submit surveyor's name, State license number, and statement of qualifications (including type and scope of typical survey projects and client references).

1.5 Monthly Inspections

To verify the CONTRACTOR's monthly progress payment requests, CONTRACTOR shall provide the following items to County

- A. Record Documents
- B. CONTRACTOR surveyor's measurements, notes and cut sheets

1.6 Site Conditions

- A. Existing Features: The existence and location of features are not guaranteed. County takes no responsibility, implied or otherwise, for the accuracy of information provided in the Contract Documents or in County's record drawings. The CONTRACTOR is required to field verify all existing features, including topography or elevations, that may be affected or impacted by the Work.
- B. Field Verification: Before beginning site work the CONTRACTOR shall investigate and verify the existence and location of all underground utilities and features, including proposed locations of connections to existing facilities. CONTRACTOR shall verify locations and elevations of all underground facilities in all areas of work requiring any disturbance below the ground surface.
- C. Field Conditions and Measurements: The CONTRACTOR shall base all measurements, both horizontal and vertical on control benchmark provided by County. The CONTRACTOR shall be responsible for field verification of all dimensions and conditions at the job site.
- D. Discrepancies: Should the CONTRACTOR discover any discrepancy between actual conditions and those indicated which prevent following good practice or the intent of the Drawings and Specifications, the CONTRACTOR shall notify County in writing and request clarification and instructions on how to proceed. The CONTRACTOR shall not proceed with the Work until he has received approval from County.
- E. No Additional Payment: No claims shall be made for extra payment or extensions of Contract completion time if the CONTRACTOR fails to notify County of any discrepancy, as described in item D above, in writing within 48 hours of discovery. Under no circumstance shall the CONTRACTOR proceed- with that part of the Work until he has received approval from County.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Qualifications of Surveyor

The CONTRACTOR shall utilize a State of California licensed land surveyor.

3.2 Field Survey Work

- A. Control Points: Use control point provided by ENGINEER. If damaged during execution of his work, the CONTRACTOR shall, at his cost and as soon as possible, replace lost or destroyed project control points to the same accuracy of the existing project control points. Base replacements on the original survey control points. Relate all Work to the current facility elevation datum and coordinate system. The CONTRACTOR is responsible for all construction layout and staking.
- B. Surveyor's Log: The CONTRACTOR or CONTRACTOR's surveyor shall keep neat legible notes of all measurements and calculations made while surveying and laying out the work. The CONTRACTOR or CONTRACTOR's surveyor shall maintain a surveyor's log of control and other survey work, and shall make this log available for reference.

3.3 Tolerances

- A. Positive Drainage: Provide positive drainage for all landfill gas piping at the slopes shown on the Drawings.

3.4 Record Documents

- A. General: The CONTRACTOR shall not use the Record Document plan set for field construction or other markings. The CONTRACTOR shall protect the Record Document plan set from deterioration and loss in a secure, fire-resistive location; provide access to Record Documents for ENGINEER's reference during normal working hours. The CONTRACTOR shall store Record Documents and samples in CONTRACTOR's field office apart from documents used for construction. The CONTRACTOR shall provide files, racks, and secure storage for Record Documents and samples. Electronic documents shall be backed up by CONTRACTOR at least once per week.

Recording

1. The CONTRACTOR shall label and file record documents and samples in accordance with Specification Section number listings in Table of Contents of this Technical Specification. Label each document "PROJECT RECORD" in neat, large, printed letters.
2. Preparation of project record documents shall be by CONTRACTOR's personnel skilled as a draftsman competent to prepare the required drawings.
3. CONTRACTOR shall record and update daily record information from field notes, on set of black line prints and these specifications.
4. Construction progress shall be recorded by CONTRACTOR on a daily basis.
5. The CONTRACTOR shall not conceal Work until required information is recorded.
6. The CONTRACTOR shall record deviations from required lines and levels, and advise ENGINEER when deviations that exceed indicated or recognized

tolerances are detected. On Project Record Drawings, the CONTRACTOR shall record deviations that are accepted and not corrected.

- B. Record Drawings: The CONTRACTOR shall maintain a clean, undamaged set of black line prints of Project Drawings and Shop Drawings. The CONTRACTOR shall mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. The CONTRACTOR shall mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Drawings. The CONTRACTOR shall give particular attention to concealed elements that would be difficult to measure and record at a later date.

The CONTRACTOR shall mark record sets with red erasable pencil, and shall mark new information that is important to County, but was not shown on Project Drawings or Shop Drawings. The CONTRACTOR shall note related Change Order numbers where applicable, organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. The CONTRACTOR shall legibly mark each item to record actual construction, including:

1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to survey benchmarks or permanent surface improvements.
2. Measured locations of cover systems, internal utilities, and appurtenances concealed in construction, referenced to visible and accessible features of construction.
3. Field changes (dimensions and detail)
4. Changes or modifications made by the County.
5. Details not on original Drawings.
6. References to related Shop Drawings and modifications.
7. Depths of various elements of the Work in relation to datum.
8. Record Specifications: Maintain one complete copy of the Specifications including addenda, and one copy of other written construction documents such as Change Orders and Field Order issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications, Change Order, and Field Order. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data. Legibly mark up each Section to record:
 - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 - b. Changes made by Change Order or Field Order.
 - c. Other matters not originally specified.

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

***** END OF SECTION *****

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 Summary

- A. This section includes general requirements for preparation and submission of the following submittals required for the completion of the Work of the Contract:
 - 1. Technical Submittals:
 - a. Shop Drawings
 - b. Product and Performance Data
 - c. Manufacturers' Instructions
 - 2. General Submittals:
 - a. Project Construction Schedule
 - b. Progress Payment Schedule
 - 3. Submittals Not Requiring Approval:
 - a. CONTRACTOR's Site Specific Health and Safety Plan
 - b. CONTRACTOR's Traffic Control Plan
- B. All submittals shall be in English and sequentially numbered.
- C. The CONTRACTOR shall submit all submittals to the ENGINEER.
- D. All submittals shall be submitted electronically via portable document format , except as otherwise stated elsewhere in the Contract, the OWNER, ENGINEER, and CONTRACTOR may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly to ENGINEER, or through access to a secure Project website.
 - 1. If the Contract does not establish protocols for electronic or digital transmittals, then OWNER, ENGINEER, and CONTRACTOR shall jointly develop such protocols.
 - 2. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.
- E. The ENGINEER will clearly label the submittals as follows and return to the CONTRACTOR:
 - 1. Approved

2. Approved as Noted
 3. Revise and Resubmit
 4. Rejected
 5. Information Only
- F. When submittals are returned marked with either “Revise and Resubmit” or “Rejected” the CONTRACTOR shall make such revisions and corrections as required and resubmit the submittal.

1.2 Related Sections

- A. Section 01 45 00 - Quality Control
- B. Section 01 78 39 - Project Record Documents

1.3 Technical Submittals

- A. Schedule of Technical Submittals:
 1. The CONTRACTOR shall submit all Technical Submittals required by this Section within 20 business days of the Notice of Award. Affected work shall not start until such submittal has been reviewed and approved. Allow time for proper review and corrections without work delays.
 2. CONTRACTOR shall maintain a sequential list of submittals with the exception of samples, test samples, and material sources. With each individual submittal, the CONTRACTOR shall submit a copy of the updated list.
 3. Except for shop drawings, allow 15 working days for review of submittals.
 4. The Department's authorization of an action submittal does not void any Contract part.
 5. Do not change the scope of work on revised submittals.
- B. Shop Drawings:
 1. Shop Drawings shall establish the actual detail of all manufactured or fabricated items, indicate proper relation of adjoining work, and incorporate minor changes of design or construction to suit actual conditions. Shop drawings shall be drawn to scale and shall be completely dimensioned.
 2. Shop Drawings shall be in black ink only and sequentially numbered.
 3. Sheet sizes of shop drawings shall be ANSI B (11 inches x 17 inches) and have a text of a minimum nominal height of 5/32 inch.
 4. Calculation sheets shall be 8.5 inches x 11 inches in size with a minimum font size of 12.
 5. A clear space of 3 in x 3 in shall be provided on each drawing for the ENGINEER's review stamp and comments.
 6. Shop drawings shall be submitted to the ENGINEER in the form of a clean drawing in electronic portable document format.

7. After the ENGINEER has completed their review of Shop Drawings, they will return copies to the CONTRACTOR indicating the approval status.
 8. The ENGINEER will review and generally return shop drawings within twenty (20) calendar days of receipt by the ENGINEER.
- C. Product and Performance Data:
1. Each copy shall be marked to identify applicable products, models, options, performance, and other data; manufacturers' standard data shall be supplemented to provide information unique to the work.
- D. Manufacturers' Instructions: The CONTRACTOR shall submit manufacturers' printed instructions for delivery, storage, shelf life, assembly, installation, adjusting, and finishing.
- E. Certificates of Compliance:
1. The CONTRACTOR shall submit certificates of compliance for the certain materials and products as specified below in lieu of providing samples. Submit certificates required for demonstrating proof of compliance of materials with specification requirements in duplicate with each lot of materials delivered to the Work. The lot so certified shall be clearly identified by the certificate. Certificates shall be signed by an authorized representative of the producer or manufacturer, and shall state that the material complies in all respects with the requirements of the Contract Documents. In the case of multiple shipments, each shipment shall be accompanied by a certificate of compliance.
 2. The certificate of compliance shall be accompanied by a certified copy of test results or shall state that such test results are on file with the producer or manufacturer and shall be furnished to the ENGINEER on request. The certificate shall give the information specified for samples in Paragraph C above, the name and address of the organization performing the tests, the date of the tests, and the quantity of material shipped.
 3. Materials used on the basis of a certificate of compliance may be sampled and tested at any time. The fact that material is used on the basis of a certificate of compliance shall not relieve the CONTRACTOR of responsibility for incorporating material in the Work that conforms to the requirements of the contract, and any such material not conforming to such requirements will be subject to rejection, whether in place or not.
 4. The ENGINEER reserves the right to refuse to permit the use of certain materials on the basis of a certificate of compliance.
 5. Materials and products requiring certificates of compliance:
 - a. High Density Polyethylene (HDPE) Pipe
 - b. Corrugated Steel Piping (CSP)

1.4 General Submittals

- A. Project Construction Schedule:

1. Project Construction Schedule and Material and Equipment Procurement shall be prepared by the CONTRACTOR and submitted within 5 days of receiving the Notice of Award. CONTRACTOR shall submit the Project Construction Schedule for approval, and issue the approved Project Construction Schedule prior to the preconstruction conference.
 2. Format: The Project Construction Schedule shall consist of the following items, each compatible with the other and developed from the same basis:
 - a. Schedule: Gantt/Bar Chart, or Critical Path Method (CPM).
 - b. Critical Milestone Dates as listed below.
 - 1) *Start/complete technical submittals.*
 - 2) *Start/complete procurement of materials and equipment.*
 - 3) *Start/complete mobilization.*
 - 4) *Start/complete installation of the landfill gas extraction wells and collectors.*
 - 5) *Start/complete installation of landfill gas header and lateral pipe systems.*
 - 6) *Start/complete installation of the wellheads.*
 - 7) *Start/complete final inspection.*
 - 8) *Start/complete demobilization.*
 - 9) *Submittal of Record Drawings*
 3. The CONTRACTOR may generate the Schedule manually or by using a computer. The Schedule shall include all significant items of Work.
 4. The CONTRACTOR shall incorporate the ENGINEER's comments into revisions of the Project Construction Schedule adjust the resources as required, and resubmit the schedule to the ENGINEER for approval along with a summary of the changes.
 5. The CONTRACTOR shall submit a monthly updated schedule that includes the status of work completed to date and the work yet to be performed as planned. Which may include changes to updated schedules that do not alter a critical path or extend the scheduled completion date compared to the current schedule.
- B. Equipment List and Labor Rates:
1. The CONTRACTOR shall submit Equipment List and Labor Rates Schedules for use in conjunction with any Force Account Work done on a time and material basis, which shall be used to determine compensation to the CONTRACTOR.
 2. The schedule shall include all equipment and personnel that the CONTRACTOR expects to use on this project. It shall also include any other equipment and personnel that the CONTRACTOR has available that may be used on the Project.
 3. The rates shall include all costs and constitute full payment to the CONTRACTOR for use of operated equipment and personnel. This list shall be submitted with the bid.

1.5 Submittals Not Requiring Approval

- A. The CONTRACTOR shall furnish the following submittals for information only. These submittals will not be approved and returned to the CONTRACTOR unless the plan conflicts with the normal operation of the Landfill.
1. The CONTRACTOR, for presentation and discussion at the pre-construction meeting, shall prepare a preliminary Site Specific Health and Safety Plan and Traffic Control Plan. The CONTRACTOR's Safety Monitor shall be named and be present at the pre-construction meeting. Although the Site Specific Health and Safety Plan and Traffic Control Plan will not be formally approved, the ENGINEER will require a copy of each Plan.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.1 Summary

- A. Section Includes:
1. Acceptance testing by the ENGINEER;
 2. Control testing by the CONTRACTOR; and
 3. Certificates of compliance.

1.2 Source of Materials

- A. The CONTRACTOR shall notify the ENGINEER in writing of the sources from which he proposes to obtain material requiring approval, certification, or testing. Such notification shall be made as soon as possible after award of Contract but no later than 15 days after receipt of the Notice to Proceed.

1.3 Acceptance Testing

- A. Acceptance testing shall be defined as the testing of materials prior to or during their use in the Work. Acceptance testing may include, but not necessarily be limited to, in place soil testing and other tests as specified in the various sections of the Specifications to ensure compliance with the Contract Documents. The ENGINEER shall perform acceptance testing of materials and workmanship, unless otherwise specified, in accordance with the Specifications and submit copies of the results to the CONTRACTOR. The CONTRACTOR reserves the right to perform additional testing at any time to determine conformance with the Contract Documents. Additional testing to confirm ENGINEER acceptance testing results will be performed at no cost to the OWNER.
- B. Acceptance testing by the ENGINEER is not a replacement for control testing conducted by the CONTRACTOR or a manufacturer producing materials for the CONTRACTOR. Control testing will be performed at the expense of the CONTRACTOR.

1.4 Control Testing

- A. Control testing shall be defined as the testing of materials prior to their delivery from a manufacturer, or during construction, including, but not necessarily limited to laboratory soil tests, manufacturer material testing, and other tests as specified in the various sections of the Specifications to ensure compliance. The CONTRACTOR shall assume full responsibility for control testing. Control testing shall be at the expense of the CONTRACTOR and shall be performed by an independent testing firm.

- B. The CONTRACTOR shall submit the name, address, and qualifications, together with the scope of proposed services, of the proposed testing firm(s) to the ENGINEER for approval at least 15 days prior to the scheduled commencement of any Work involving such testing. Should the CONTRACTOR desire to use more than one firm for control testing, the required information shall be submitted for each proposed firm as specified herein.

1.5 Test Reports

- A. Within five (5) days after completion of control testing performed by or for the CONTRACTOR, the test results shall be submitted to the ENGINEER, in writing. Test reports shall be identified with the name and address of the organization performing the test, and the date of the tests.

1.6 Certificates of Compliance

- A. The CONTRACTOR may use certificates of compliance for certain materials and products in lieu of the specified sampling and testing procedures. Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be submitted in duplicate with each lot of material delivered to the Site. The lot so certified shall be clearly identified by the certificate. Certificates shall be signed by an authorized representative of the producer or manufacturer and shall state that the material complies in all respects with the Contract requirements. In the case of multiple shipments, a certificate of compliance shall accompany each shipment.
- B. The certificate of compliance shall be accompanied by a certified copy of test results or shall state that such test results are on file with the producer or manufacturer and shall be furnished to the ENGINEER on request. The certificate shall give the name and address of the organization performing the tests, the date of the tests, and the quantity of material shipped.
- C. Materials used on the basis of a certificate of compliance may be sampled and tested at any time. Reliance on a certificate of compliance shall not relieve the CONTRACTOR of responsibility for incorporating material in the Work which conforms to the requirements of the Contract and any such material not conforming to such requirements will be subject to rejection, whether in place or not.
- D. The ENGINEER reserves the right to refuse to permit the use of certain materials on the basis of a certificate of compliance.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 45 23.13
TESTING PIPING SYSTEM

PART 1 - GENERAL

1.1 Summary

- A. This section covers all labor, equipment, and materials necessary to pressure test the landfill gas piping.

1.2 Submittals

- A. Pipe pressure test results.

1.3 Related sections

- A. 33 51 16.13 - High Density Polyethylene (HDPE) Landfill Piping.

PART 2 - PRODUCTS

2.1 Provisions

- A. The CONTRACTOR shall provide compressed air flanges, caps, bulkheads and monitoring apparatus as necessary to complete the pressure test.

2.2 Testing Equipment

- A. The CONTRACTOR shall provide all equipment required for this testing procedure.
- B. Testing Equipment shall include, but may not be limited to:
 - 1. Polyethylene flange adapter with steel blind flange.
 - 2. Temperature gauge (32°F to 200°F) tapped and threaded into blind flange.
 - 3. Pressure gauge (0 to 15 psi) ASME Standard B40.1 Grade 2A (accuracy of $\pm 0.5\%$ of full scale) with minor graduation marks no greater than 0.10 psi.
 - 4. Inlet valve to facilitate compressed air hose.
 - 5. Valve to release pipe pressure at test completion.
 - 6. Polyethylene reducers to be used to adapt test flange to size of pipe being tested.
 - 7. Air compressor shall provide adequate air supply for testing. CONTRACTOR may not use site air supply lines for testing.
 - 8. Pressurizing equipment shall include a regulator set to avoid over-pressurizing and damaging otherwise acceptable pipe.
- C. Provide verification and results of gauge calibration prior to (less than 60 days) and after Project completion.

PART 3 - EXECUTION

3.1 Preparation

- A. Commence test procedures when the following conditions have been met.
 - 1. Pipe section to be tested is clean and free of dirt, sand, or other foreign material.
 - 2. Plug pipe outlets with test plugs. Brace each plug securely to prevent blowouts. Use concrete if necessary.
 - 3. Add compressed air slowly.
 - 4. Pressurizing equipment shall include regulator set to avoid over-pressurizing and damaging an otherwise acceptable section of pipe.
- B. Provide necessary pipe connections between the section of line being tested and the compressed air supply, together with test pressure equipment, meters, pressure gauge, and other equipment, materials, and facilities necessary to perform the specified tests.
- C. Furnish and install bulkheads, flanges, valves, bracing, blocking or other temporary sectionalizing devices that may be required.
- D. Remove temporary sectionalizing devices after tests have been completed.

3.2 Testing

- A. ENGINEER shall be given notification two business days prior to test.
- B. Appropriate safety precautions must be in-place.
- C. Testing shall not be performed on Friday.
- D. Pipe Test Segments:
 - 1. Butt-fusion weld pipe segments.
 - 2. Less than 2,000 feet in length.
 - 3. Blind flange with test apparatus on one end and fused cap or blind flange assembly on opposite end.
- E. Environment:
 - 1. Bury test segment or lay test segment on ground surface and allow it to reach ambient temperature before test.
 - 2. Perform test during period when pipe segment will be out of direct sunlight to minimize pressure changes as a result of temperature fluctuations.
- F. Test:
 - 1. Apply test pressure of 10 psig to test segment.
 - 2. Observe test pressure for 1-hour.
 - 3. Mathematically correct pressure drop for temperature change.
 - 4. Temperature corrected pressure drop over 1-hour period should not exceed 10%.

G. Test Failure

1. Perform the following when pipe segment fails test.
 - a. Check entire length of pipe and fusion welds for cracks, pinholes, perforations or other possible leakage points.
 - b. Check blocked risers and capped ends for leakage and check gaskets at blind flanges.
 - c. Verify leaks by applying a soapy water solution and observe for bubble formation.
2. Repair pipe and fused joint leaks by cutting out leak areas and re-fusing suitable segments.
3. After the leaks are repaired, retest the pipe after the 8 hour relaxation period.

3.3 Test Reporting

- A. Each test shall be reported in writing, on Attachment 1 included with this section.
- B. Include following information if failure occurs:
 1. Location of failure segment.
 2. Nature of leaks.
 3. Details of repairs performed.
 4. Retest results.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Pipe pressure testing shall be considered incidental to the contract price for Landfill Gas Pipe.

END OF SECTION

SECTION 01 56 37

STORAGE AND PROTECTION OF MATERIAL

PART 1 - GENERAL

1.1 Summary

- A. Store and protect materials in accordance with Manufacturer's recommendations and requirements of Specifications.
- B. The CONTRACTOR shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to other CONTRACTORS, public travel, adjoining authorities, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- C. Areas available on the construction-site for storage of material and equipment shall be approved by ENGINEER. Storage sheds and/or trailers shall be located within the property at locations designated by ENGINEER during the pre-construction meeting.
- D. Hazardous Materials: CONTRACTOR shall handle and/or store flammable or hazardous materials in accordance with all applicable Federal, State and local regulations. CONTRACTOR shall store flammable or hazardous materials in locations designated by ENGINEER authorized personnel.
- E. Materials and equipment which are to become the property of County shall be stored to facilitate their inspection and ensure preservation of the quality and fitness of the work, including proper prevention against damage by freezing and moisture. They shall be placed inside storage areas unless otherwise acceptable to ENGINEER.
- F. Private property, landscape areas, shall not be used for storage purposes without written permission of ENGINEER or other person in possession or control of such premises.
- G. The CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- H. Do not open manufacturers' containers or packaging until time of installation unless recommended by the manufacturer or otherwise specified. CONTRACTOR shall cover and protect all open containers or packages of materials that are not being used.
- I. Do not store products in structures being constructed unless approved in writing by ENGINEER.

1.2 Uncovered Storage

- A. The following types of materials may be stored out-of-doors without cover:
 - 1. Piping
 - 2. Concrete reinforcement steel
 - 3. Precast concrete items
 - 4. Castings
- B. Store the above materials on wood blocking so there is no contact with the ground.
- C. Cover all openings to prevent entry by animals, water, or foreign objects during storage.

1.3 Covered Storage

- A. The following types of materials may be stored out-of-doors with weather-protective covers:
 - 1. Large mechanical equipment packages.
 - 2. Building materials sensitive to moisture (e.g. bentonite).
- B. Tie down covers with rope and slope to prevent accumulation of water on covers. Maintain covers to provide continuous protection from damage. Seal all openings to prevent entry by animals, water, or foreign objects during storage.
- C. Store roll materials on wood blocking in a manner to prevent damage to roll ends.
- D. Store sack materials on wood blocking to prevent contact with run-off or standing water.

1.4 Fully Protected Storage

- A. Store all products not named above in temporary buildings or trailers that have a sealed floor, a roof, and fully closed walls on all sides.
- B. Provide heating or cooling for storage spaces for materials that would be damaged by extreme ambient temperatures.
- C. Protect mechanical and electrical equipment from contact with dust, dirt and moisture.

1.5 Maintenance of Storage

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide required conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Products exposed to elements are not adversely affected.

1.6 Protection After Installation

- A. Provide protection of installed products to prevent entry by foreign objects or damage from subsequent operations. Remove protection when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment, materials, and surfaces.

1.7 Security

- A. County assumes no responsibility for security of the CONTRACTOR's trailers, sheds, materials or equipment on the property at any time.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 Summary

- A. Section Includes: General requirements for materials and equipment including handling, transportation, and storage thereof.

1.2 Related Sections

- A. Section 01 45 00 (Quality Control)

1.3 Quality of Materials

- A. Materials and equipment provided shall be new, except as may be indicated in the Specifications or the Construction Drawings.
- B. The materials and equipment shall be manufactured, handled, transported, stored, and used in accordance with the requirements of the manufacturer and to ensure completed work meets the requirements of the Contract Documents.

1.4 Handling and Transportation

- A. Handling:
 - 1. Avoid bending, scraping, or overstressing materials and equipment. Protect projecting parts by blocking with wood, by providing bracing, or by other approved methods.
 - 2. Materials and equipment shall be protected from soiling and moisture by wrapping or by other approved means.
 - 3. Small parts of equipment and accessories shall be packaged in containers such as boxes, crates, or barrels to avoid dispersal and loss. Firmly secure an itemized list and description of contents to each such container.
- B. Loading, transporting, unloading, and storage of all materials and equipment shall be conducted such that they are kept clean and free from damage.

1.5 Storage and Protection

- A. Provide sheltered, weather-tight or heated weather-tight storage as required for materials and equipment subject to weather damage.
- B. Provide blockage, platforms or skids for materials and equipment subject to damage by contact with ground.
- C. Store packaged materials in their original unbroken package or container.
- D. Protect materials and equipment from damage during warehousing operations.

PART 2 - PRODUCTS

2.1 Sole Source Products

- A. The following sole source items have been approved for the Work. Substitutions will not be allowed.
 - 1. 2-inch QED Vertical wellhead, Model ORP215M 6-inch
 - 2. 2-inch QED Horizontal wellhead, Model ORP215MHL 6-inch
 - 3. QED Vertical Orifice Plate Kit, Model 40640
 - 4. QED Horizontal Orifice Plate Kit, Model 40690
 - 5. QED Stabilizer™ well cap, Model GWC62
 - 6. 2-inch QED Solarguard™ flex hose (100-foot roll), Model 40946
 - 7. QED high strength stainless steel hose band kit for Solarguard™ Flex Hose, Model 40979
 - 8. Real Environmental Products Auto Sump 7000-I-24/36-DC with Viridian VP4-BL submersible pump
 - 9. Real Environmental Products Infa-just pipe supports/anchors 6000 Series
 - 10. 6-inch by 2-inch Fernco Flexseal coupling, Model 1056-62
 - 11. 2-inch Fernco Flexseal coupling, Model 1056-215

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 01 75 16
START-UP PROCEDURES

PART 1 - GENERAL

1.1 Summary

- A. This section describes the Start-Up and Demonstration of the landfill gas system components after full completion of system construction. Unless otherwise stipulated, the CONTRACTOR shall notify the ENGINEER of the pending completion of construction and readiness for commencement of the Start-Up and Demonstration Period.

1.2 Definitions

- A. Start-Up Demonstration and Period shall be conducted for two (2) consecutive days during which the ENGINEER and CONTRACTOR operate all facility systems and prove functional integrity of those systems by virtue of experiencing no operational failures within the designated demonstration time interval.
- B. Post Demonstration Period shall be the period of time after successful completion of the Start-Up and Demonstration Period, but before final acceptance of the Project during which the CONTRACTOR completes all punch list items and Project close-out procedures.

1.3 Landfill Gas Collection and Control System (LFGCCS)

- A. Except those elements which are specifically excluded elsewhere, the LFGCCS shall include:
 - 1. Vertical Landfill Gas Extraction Wells
 - 2. Horizontal Landfill Gas Collectors
 - 3. Landfill Gas Header and Lateral Piping
 - 4. Condensate Sumps
 - 5. Leachate Collection and Removal System

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Start-Up and Demonstration Period

- A. The Start-Up and Demonstration Period is intended to demonstrate the reliability and performance of equipment under full operational conditions. The ENGINEER reserves the right to simulate operational variables including, but not necessarily

limited to equipment failures and routine maintenance scenarios, etc. to verify the operational integrity of automatic and manual control systems and alternate operating modes.

- B. Ensure Work is complete before start-up of any unit or system.
- C. The OWNER will provide qualified personnel for operation of the landfill gas system components.
- D. The Start-Up and Demonstration Period will be performed with the entire landfill gas system operational and will not be allowed to be tested on a system-by-system basis.
- E. The OWNER shall provide all labor, supervision, chemicals, equipment, vehicles or any other items necessary to operate and demonstrate the operation of the landfill gas system components.
- F. The CONTRACTOR and his SUBCONTRACTORS shall be onsite during the entire Start-Up and Demonstration period to address any system problems that are found during initial operation. Problems that may be encountered include, but are not limited to leaks in pipes, equipment malfunctions, etc.
- G. Length of Start-Up and Demonstration Period shall be 48 hours of continuous operation with no malfunctions.

3.2 Post Demonstration Period

- A. If the facility and all systems are substantially complete as defined in the Standard Specifications, the OWNER will assume operation after the successful completion of the Start-Up and Demonstration Period. If the facility and all systems are not substantially complete, the CONTRACTOR will finalize construction and the system will be retested.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Startup and Demonstration shall be considered incidental to the contract.

*** END OF SECTION ***

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 Summary

- A. This section includes preparation, maintenance, completion, and submission of all project record drawings, specifications, and related documents.
- B. The requirements specified herein are in addition to any requirements for record documents specified elsewhere in these Specifications.

1.2 Maintenance of Record Documents

- A. The CONTRACTOR shall maintain at the job site one copy of the following Project Documents for record purposes:
 - 1. Construction Drawings
 - 2. Specifications
 - 3. Change Orders
 - 4. ENGINEER's Field Orders
 - 5. Reviewed Shop Drawings
 - 6. Clarifications or Explanatory Drawings and Specifications
 - 7. Inspection Reports
 - 8. Laboratory Test Records
 - 9. Field Test Records

1.3 Record Drawings

- A. Construction Drawings:
 - 1. The CONTRACTOR shall maintain "as-built" 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. 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 this reproducible set.
 - 3. 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 Construction Drawings shall be shown in detail. All main alignments, whether piping, conduit, ductwork, or drain lines shall be located, in addition, by dimension and elevation.

4. No work shall be permanently concealed by the CONTRACTOR until the required information has been recorded on the record drawing and verified by the ENGINEER.
5. CONTRACTOR shall provide as-built drawings and necessary correction to the as-builts as deemed necessary by the ENGINEER in electronic portable document format within 40 working days after construction completion. CONTRACTOR will be subject to \$100 per day for each and every calendar day's delay in submitting these documents in excess of the number of working days prescribed above.
6. The ENGINEER/OWNER will provide one copy of the final Record Drawings to the CONTRACTOR for record keeping purposes.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 23 09 13
VALVES AND VALVE BOXES

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall furnish valves (including nuts and bolts), valve boxes, other materials, all labor, tools, supervision, transportation, equipment and incidentals necessary to install valves and valve boxes of the type and size and at the locations shown on the Construction Drawings and as needed for a complete and proper operation.
- B. The work shall be carried out in accordance with these Specifications and with the Construction Drawings.

1.2 Related Sections

- 1. Section 31 23 33 - Trenching and Backfilling
- 2. Section 33 51 16.13 - High Density Polyethylene (HDPE) Landfill Piping
- 3. Section 33 51 23 - Landfill Gas Extraction Wellheads
- 4. Section 33 53 23 - Horizontal Landfill Gas Extraction Wellheads
- 5. Section 44 42 53 - Landfill Gas Condensate Sump

1.3 Submittals

- A. Product Data: Before shipping, the CONTRACTOR shall submit
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's Specifications, catalog cuts, and other data needed to prove compliance with the specified requirements.
 - 3. Manufacturer's recommended installation procedures which, when approved by the ENGINEER, will become the basis for accepting or rejecting actual installation procedures used on the Work.
- B. If materials proposed to be provided under this Section are shipped prior to ENGINEER's conditional approval or approval, it will be at the CONTRACTOR's risk.

1.4 Warranty

- A. The CONTRACTOR shall assign to the OWNER the warranties of the manufacturers of any of the valves used.

PART 2 - PRODUCTS

2.1 General

- A. All valves shall be complete with all necessary operators, actuators, 2-inch square nut, worm and gear operators, wrenches, and other accessories or appurtenances, which are required for the proper completion of work, included under this Section.
- B. Valves shall be suitable for the intended service. Renewable parts, including discs, packing, and seats, shall be of types recommended by valve manufacturer for intended service, but not of lower quality than specified herein.
- C. Valves and operators shall be suitable for the exposure they are subjected to, enclosed in valve chamber or exposed, as applicable.
- D. All valves shall have the name of the manufacturer and sizes cast on the body or bonnet or shown on a permanently attached plate in raised letters.
- E. For the purpose of designating the type and grade of valve desired, a manufacturer's name is given in the following specifications. Valves of equal quality by other manufacturers will be acceptable.

2.2 Butterfly Valves

- A. Unless otherwise specified, butterfly valves used in the landfill gas collection system shall be lug-style, gear assisted, ductile-iron body with flat-faced flanged ends with Type 316 stainless steel disk and stem with spacers for proper valve operation, Viton seal and seat, and position indicator, rated for 350 psi.
- B. All bolting for valves installed above grade shall be Type 316 stainless steel.
- C. Unless specified otherwise on the Construction Drawings, below grade valves shall have a gear operator and 2-inch square nut.
- D. Unless specified otherwise on the Construction Drawings, above grade valves shall have a gear operator and handwheel.
- E. All valves and gear operators shall be right hand close.

2.3 Ball Valves

- A. Ball valves shall have Type 316 stainless steel body and ball with glass-filled PTFE seats and PTFE seals unless specified otherwise in the Construction Drawings. Valves shall be rated for 1,000 psi at 200° F maximum pressure, 28.95 inches Hg vacuum, and a temperature range of 0 to 450° F.
- B. Valve connections shall be NPT female at the sizes shown unless specified otherwise on the Construction Drawings.
- C. Unless specified otherwise on the Construction Drawings, valves under 6-inches will have a 2-inch square nut.

2.4 Check Valves

- A. Check valves shall be swing check type, flanged ends, ethylene propylene diene monomer (EPDM) seals, and spring-assist closure, rated at 150 psi, by Asahi, or equal. Any metal components shall be Type 316 stainless steel.

2.5 Valve Boxes

- A. Valve boxes shall be Jensen W-2436 series precast concrete with vault spring assisted access lid, of the size and type shown on the Construction Drawings, or approved equal. Boxes shall be stackable for extra depth, as needed. Valve boxes and lids shall be HS-20 traffic rated.
- B. The lid for header control valve boxes shall be hinged, spring assisted, double- door, HS-20 rated and set to allow operation of below-grade valves from the ground surface using a valve key.
- C. Vault box penetrations shall be cleanly cored and sealed with a rubber boot as manufactured by Kor-N-Seal, or equal.

2.6 Accessories

- A. Tagging: Provide 1 1/2-inch diameter heavy brass or stainless steel tag attached with No. 16 solid brass or stainless steel jack chain for each valve bearing the valve tag number. Get tag numbers from the ENGINEER.
- B. T-Handle Operating Rod (below-grade service): Provide an 8-foot long steel operating rod.

PART 3 - EXECUTION

3.1 Preparation

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Notify the ENGINEER of such conditions and proposed corrective actions before correcting unsatisfactory conditions. Do not proceed until unsatisfactory conditions are corrected.
- B. Adjoining pipe, couplings and fittings shall be cleaned of all foreign material such as dirt, grease, oil, or moisture prior to valve installation.

3.2 Valve Installation

- A. Valves of the size and type shown on the Construction Drawings shall be set plumb and installed at the locations indicated on the Construction Drawings. Valves shall be installed in accordance with manufacturer's recommended installation procedures and with the details shown on the Construction Drawings.
- B. Valves shall be installed such that they are supported properly in their respective positions, free from distortion and strain. Valves shall be installed such that their weight is not borne by blowers and equipment that are not designed to support the weight of the valve.
- C. Valves shall be carefully inspected during installation; they shall be opened wide and then tightly closed and the various nuts and bolts shall be tested for tightness. Special care shall be taken to prevent any foreign matter from becoming lodged in the valve seat. Check and adjust all valves for smooth operation.

- D. Clean iron flanges by wire brushing before installing flanged valves. Clean flange bolts and nuts by wire brushing, lubricate threads with oil or graphite, and tighten nuts uniformly and progressively. Clean threaded joints by wire brushing or swabbing. Apply Teflon joint compound or Teflon tape to pipe threads before installing threaded valves. Joints shall be airtight.
- E. Install valves with the operating stem in either horizontal or vertical position. When possible, all butterfly valves shall be installed so that the disk rotates on the vertical axis. Below grade butterfly valves without gear operator shall be installed with their axis in the vertical direction.
- F. The inside diameter of HDPE pipe flange adapters may be smaller than the diameter of the disk on a butterfly valve. If the inside diameter of the flange adapter interferes with full operation of the disk, the CONTRACTOR shall at his option install 2-inch HDPE valve spacers on both sides of the valves or may remove by machining excess material from the ID of the HDPE flange adapter.
- G. Locate and arrange valves to allow sufficient clearance around the valve operator for proper operation and to provide complete adjustment between fully open to fully closed position.
- H. Install where shown on the Construction Drawings.
- I. Locate valves for easy accessibility and maintenance.
- J. Install valves in closed position.

3.3 Valve Box Installation

- A. Valve boxes of the size and type shown on the Construction Drawings shall be set plumb and installed at the locations indicated on the Construction Drawings. Valve boxes shall be installed in accordance with manufacturer's recommended installation procedures and with the details shown on the Construction Drawings.
- B. Trenching and backfilling shall conform to the requirements of Section 31 23 16.

3.4 Testing

- A. Valves shall be tested at the same time that the adjacent pipeline is tested. Joints shall show no visible leakage under test. Joints that show signs of leakage shall be repaired prior to final acceptance. If there are any special parts of control systems or operators that might be damaged by the pipeline test, they shall be properly protected. The CONTRACTOR will be held responsible for any damage caused by the testing.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 31 22 00

GRADING

PART 1 - GENERAL

1.1 Summary

- A. Provide all rough and finish grading as necessary to complete the Project.

1.2 Related Sections

- A. Section 31 23 16 - Excavation
- B. Section 31 23 26 - Structural Fill
- C. Section 31 23 33 - Trenching and Backfilling

1.3 Description

- A. Work in this section includes the rough and finish grading of the following areas:
 - 1. Landfill access roads disturbed as part of the Work.
 - 2. Landfill surfaces disturbed as part of the Work.
 - 3. Landfill surfaces along the header and/or lateral lines to provide a minimum slope as indicated in the Construction Drawings.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Topsoil

- A. Provide topsoil that is free from waste, rocks greater than 1-inch, rubble, and other deleterious material that shall be used for finish grading of the landfill surface and other non-driving areas as shown on the Construction Drawings.

PART 3 - EXECUTION

3.1 General

- A. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.

- B. The CONTRACTOR shall grade to the lines and grades shown on the Construction Drawings and as staked in the field. Excess material shall be stockpiled at the locations as identified by the ENGINEER.
- C. The CONTRACTOR is responsible for securing, purchasing, hauling, and placement of fill material to complete the grading as specified on the Construction Drawings and in these Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Project. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of Existing Utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Section, immediately notify the ENGINEER and request their instructions.
 - 5. Do not proceed with permanent relocation of the work until written instructions are received from the ENGINEER.
 - 6. Exposed utilities shall be properly supported at all times if undermined.
- B. Protection of Persons and Property:
 - 1. Barricade open holes and depressions occurring as part of the Project, and post warning lights on property adjacent to or with public access.
 - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- C. Dewatering:
1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or to the existing leachate management system.
 2. Keep site construction area free from water.
 3. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.
- D. Use means necessary to prevent dust from becoming a nuisance to the public, to neighbors and to other work being performed on or near the site.
- E. Maintain access to adjacent areas at all times.

3.5 Access Road Grading

- A. Access roads disturbed as part of construction shall be graded to the original grades shown on the Construction Drawings.
- B. Structural fill shall be placed under the road surface as shown on the Construction Drawings and as specified in Section 31 23 26 - Structural Fill.

3.6 Vegetated Surface Grading

- A. Vegetated areas including the landfill surface and any other areas disturbed as part of the Work shall be graded as follows:
 1. Place a minimum of 6 inches of topsoil conforming to the requirements of this Section to the grades shown on the Construction Drawings and in the field.
 2. Topsoil shall be free from clods and large objects.

3.7 Maintenance

- A. Protection of newly graded areas:
 1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds.
 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.
- B. Where completed graded areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, and reshape as necessary to comply with the Specifications.

3.8 Field Quality Control

- A. The CONTRACOTR shall test areas receiving compacted crushed aggregate material using a nuclear density moisture gauge in accordance with ASTM D 6938 and submit results to the ENGINEER.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Grading

- A. Grading shall be considered incidental to the Bid Items for piping.

*** END OF SECTION ***

SECTION 31 23 16

EXCAVATION

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall excavate to the lines and grades shown on the plans and as staked by the CONTRACTOR in the field.

1.2 Related Sections

- A. Section 31 23 26 - Structural Fill
- B. Section 31 23 33 - Trenching and Backfilling

1.3 Description

- A. Work in this section includes but is not necessarily limited to the following items:
 - 1. Excavation inside the limits of waste.
 - 2. Excavation outside the limits of waste.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Other Materials

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and approved by the OWNER and ENGINEER.

PART 3 - EXECUTION

3.1 General

- A. The CONTRACTOR shall excavate the areas shown on the Construction Drawings.
- B. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.
- C. The CONTRACTOR shall excavate to the lines and grades shown on the Construction Drawings. Excavated material shall be stockpiled at the locations shown on the Construction Drawings. Before commencing any fill or compaction

operations, each excavation shall be observed and approved by the ENGINEER. The cost of filling inadvertent over-excavation shall be borne by the CONTRACTOR.

- D. Surplus excavated materials unsatisfactory for backfill shall be disposed of at the landfill working face.
- E. The CONTRACTOR is responsible for securing, purchasing, hauling and placement of fill material meeting the requirements of the Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of existing utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Contract, immediately notify ENGINEER and request their instructions. Maintain a minimum 12-inch horizontal and vertical separation from existing utilities and the facilities being constructed under this Contract.
 - 5. Do not proceed with permanent relocation of the Work until written instructions are received from the ENGINEER.
 - 6. Exposed utilities shall be properly supported at all times if undermined.

B. Protection of Persons and Property:

1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
2. Excavations shall be clearly marked if left open overnight. The CONTRACTOR shall supply barricades, warning lights, fencing or other OSHA approved devices to clearly mark and delineate open excavations.

C. Protection of Geomembrane Liner

1. The CONTRACTOR shall exercise caution when excavating near the geomembrane liner system. Areas of the landfill with a geomembrane liner system in place are shown on the Construction Drawings.
2. If during excavation the CONTRACTOR penetrates the geomembrane liner, work shall cease immediately, and the CONTRACTOR shall notify the ENGINEER.
3. The damage to the geomembrane liner system will be assessed by the ENGINEER to determine the extent of the repairs that will be necessary.
4. The CONTRACTOR will be responsible for the cost of all repairs and documentation of repairs required if the geomembrane liner is penetrated by the CONTRACTOR.

D. Dewatering:

1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or to the existing leachate management system.
2. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.

E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors and to other work being performed on or near the site. Use of wet sprays is recommended to minimize fugitive dust emissions.

F. CONTRACTOR shall be responsible for ensuring that fugitive litter resulting from construction is collected before the end of each construction day. Use of wet sprays is recommended to minimize fugitive litter.

G. Maintain access to adjacent areas at all times.

3.5 Excavation

A. Perform excavations of every type of material encountered within the limits of the Project to the lines, grades, and dimensions indicated on the Construction Drawings and specified herein.

B. Satisfactory excavated materials shall be transported to and placed in stockpiles or fill areas within the limits of the Project identified by the OWNER.

- C. If unsatisfactory materials are encountered above or at the design depth of the excavation, excavate the unsatisfactory materials to three (3) feet below the design depth and replace with compacted fill meeting the requirements of the Specifications.
- D. Excavate in a manner and sequence that will provide proper drainage at all times. The CONTRACTOR shall provide dewatering equipment if necessary.
- E. Dispose of unsatisfactory excavated material at the landfill working face, and surplus satisfactory excavated material, away from the work area as identified by the OWNER.
- F. Any waste excavated shall be disposed of at the working face of the landfill at no cost to the CONTRACTOR. Exposed waste not delivered to the working face prior to closure shall be covered either with 6 inches of earthen material or by fire retardant tarpaulins that are secured to prevent being carried off by heavy winds.
- G. Unauthorized Excavation:
 - 1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions as shown on the Construction Drawings.
 - 2. Backfill and compact unauthorized excavations as specified for authorized excavations.
- H. Stability of Excavations:
 - 1. Sides of excavations shall be cut back in accordance with 29 CFR 1910 OSHA standards.
 - 2. Shore and brace excavations where slope cut-backs are not practical because of space restrictions or stability of the materials being excavated.
 - 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- I. Shoring and Bracing:
 - 1. Provide all labor and materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 - 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
 - 3. Remove shoring and bracing as excavation progresses.

3.6 Field Quality Control

- A. Secure the ENGINEER's observation and approval of subgrade before subsequent construction is permitted thereon.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Excavation

A. Excavation shall be considered incidental to the Bid Items for piping.

*** END OF SECTION ***

SECTION 31 23 26

STRUCTURAL FILL

PART 1 - GENERAL

1.1 Summary

- A. CONTRACTOR shall place and compact structural fill in the locations shown on the Construction Drawings.

1.2 Related Sections

- A. Section 31 23 16 - Excavation
- B. Section 31 23 33 - Trenching and Backfilling

1.3 Description

- A. Work in this section includes but is not necessarily limited to the following items:
 - 1. Placement of structural fill in the access roads and access road crossing.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Structural Fill Materials

- A. CONTRACTOR shall provide sand, a mixture of sand and gravel, crushed gravel, crushed stone, crushed concrete, or other fragmented mineral material free from organic matter, waste, boulders and other deleterious material for use as Structural Fill or as specified in the Construction Drawings

2.3 Other Materials

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and approved by the OWNER and ENGINEER.

PART 3 - EXECUTION

3.1 General

- A. The areas shown on the Construction Drawings that require compacted structural fill shall be excavated in accordance with Section 31 23 16 - Excavation, backfilled and compacted.
- B. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.
- C. The CONTRACTOR is responsible for securing, purchasing, hauling and placement of fill material meeting the requirements of the Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of Existing Utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Contract, immediately notify the OWNER and ENGINEER and request their instructions. Maintain a minimum 12-inch horizontal and vertical separation from existing utilities and the facilities being constructed under this contract.
 - 5. Do not proceed with permanent relocation of the work until written instructions are received from the OWNER/ENGINEER.

6. Exposed utilities shall be properly supported at all times if undermined.
- B. Protection of Persons and Property:
1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- C. Dewatering:
1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or in the existing leachate management system.
 2. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors and to other work being performed on or near the site.
- E. Maintain access to adjacent areas at all times.

3.5 Structural Fill Placement

- A. Structural fill shall be placed at all road crossings, over buried piping, and around condensate sumps, as otherwise indicated on the Construction Drawings.
- B. Ground Surface Preparation:
1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of structural fill.
- C. Structural Fill Placement and Compaction:
1. Place backfill and fill materials in lifts not more than 8 inches in loose thickness.
 2. Compact structural fill using suitable mechanical equipment until no noticeable deformation is observed.
 3. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 4. Place backfill and fill materials evenly adjacent to structures to required elevations.
 5. Hydraulic compaction utilizing water to consolidate soils shall not be allowed.

3.6 Maintenance

- A. Protection of Structural Fill Areas:
1. Protect structural fill areas from traffic and erosion, and keep free from trash and weeds.
 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.

- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Structural Fill

- A. Structural fill placement and compaction shall be considered incidental to the associated Bid Items.

*** END OF SECTION ***

SECTION 31 23 33
TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall provide all trenching and backfilling of trenches necessary to complete the Work specified herein.

1.2 Related Sections

- A. Section 31 23 16 - Excavation
- B. Section 31 23 26 - Structural Fill

1.3 Description

- A. Work in this Section includes, but is not necessarily limited to the following:
 - 1. Trenching in active waste disposal area and areas with intermediate cover.
 - 2. Trenching across and within access roads.

PART 2 - PRODUCTS

2.1 General

- A. Provide all materials as shown on the Construction Drawings, as specified herein, and as needed for a complete and proper installation.

2.2 Trench Backfill Materials

- A. Trenches located in active waste disposal area and areas with intermediate cover:
 - 1. The CONTRACTOR shall backfill trenches in waste with cover soils obtained as a result of initial trench excavation and as detailed on the Construction Drawings.
- B. Trenches located in access roads and other areas outside of the limits of waste:
 - 1. The CONTRACTOR shall backfill trenches with pipe bedding material and clean soil fill as detailed on the Construction Drawings.

2. Stockpile shall be sand clear of organic matter and meeting the following gradation:

<u>U.S. Sieve Size</u>	<u>Range of Percent Passing</u>
No. 4	95 to 100
No. 16	60 to 95
No. 50	0 to 50
No. 100	0 to 20
No. 200	0 to 5

- a. The CONTRACTOR shall supply the ENGINEER with laboratory testing results demonstrating that the pipe bedding meets the requirements of this Section.
- b. The CONTRACTOR shall bear all costs associated with securing the material and providing the sampling and testing required to demonstrate compliance with this section.

2.3 Other Materials

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the CONTRACTOR and approved by the ENGINEER.

PART 3 - EXECUTION

3.1 General

- A. The CONTRACTOR shall provide trenching at all locations shown on the Construction Drawings for landfill gas piping and associated structures.
- B. The CONTRACTOR shall take necessary precautions to protect underground utilities, and especially any utilities whose original cover may be temporarily removed as part of construction.
- C. The CONTRACTOR shall excavate trenches to the lines and grades shown on the Construction Drawings. Excavated material shall be stockpiled at the locations identified by the ENGINEER. Before commencing any fill or compaction operations, each excavation shall be observed and approved by the ENGINEER. The cost of filling inadvertent over-excavation shall be borne by the CONTRACTOR.
- D. Surplus excavated materials unsatisfactory for backfill shall be disposed of at the landfill working face at no cost to the CONTRACTOR. Exposed waste not delivered to the working face prior to closure shall be covered either with 6 inches of earthen material or by fire retardant tarpaulins that are secured to prevent being carried off by heavy winds.
- E. The CONTRACTOR is responsible for securing, purchasing, hauling and placement of fill material meeting the requirements of the Specifications.

3.2 Surface Conditions

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.3 Finish Elevations and Lines

- A. Comply with finish elevations and lines as described in the Construction Drawings.

3.4 Procedures

- A. Protection of Existing Utilities:
 - 1. Unless shown to be abandoned or removed, protect utility lines and other pipes shown on the Construction Drawings or otherwise made known to the CONTRACTOR prior to excavating. CONTRACTOR is required to perform all utility clearances, including interviewing on-site personnel to inquire about existing utilities in areas of proposed excavations. If a utility is damaged by the CONTRACTOR, the utility shall be repaired or replaced at no additional cost to the OWNER.
 - 2. If utility lines are encountered that are not shown on the Construction Drawings or otherwise made known to the CONTRACTOR, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, ENGINEER shall be notified, and CONTRACTOR shall immediately restore service by repairing the damaged utility.
 - 4. If existing utilities are found to interfere with the facilities being constructed under this Contract, immediately notify ENGINEER and request their instructions. Maintain a minimum 12-inch horizontal and vertical separation from existing utilities and the facilities being constructed under this Contract.
 - 5. Do not proceed with permanent relocation of the work until written instructions are received from the ENGINEER.
 - 6. Exposed utilities shall be properly supported at all times if undermined.
- B. Protection of Persons and Property:
 - 1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
 - 2. Trenches shall be clearly marked if left open overnight. The CONTRACTOR shall supply barricades, warning lights, fencing or other OSHA approved devices to clearly mark and delineate open excavations.
- C. Protection of Geomembrane Liner
 - 1. The CONTRACTOR shall exercise caution when excavating near the geomembrane liner system. Areas of the landfill with a geomembrane liner system in place are shown on the Construction Drawings.

2. If during excavation the CONTRACTOR penetrates the geomembrane liner, work shall cease immediately and the CONTRACTOR shall notify the ENGINEER.
 3. The damage to the geomembrane liner system will be assessed by the ENGINEER to determine the extent of the repairs that will be necessary.
 4. The CONTRACTOR will be responsible for the cost of all repairs required if the geomembrane liner is penetrated by the CONTRACTOR.
- D. Dewatering:
1. Remove all water, including rainwater, encountered during work to an approved location by pumps, drains, and other approved methods.
 - a. Water that contacts waste shall be considered leachate and shall be disposed of at the working face of the landfill, or in the existing leachate management system.
 2. Handling and disposal of water shall comply with all stormwater and erosion and sedimentation control permits.
- E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors and to other work being performed on or near the site. Use of wet sprays is recommended to minimize fugitive dust emissions.
- F. CONTRACTOR shall be responsible for ensuring that fugitive litter resulting from construction is collected before the end of each construction day. Use of wet sprays is recommended to minimize fugitive litter.
- G. Maintain access to adjacent areas at all times.

3.5 Trenching

- A. Perform trenching of every type of material encountered within the limits of the Work to the lines, grades, and dimensions indicated on the Construction Drawings and specified herein.
- B. Satisfactory excavated materials shall be transported to, and placed in stockpiles or fill areas within the limits of the Work as identified by the ENGINEER.
- C. If unsatisfactory materials are encountered above or at the design depth of the trench, excavate the unsatisfactory materials to three (3) feet below the design depth and replace with compacted structural fill meeting the requirements of the specifications.
- D. Trench in a manner and sequence that will provide proper drainage at all times. The CONTRACTOR shall provide dewatering equipment if necessary.
- E. Dispose of unsatisfactory excavated material, and surplus satisfactory excavated material, away from the work area as shown on Construction Drawings.
- F. Waste shall be disposed of at the working face of the landfill.
- G. Unauthorized Excavation:

1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions as shown on the Construction Drawings.
 2. Backfill and compact unauthorized excavations as specified for authorized excavations.
- H. Trenching Safety:
1. Trenching shall be completed in accordance with 29 CFR 1910 OSHA regulations.
 2. Trench boxes, shoring and bracing shall be placed in trenches in accordance with 29 CFR 1910 if personnel are to enter the trench or if the trench is susceptible to cave in.
 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- I. Shoring and Bracing:
1. Provide all labor and materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 2. Maintain shoring and bracing in trenches regardless of the time period excavations will be open.
 3. Remove shoring and bracing as trenching progresses.

3.6 Backfilling

- A. Backfilling shall be completed in accordance with the location of the trench as shown on the Construction Drawings.
- B. Pipe bedding outside of the limits of waste shall be compacted until no noticeable deformation is observed.
- C. Backfill in dual containment areas shall be completed in accordance with these Specifications and placed in the areas shown on the Construction Drawings.
- D. Conduct air monitoring to confirm lack of surface emissions after completion of backfill. If emissions are detected, rework cover soils and cover system and recomplete air monitoring until passing per the project documents.

3.7 Field Quality Control

- A. The ENGINEER shall observe all trenching as part of the Work.
- B. Backfill shall not be placed in trenches until the ENGINEER has observed the placement of the piping and verified that the line and grade have been met.

- C. The ENGINEER shall observe and document air monitoring results following completion of backfill.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Trenching and Backfilling

- A. Trenching and Backfilling shall be considered incidental to the Bid Items for piping.

*** END OF SECTION ***

SECTION 33 42 13
CORRUGATED STEEL PIPE

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall furnish all labor, materials, tools, supervision, transportation, equipment and incidentals necessary to install corrugated steel pipe as specified herein, as shown on the Construction Drawings and as needed for complete and properly functioning culverts and pipe sleeves, all with necessary fittings.
- B. The work shall be carried out in accordance with these Specifications and with the Construction Drawings.

1.2 Related Sections

- A. Section 31 23 33 – Trenching and Backfilling
Section 33 51 16.13 – High Density Polyethylene (HDPE) Landfill Piping

1.3 Submittals

- A. In accordance with Section 01 33 00, the CONTRACTOR shall submit, prior to shipping, manufacturer's specifications stating that the piping meets or exceeds the requirements presented in this Specification and as shown on the Construction Drawings.
- B. If materials proposed to be provided under this Section are shipped prior to ENGINEER's conditional approval or approval, it will be at the CONTRACTOR's risk.

PART 2 - PRODUCTS

- A. Corrugated steel pipe shall have dimensions and thicknesses that are nominal and must comply with AASHTO M 36 for corrugated steel pipe and AASHTO M 196 for corrugated aluminum pipe. The nominal sheet thickness for corrugated metal pipe must be equal to or greater than the nominal thickness described. Lapped longitudinal seams of riveted pipe arches must be placed in the top arch and must be staggered so as to alternate on each side of the center of the top arch at least 3 inches.
- B. Where coating, lining, or paving is shown, pipes must be protected with bituminous coating or bituminous lining, or have the invert paved with one or more of the following materials:
 - 1. Bituminous coating
 - 2. Polymeric sheet coating
 - 3. Bituminous lining

4. Bituminous invert paving
- C. Coupling bands for corrugated steel pipe must comply with AASHTO M 36. Coupling bands for corrugated aluminum pipe must comply with AASHTO M 196. If channel or wing channel coupling bands are used, the interior bend radii of the pipe flange and the channel must be at least the thickness of the metal of which they are formed. Joints for siphons must consist of connections made with coupling bands shown for positive joints. Do not use universal coupling bands. Joints for siphons and joints for pipes shown as watertight must be watertight under pressure and all conditions of expansion, contraction, and settlement, and must comply with section 61-2.01D(1)(a) for water tightness.
- D. Corrugated steel pipe shall be galvanized and a minimum of 16 gauge, or as shown on the Construction Drawings.

PART 3 - EXECUTION

- A. Trench excavation, bedding and backfill shall comply with Section 31 23 33 of these Specifications.
- B. Lay helical corrugated pipe in a trench with separate sections spaced not more than 1-1/2 inches apart and then firmly jointed together with corrugations in alignment.
- C. Corrugations or projections on the coupler must properly engage the corrugations of the pipe section before bolts are tightened.
- D. Wherever pipes are connected to inlet and outlet structures, place the ends of the pipes flush or cut them off flush with the structure face.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 51 16.13

HIGH DENSITY POLYETHYLENE (HDPE) LANDFILL PIPING

PART 1 - GENERAL

1.1 Summary

- A. This Section includes material and installation specifications for high density polyethylene (HDPE) pipe and fittings.

1.2 References

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D-638-95 - Test Method for Tensile Properties of Plastics.
 2. ASTM D-790-86 - Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 3. ASTM D-1238-88 - Test Method for Flow Rates of Thermoplastic by Extrusion Plastometer.
 4. ASTM D-1248-84 - Specification for Polyethylene Plastics Molding and Extrusion Materials.
 5. ASTM D-1505-85 - Test Method for Density of Plastics by Density-Gradient Technique.
 6. ASTM D-1693-70 - Test Method for Environmental Stress - Cracking of Ethylene Plastics.
 7. ASTM D-2122-88 - Test Method of Determining Dimensions of Thermoplastic Pipe and Fittings.
 8. ASTM D-2513-95(c) - Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings.
 9. ASTM D-2837-88 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.
 10. ASTM D-3261-88 - Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
 11. ASTM D-3350-84 - Polyethylene Plastic Pipe and Fittings Material.
 12. ASTM F-1055-95 - Electrofusion Type Polyethylene Fittings.

1.3 Related Sections

- A. Section 01 45 23.13 - Testing Piping Systems
- B. Section 33 51 19.13 - Vertical Landfill Gas Wells
- C. Section 33 51 23 - Landfill Gas Extraction Wellheads
- D. Section 33 53 10 - Horizontal Landfill Gas Collectors

1.4 Submittals

- A. Provide manufacturing test specification data listing resin type, cell classification, stock density, melt flow, flexural modulus, tensile strength, and coloration.
- B. Include results of tests with shipment of materials, with two (2) additional copies of test results furnished to ENGINEER.

1.5 Quality Assurance

- A. Source Quality Control:
 - 1. If Manufacturer's test data is inadequate or unavailable, ENGINEER reserves the right to reject or require additional tests to satisfy material requirements. Costs of these tests shall be borne by CONTRACTOR.
- B. Work shall comply with appropriate codes and standards of organizations for handling, fusion, and underground installation of low pressure polyethylene pipe, including but not limited to:
 - 1. AGA
 - 2. ANSI
 - 3. ASME
 - 4. ASTM
 - 5. PPI

1.6 Deliveries, Storage, and Handling

- A. Pipe Storage:
 - 1. Store or stack pipe to prevent damage from marring, crushing, or puncture. Limit maximum stacking height to six (6) feet or manufacturer's maximum recommended height, whichever is less.
 - 2. Store in accordance with manufacturer's recommendations.
- B. Pipe handling:
 - 1. Protect pipe from excessive heat or harmful chemicals.

PART 2 - PRODUCTS

2.1 Physical Properties of HDPE Pipe Resin

- A. Density: ASTM D-1505, not less than 0.941 - 0.955 gm/cu cm.
- B. Melt Flow: ASTM D-1238 - Condition E, not greater than 0.15.
- C. Flexural Modulus: ASTM D-790, 110,000 to less than 160,000 psi.
- D. Tensile Strength at Yield: ASTM D-638, 3,000 to less than 3,500 psi.
- E. Environmental Stress Crack Resistance (ESCR): ASTM D-1693 - Condition C, shall be in excess of 5,000 hrs with zero failure.

F. Hydrostatic Design Basis: ASTM D-2837, 1600 psi at 23°C.

2.2 HDPE Pipe

- A. High performance, high molecular weight, high density polyethylene pipe (type PE 3408 resin).
1. ASTM D-1248 (Type III, Class C, Category 5, P34).
 2. ASTM D-3350, minimum cell classification value 345434C.
 3. Standard dimension ratio: See Drawings.
 4. Marking: Intervals of 5 ft or less
 - a. Manufacturer's name or trademark.
 - b. Nominal pipe size.
 - c. Type of plastic resin (i.e., PE 3408).
 - d. Standard dimension ratio (i.e., SDR-17).
 - e. ASTM D-2513.
 - f. Extrusion date, period of manufacture or lot, or batch number.
- B. Dimensions:
1. Conform to standard dimensions and tolerances of ASTM D-2513.

2.3 HDPE Fittings

- A. Fittings from polyethylene compound having cell classification equal to or exceeding compound used in pipe to insure compatibility of polyethylene resins.
- B. Polyethylene fittings shall be molded for sizes 12-inch and smaller and shall be fabricated from polyethylene pipe for sizes 14-inch and larger by means of thermal butt-fusion. Extrusion welds on fittings will not be allowed. The ends of the fabricated fittings shall not be trimmed to match the pipe section to which they are going to be joined. All polyethylene fittings shall have the same or higher pressure rating as the pipe when installed in accordance with the latest technical specifications.
- C. Joints
1. Joints shall be thermal butt-fusion, except where connecting to unions, valves, and equipment with connections that may require future disassembly.
 2. No mechanical couplings shall be used unless shown on the Drawings.
 3. Extrusion welds will not be allowed.
- D. Flange Connections:
1. 150-lb carbon steel or convoluted epoxy coated ductile iron backup rings for flanged connections as recommended by manufacturer.
 2. Type 316 stainless steel hex head nuts and bolts, and accompanying flat washers.
 3. Viton full-face flange gaskets.

4. Flanges and bolt patterns consistent with ANSI B16.5/AWWA C207/ASTM A536, as recommended by manufacturer.
- E. Dimensions of fittings conform to standard dimensions and tolerances according to ASTM D-3261.
- F. Markings:
 1. Manufacturer's name or trademark.
 2. Nominal size.
 3. Type of plastic resin (i.e. PE 3408).
 4. Standard dimension ratio (i.e., SDR-17).
 5. ASTM D-2513.
 6. Extrusion date, lot number, or batch number.
- G. Pressure rating of fittings shall be equal to or greater than pressure rating of pipe.
- H. Branch saddle connections are strictly prohibited unless specified by the Construction Drawings or approved by the ENGINEER.

PART 3 - EXECUTION

3.1 Field Quality Control

- A. Pipe may be rejected for failure to conform to Specifications, or for:
 1. Fractures or cracks passing through pipe wall, except single crack not exceeding two (2) inches in length at either end of pipe which could be cut off and discarded. Pipes within one shipment will be rejected if defects exist in more than 5 percent of shipment or delivery.
 2. Cracks sufficient to impair strength, durability, or serviceability of pipe.
 3. Defects indicating improper proportioning, mixing, and molding.
 4. Damaged ends, where such damage would prevent making satisfactory joints.
- B. Acceptance of fittings, stubs, or other specifically fabricated pipe sections shall be based on visual observation by the ENGINEER at the Project site and documentation that they conform to these Specifications.

3.2 Installation

- A. General:
 1. Perform trenching and backfilling in accordance with Section 31 23 33 Trenching and Backfilling.
 2. Pipes and fittings shall be carefully lowered into trench to limit stress to pipes, fittings, and joints.

3. Pipe and fittings shall be installed so that there will be no deviation at the joints and so that inverts present a smooth surface. Pipe and fittings that do not fit together to form a tight fitting joint are not permitted.
 4. Pipes shall be installed at the locations and to the required lines and grades shown in the Construction Drawings and provided in these Specifications, using an approved method of control. The ENGINEER has the authority to order the removal or relaying of pipe laid contrary to the specifications, her/his instructions, or during her/his absence.
 5. Excavations shall be maintained free of water during the progress of the work. No pipes shall be laid in water nor shall there be any joints made up in water. All slides or cave-ins of the trenches or cuts shall be remedied to the satisfaction of the ENGINEER.
 6. Cleanliness of installed pipe and fitting interiors shall be maintained throughout the Work. Cap pipe sections longer than single joint on both ends during placement, except during fusing operations.
 7. All adjustments to the line and grade of pipe laid on earth foundation shall be done by scraping away or placing compacted fill under the barrel of the pipe, and not by blocking or wedging the pipe. In all cases, the trench under the joint shall be excavated to permit an even bearing surface for the barrel of the pipe.
 8. Fittings shall be installed as required and in accordance with the Construction Drawings and Specifications. The installation of fittings after the pipeline has been laid will not be permitted without written approval from the ENGINEER. In such cases, complete details pertaining to the proposed type of fittings and the installation procedure shall be submitted by the CONTRACTOR to the ENGINEER for review before approval will be considered.
 9. Approval by the ENGINEER is required prior to changing the location of any of the Project due to field conditions. Changes in pipe sizes are prohibited without a written consent from the ENGINEER.
 10. All installed pipe shall form completely connected systems, including connections to valves and appurtenances specified in other sections, to result in a satisfactorily operating installation.
- B. Heat Fusion of HDPE Piping:
1. HDPE pipe shall be joined by butt fusion methods, having a uniform and monolithic pipe interior according to the fusion joining procedures as instructed by the manufacturer, except within the structures, as shown in the Construction Drawings.
 2. Each individual performing fusion joining shall have at least one (1) year of experience and provide current certification in the use of the fusion procedure.
 3. Join pipe sections at ground level to a maximum length of 400 feet, or a length recommended by the manufacturer such that maximum allowable stress, when pulling the pipe into position alongside the trench, is not exceeded. Use appropriate materials and equipment, as recommended by the HDPE pipe

manufacturer, when pulling butt fused pipe sections alongside the trench to prevent pipe damage.

4. For summertime installations it may be necessary to provide a slightly longer length of HDPE pipe when connections are to be made between two fixed points or structures to compensate for contraction of the pipe in a cooler trench bottom. The additional pipe length requirements shall be in accordance with the HDPE pipe manufacturer's instructions.
 5. For cleaning pipe ends, solutions such as detergents and solvents, when required, shall be used in accordance with manufacturer's recommendations.
 6. Do not bend pipe to greater degree than minimum radius recommended by manufacturer for type and grade.
 7. Do not subject pipe to strains that will overstress or buckle pipe or impose excessive stress on joints.
 8. Before butt fusing pipe, each length shall be observed for presence of dirt, sand, mud, shavings, and other debris or animals. Remove all materials from the inside of the pipe.
 9. At end of each working day, cover open ends of fused pipe. Cap to prevent entry by animals or debris.
 10. Use compatible fusion techniques when polyethylene pipes of different melt indexes are fused together. Refer to manufacturer's specifications for compatible fusion.
- C. Flange Joining:
1. Use on flanged pipe connection sections.
 2. Connect slip-on backup flanges with nuts and bolts.
 3. Butt fuse flange adapters to pipe.
 4. Observe the following precautions when connecting flanged joints.
 - a. Align flanges or flange/valve connections to provide a tight seal. Viton full-face gaskets are required for flange/valve connections.
 - b. Place U.S. Standard round washers as may be required on some flanges per manufacturer's recommendations. Bolts shall be lubricated in accordance with manufacturer's recommendations.
 - c. Tighten flange bolts in sequence and in accordance with manufacturer's recommendations. CAUTION: Do not over-torque the bolts. CONTRACTOR shall be required to use a torque wrench to secure flanged connections.
 5. Pull bolt down by degrees to uniform torque in accordance with manufacturer's recommendations.

D. Pipe Placement:

1. Grade control equipment shall accurately maintain design grades and slopes during installation of pipe. Slope may not vary by more than 0.1 percent from the design slope.
2. Maximum lengths of fused pipe to be handled as one section shall be placed according to manufacturer's recommendations as to pipe size, pipe SDR, and topography so as to not cause excessive gouging or surface abrasion, but not to exceed 400 feet.
3. Notify ENGINEER prior to installing pipe into trench and allow time for ENGINEER's observation.
 - a. Correct irregularities found during inspection.
4. Complete connections within trench whenever possible to prevent overstressed connections.
5. Allow pipe sufficient time to adjust to trench temperature prior to any testing, segment connections, or backfilling activity.
6. Install reducers adjacent to laterals or tees.
7. Place in trench by allowing at least 12 inches per 100 feet for thermal contraction and expansion.
8. Install above ground piping in snaking alignment per Construction Drawings.
9. Coordinate construction of header lines near access roads with OWNER to limit interruptions to normal landfill operations.

3.3 Pipe Testing

- A. Test pipe sections in accordance with Section 01 45 23.13 - Testing Piping Systems.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. All HDPE piping shall be paid for on the installed linear foot basis. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 51 19.13
VERTICAL LANDFILL GAS EXTRACTION WELLS

PART 1 - GENERAL

1.1 Summary

- A. This section includes drilling and installation of Vertical Landfill Gas Extraction Wells.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- B. Section 33 51 23 - Landfill Gas Extraction Wellheads

1.3 Quality Assurance

- A. Vertical Landfill Gas Extraction Well CONTRACTOR Qualifications:
 - 1. CONTRACTOR, or its site foreman, shall have had previous experience with the installation of similar vertical landfill gas extraction wells.
 - 2. Well driller must possess a C-57 Well Drilling License, valid in the State of California.
 - 3. CONTRACTOR shall prepare final vertical landfill gas extraction well drilling logs and construction diagrams, and they shall be signed by a person of responsible charge. Field supervision of drilling, logging and installation activities shall be performed by trained, experienced personnel.

1.4 Vertical Landfill Gas Extraction Well Submittals

- A. CONTRACTOR shall submit one copy of the following Landfill Gas (LFG) Collection Well Data on a weekly basis, and upon completion of drilling.
 - 1. CONTRACTOR will provide copies of proposed detailed LFG Well installation procedures and material submittals for review and approval by the ENGINEER prior to initiation of well construction.
 - 2. Daily drilling report: During the drilling of the well, maintain daily drilling report that includes at a minimum, but not limited to:
 - a. Date;
 - b. Location;
 - c. Boring identification number;
 - d. Weather conditions;
 - e. Daily activities;
 - f. Equipment used;

- g. Drilling crew;
 - h. Time (rig time, down time, stand-by, etc.);
 - i. Footage drilled;
 - j. Materials used;
 - k. Well construction (materials used, type, quantity, etc.);
 - l. Air monitoring conducted and results; and
 - m. Relevant notations and verification of activities.
3. LFG Well Log: During the drilling of the well the CONTRACTOR will complete a well log report that includes at a minimum, but not limited to:
- a. Logger's Name;
 - b. Date Begun;
 - c. Date Completed;
 - d. Location;
 - e. Boring identification number;
 - f. Weather conditions;
 - g. Equipment used;
 - h. Drilling crew;
 - i. Time (time to depth, down time, stand-by, etc.);
 - j. Footage (total depth, well depth);
 - k. General descriptions of strata encountered;
 - l. Depth and thickness of intermediate covers/soil layers;
 - m. General soils descriptions, estimates of moisture content, notation of wet or saturated zones; and
 - n. Relevant notations and verification of activities.
4. LFG Well Installation Log: Upon completion of the well the CONTRACTOR will complete a well installation report that includes at a minimum, but not limited to:
- a. Installer's Name;
 - b. Date Begun;
 - c. Date Completed;
 - d. Location;
 - e. Boring identification number;
 - f. Equipment used;
 - g. Installation crew;
 - h. Time (time to depth, down time, stand-by, etc.);

- i. Footage (total depth, well depth);
 - j. Well construction materials used (materials used, type, dimensions, quantity, etc.);
 - k. Size and depth of pipe;
 - l. Length of perforated and solid casing;
 - m. Depth and type of gravel pack;
 - n. Depth and thickness of bentonite seal(s);
 - o. Depth and thickness of backfill materials(s);
 - p. Type and thickness of surface seal,
 - q. Casing elevation;
 - r. Air monitoring conducted and results; and
 - s. Relevant notations and verification of activities.
5. CONTRACTOR will provide copies of Driller's Reports, LFG Well Logs, and LFG Well Installation Logs for review and approval by the ENGINEER upon well construction.
 6. ENGINEER will review and confirm all CONTRACTOR submitted reports.

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and equipment to fabricate and install LFG recovery wells shall be as listed below:
 1. Well casing and fittings shall be 6-inch HDPE SDR-11 factory drilled 1/2-inch diameter perforated well casing with a 6-inch HDPE SDR-11 end cap. Solid pipe shall be installed to the depths shown on the Construction Drawings. CONTRACTOR shall supply temporary SCH 40 PVC end cap with lag screws or approved equal on top of the solid pipe in accordance with the Construction Drawings and Specifications.
 2. Well casing will be equipped with Energyneering Solutions well centralizer or approved equal every 20 feet
 3. Gravel shall be a well sorted washed and clean of fines 1"-2" river rock.
 4. Bentonite seal(s) shall be per the Construction Drawings using Baroid Benseal and CETCO Insta-Vis Plus Polymert or approved equals.
 - a. CONTRACTOR shall assume an application rate of eight (8) 50 pound bags of bentonite chips per foot.
 - b. Bentonite seals shall be hydrated at a minimum rate of 25 gallons of water per foot of bentonite.

5. Soil shall be of a fine material that has good compaction characteristics and shall conform to cover materials on-site or as designated in the Construction Drawings, and as approved by the OWNER or ENGINEER.
- B. Vertical Landfill Gas Extraction Well Design:
1. The CONTRACTOR shall install the vertical landfill gas extraction wells at the locations noted on the Construction Drawings and/or where staked in the field, or as approved by the OWNER or ENGINEER.
 2. The Vertical Landfill Gas Extraction Well boring will be as noted in the drawings. The drilled boring shall extend to a depth of no more than 15 feet of the bottom of refuse unless otherwise noted on the Construction Drawings. The CONTRACTOR shall be responsible for determining the final well depth with the ENGINEER based upon the available information at the time of drilling. In no instance will well bores be advanced and/or completed into the liner system of the landfill. Wells shall be constructed in accordance with the details shown on the Construction Drawings and as noted in the Specifications.

PART 3 - EXECUTION

3.1 Installation

- A. Vertical Landfill Gas Extraction Wells:
1. CONTRACTOR shall fabricate the well casings in accordance with the Construction Drawings and Specifications. The well casing shall be perforated in accordance with the Construction Drawings. Well casings shall be capped at the surface connection prior to installation of the wellhead to prevent gas from escaping and to prevent backfill material from entering the pipe.
 2. No pressure tests are required for the Vertical Landfill Gas Extraction Well casings.
 3. CONTRACTOR shall drill the Vertical Landfill Gas Extraction Well bores using an appropriate drilling unit capable of boring to the depths and diameters indicated in the Construction Drawings and Specifications. Drilling methods using liquids are prohibited. CONTRACTOR shall not perform any drilling until the ENGINEER has verified the location and elevation.
 4. The Vertical Landfill Gas Extraction Well boring will be as noted in the Construction Drawings. The drilled boring shall extend to a depth within 15 feet of the bottom of the refuse unless otherwise noted on the Construction Drawings. In no case shall the borings be advanced through the bottom of refuse of landfill liner system. Should the liner system be encountered during drilling, all drilling operations on that well shall cease and the ENGINEER shall be immediately notified. Final casing depths shall be adjusted at the completion of drilling to accommodate any deviation from specified depths.
 5. A steel safety grate or similar barrier shall be placed over the borehole at all times that drilling activities are not taking place. At no time are open well borings to be left uncovered and/or unattended.

6. Well casings shall be set and the annular space backfilled in accordance with Construction Drawings. Well casings shall be installed immediately after completion of the holes by lifting the casing with the drill rig cable hoist, in sections if required, and lower the casing into the hole. The casing shall be suspended at the surface and centered in the boring at all times during backfilling. Initial gravel backfilling operations shall be completed while the well casing is suspended at a minimum of one foot above the bottom of the hole. When the pipe is "supported" by the gravel in the hole, then the drill rig can be moved to the next location. Wells shall be completely backfilled with the designated amounts and levels of gravel, soil and bentonite. The bentonite shall be allowed to hydrate thoroughly prior to addition of clean backfill. Placement of backfill material in the boring shall be done in a manner to limit bridging of backfill in the borehole.
 7. No well boring shall remain unfinished at the end of the workday. At no time are open well borings to be left uncovered and/or unattended.
 8. All refuse removed from drilling operations must be removed and disposed of at the landfill working face at no cost to the CONTRACTOR. Litter that is blown away from the work area is the responsibility of the CONTRACTOR.
 9. CONTRACTOR shall be responsible for any grading, leveling, towing and/or restoration that may be necessary for movement of the drill rig on the landfill property.
 10. CONTRACTOR shall conduct air monitoring to confirm lack of surface emissions after completion of each well. If emissions are detected, rework cover soils and cover system and recomplete air monitoring until passing per the project documents.
- B. Any settlement shall be backfilled within 3 weeks after placement of backfill from the level of the subsidence to 6 inches above existing grade with the appropriate cover materials.
- C. If there is a drilling obstruction encountered in the landfill that, despite the best reasonable efforts of the CONTRACTOR, cannot be penetrated, the CONTRACTOR shall request relief from the ENGINEER from completion of the well. If an obstruction is encountered, the following tasks may be completed depending on the depth encountered.
1. The hole shall be abandoned. The CONTRACTOR shall backfill the well to the predrilled condition. The CONTRACTOR shall be compensated for the drilling and backfilling of the well, but not its completion.
 2. The well shall be accepted at the obstructed depth. The well shall be completed at this new depth. Compensation shall be for the modified footage of the well.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 51 23

VERTICAL LANDFILL GAS EXTRACTION WELLHEADS

PART 1 - GENERAL

1.1 Summary

- A. This section includes the installation of Vertical Landfill Gas Extraction Wellheads.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- B. Section 33 51 19.13 - Vertical Landfill Gas Extraction Wells.

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and Equipment to fabricate and install Vertical Landfill Gas Extraction Wellheads shall be as listed below and as shown on the Construction Drawings:
 - 1. 2-inch Vertical Wellhead Assembly (QED Environmental Systems, Model ORP215M).
 - 2. 2-inch hose (Solarguard Flex Hose), 100-foot roll (Model 40946).
 - 3. 6-inch by 2-inch QED well cap (Model GWC62).
 - 4. 6-inch by 2-inch Fernco flexseal coupling (Model 1056-62).
 - 5. 2-inch Fernco flexseal coupling (Model 1056-215).
 - 6. QED High Strength stainless steel hose clamps for Solarguard Flex Hose, Flex Hose band kit (Model 40979).
 - 7. 1/8-inch flow, 1/4-inch National pipe Thread (NPT) quick disconnect tubes.
 - 8. QED Orifice plate kit (Model 40640).

PART 3 - EXECUTION

3.1 Installation

- A. Landfill Gas Extraction Wellheads:
 - 1. Remove temporary cap from previously installed collectors.
 - 2. Install 6-inch by 2-inch Fernco Flexseal coupling or approved equal.
 - 3. Install wellhead according to Manufacturer's Specifications.
 - 4. Install 2-inch hose using stainless steel clamps.
 - 5. Install HDPE reducing fittings to connect well to lateral riser.

6. The wellhead shall be installed at a manageable elevation (approximately four feet above existing grade) to support maintenance and monitoring operations.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 53 10
HORIZONTAL LANDFILL GAS COLLECTORS

PART 1 - GENERAL

1.1 Summary

- A. This section includes trenching and installation of Horizontal Landfill Gas Collectors.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 31 23 16 - Excavation
- B. Section 31 23 33 - Trenching and Backfilling
- C. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- D. Section 33 53 23 - Horizontal Landfill Gas Collector Wellheads

1.3 Quality Assurance

- A. Horizontal Landfill Gas Collector CONTRACTOR Qualifications:
 - 1. CONTRACTOR, or its site foreman, shall have had previous experience with the installation of similar horizontal landfill gas collectors.

1.4 Horizontal Landfill Gas Collector Submittals

- A. CONTRACTOR shall submit one copy of the following Landfill Gas (LFG) Collector Data on a weekly basis, and upon completion of each of the horizontal collectors.
 - 1. Horizontal LFG Collector Log: During the trenching of the horizontal collector the CONTRACTOR will complete a collector trenching report that includes at a minimum, but not limited to:
 - a. Date Begun;
 - b. Date Completed;
 - c. Location;
 - d. Collector identification number;
 - e. Weather conditions;
 - f. Equipment used;
 - g. Footage (total length, width, and depth);
 - h. General descriptions of strata encountered;
 - i. Depth and thickness of intermediate covers/soil layers;
 - j. General soils descriptions, estimates of moisture content, notation of wet or saturated zones;

- k. Horizontal collector construction (materials used, type, etc.);
 - l. Length of perforated and solid casing;
 - m. Backfill materials placement (type, depth, thicknesses, etc.);
 - n. Air monitoring conducted and results; and
 - o. Relevant notations and record of activities.
2. CONTRACTOR will provide copies of Horizontal LFG Collector Log for review and approval by the OWNER or ENGINEER upon collector construction.
 3. ENGINEER will review and confirm all CONTRACTOR submitted reports.

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and equipment to fabricate and install LFG recovery collectors shall be as listed below:
 1. Well casing shall consist of both 6-inch HDPE SDR-11 factory drilled ½-inch diameter perforated pipe and 6-inch HDPE SDR-11 solid pipe as shown on the Construction Drawings. Piping shall be installed to the depths shown on the Construction Drawings. CONTRACTOR shall install a horizontal stub out with a 6-inch PVC blind flange in accordance with the Construction Drawings and Specifications.
 2. Gravel shall be a well sorted non-calcareous ¾-inch crushed rock or gravel.
 3. Bentonite seal(s) shall be per the Construction Drawings using Baroid Benseal and CETCO Insta-Vis Plus polymer or approved equal.
 - a. CONTRACTOR shall assume an application rate of eight (8) 50 pound bags of bentonite chips per foot.
 - b. Bentonite seals shall be hydrated at a minimum rate of 25 gallons of water per foot of bentonite.
 4. Soil shall be of a fine material that has good compaction characteristics and shall conform to cover materials on-site or as designated in the Construction Drawings, and as approved by ENGINEER.
 5. A 16-ounce SY non-woven geotextile shall be per the Construction Drawings cut into the length of the rock plus bentonite.
- B. Horizontal Landfill Gas Collector Design:
 1. The CONTRACTOR shall install the horizontal landfill gas collectors at the locations noted on the Construction Drawings and/or where staked in the field, or as approved by the ENGINEER.
 2. The Horizontal Landfill Gas Collector trench will be as noted in the drawings. Collectors shall be constructed in accordance with the details shown on the Construction Drawings and as noted in the Specifications.

PART 3 - EXECUTION

3.1 Installation

A. Horizontal Landfill Gas Collectors:

1. CONTRACTOR shall fabricate the well casings in accordance with the Construction Drawings and Specifications. The well casing shall be perforated in accordance with the Details and Specifications. Well casings shall be capped at the surface connection prior to installation of the wellhead to prevent gas from escaping and to prevent backfill material from entering the pipe.
 2. No pressure tests are required for the Horizontal Landfill Gas Collector casings.
 3. CONTRACTOR shall excavate the Horizontal Landfill Gas Collector trenches using an appropriate excavating unit capable of excavating to the lengths and widths indicated in the Construction Drawings and Specifications. CONTRACTOR shall not perform any excavating unless the ENGINEER has verified the location and elevation.
 4. The Horizontal Landfill Gas Collector trench will be as noted in the Construction Drawings. Excavate to the lines and grades shown on the drawings.
 5. At no time are open collector trenches to be left uncovered and/or unattended.
 6. Well casings shall be set and the annular space backfilled in accordance with Construction Drawings and Specifications. Well casings shall be installed immediately after completion of the trench by lifting the casing with the excavator, in sections if required, and lower the casing into the trench. The casing shall be placed onto the bed of gravel and centered in the trench at all times during backfilling. Collector trenches shall be completely backfilled with the designated amounts and levels of gravel, soil and bentonite. The bentonite shall be allowed to hydrate thoroughly prior to addition of clean backfill. Placement of backfill material in the trench shall be done in a manner to limit bridging of backfill in the trench.
 7. No collector trench shall remain unfinished at the end of the workday. At no time are open collector trenches to be left uncovered and/or unattended.
 8. All refuse removed from excavating operations must be removed and disposed of at the landfill working face at no cost to the CONTRACTOR. Litter that is blown away from the work area is the responsibility of the CONTRACTOR.
 9. CONTRACTOR shall conduct air monitoring to confirm lack of surface emissions after completion of each collector. If emissions are detected, rework cover soils and cover system and recomplete air monitoring until passing per the project documents.
- B. Any settlement shall be backfilled within 3 weeks after placement of backfill from the level of the subsidence to 6 inches above existing grade with the appropriate cover materials.

PART 4 - MEASUREMENT AND PAYMENT

A. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 33 53 23

HORIZONTAL LANDFILL GAS COLLECTOR WELLHEADS

PART 1 - GENERAL

1.1 Summary

- A. This section includes the installation of Horizontal Landfill Gas Collector Wellheads.

1.2 Related Sections include but are not necessarily limited to:

- A. Section 33 51 16.13 - High Density Polyethylene (HDPE) Piping
- B. Section 33 53 10 - Horizontal Landfill Gas Collectors

PART 2 - PRODUCTS

2.1 Materials

- A. Materials and Equipment to fabricate and install QED Horizontal Landfill Gas Collector Wellheads shall be as listed below and as shown on the Construction Drawings:
 - 1. 2-inch Horizontal Wellhead Assembly (QED Environmental Systems, Model ORP215MHL).
 - 2. 2-inch hose (Solarguard Flex Hose), 100-foot roll (Model 40946).
 - 3. 6-inch to 4-inch HDPE SDR-11 concentric reducer fitting.
 - 4. 4-inch to 2-inch HDPE SDR-11 concentric reducer fitting.
 - 5. 2-inch Fernco flexseal coupling (Model 1056-215).
 - 6. QED High strength stainless steel hose bands for Solarguard Flex Hose (Model 40979).
 - 7. 1/8-inch flow 1/4-inch National Pipe Thread (NPT) quick-disconnect tube coupling.
 - 8. QED Orifice plate kit (Model 40690)

PART 3 - EXECUTION

3.1 Installation

- A. Horizontal Landfill Gas Collector Wellheads:
 - 1. Assemble wellhead as shown on the Construction Drawings.
 - 2. Remove temporary cap from previously installed horizontal collector.
 - 3. Install the 6-inch to 4-inch and 4-inch to 2-inch reducer fittings.

4. Connect the orifice plate end of the wellhead to the reducer fittings on the horizontal collector with the 2-inch Fernco adapter fitting.
5. Install 2-inch hose using stainless steel clamps on the end of the wellhead to be connected to the lateral.
6. The wellhead shall be installed at the ground surface elevation to support maintenance and monitoring operations.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Contract Price

- A. Horizontal Landfill Gas Collector Wellheads will be paid by the total quantity installed and shall include all items described in the specification and shown on the Construction Drawings. Refer to Section 01 20 00.

*** END OF SECTION ***

SECTION 44 42 53
LANDFILL GAS CONDENSATE SUMP

PART 1 - GENERAL

1.1 Summary

- A. The CONTRACTOR shall furnish all labor, materials, tools, supervision, transportation, equipment and incidentals necessary to install a condensate liquid sump and automatic electrical pump system as shown on the Construction Drawings and as needed for a complete and proper operation.
- B. The work shall be carried out in accordance with these Specifications and with the Construction Drawings.

1.2 Related Sections

- A. Section 31 23 33 - Trenching and Backfilling
- B. Section 33 51 16.13 - High Density Polyethylene (HDPE) Landfill Piping

1.3 Submittal

- A. Product Data: The CONTRACTOR shall submit
 1. Materials list of items proposed to be provided under this Section.
 2. Manufacturer's specifications, catalog cuts, and other data needed to prove compliance with the specified requirements.
 3. Manufacturer's pressure test results.
 4. Manufacturer's recommended installation procedures which, when approved by the ENGINEER, will become the basis for accepting or rejecting actual installation procedures used on the Work.
 5. Manufacturer's operations and maintenance guidelines including startup procedures.
- B. If materials proposed to be provided under this Section are shipped prior to ENGINEER's conditional approval or approval, it will be at the CONTRACTOR's risk.

PART 2 - PRODUCTS

2.1 Condensate Sump

- A. The landfill gas condensate sump shall be a Real Environmental Products 7000-I-24/36 DC Auto-Sump with a Viridian America VP4-BL submersible pneumatic pump.
- B. The landfill gas condensate sump shall be a 24-inch diameter condensate liquid

sump. The sump shall be a welded single walled, liquid and gas tight assembly constructed from high-density polyethylene (HDPE) pipe, SDR-17. The sump shall have a 36-inch diameter HDPE pipe, SDR-17 secondary containment. Thicker HDPE wall thicknesses are acceptable.

- C. The sump shall be designed to withstand vacuum of 80 Inches of Water Column and be pressure tested by the manufacturer prior to delivery.
- D. The sump shall have a 6-inch deep solids settling area. The sump shall include an isolation well through which the pump will be installed for solids separation.
- E. The sump shall drain correctly and continuously maintain a clear LFG header under a header vacuum application of 80 inches water column (in. w.c.).

2.2 Vault

- A. All operating components of the condensate pump and control assembly shall be located in a concrete vault with spring-assisted cover.
- B. Service connections, including the liquid discharge, and pressure balance line, shall be stainless steel hydraulic quick connects and shall be bulkhead mounted through a standard quick release cap on top of the sump, and through a common wall of the vault.

2.3 Connections

- A. The sump shall have the following connection sizes and types:

<u>Service</u>	<u>Size Connection</u>	<u>Furnished Supplied Connection</u>
Condensate Discharge	¾ inch	FNPT
Air Inlet	½ inch	FNPT
Balance Line	½ inch	FNPT

- B. The condensate discharge line and header equalization pipe inside the sump shall be constructed of SDR-11 HDPE.
- C. The condensate discharge line and header equalization pipe inside the sump shall include Type 316 stainless steel or HDPE isolation valves.
- D. The condensate discharge line shall include a stainless steel Type 304 check valve to prevent liquid back flow to the sump.

2.4 Liquid Pump

- A. An integral, pneumatic submersible pump (Viridian America VP4-BL) shall be

- included as part of the landfill gas condensate sump and shall be used to transfer LFG condensate from the sump.
- B. Provide only equipment that is new, and of the type and quality specified.
 - C. The pump shall be rated for service in harsh and explosive environments.

PART 3 - EXECUTION

3.1 Source Quality Control

- A. Bubble test pump at 10 pounds per square inch (psi) for 30 minutes in a tank operated by control panel.

3.2 Installation

- A. Landfill gas condensate sump shall be installed by a qualified trained installer in accordance with the manufacturer's recommendations.

3.3 Warranty

- A. Sump pump, control panel and accessories installed as a complete system shall be warranted for a period of 30 months from date of manufacturer.
- B. Manufacturer to submit warranty with any required "as built shop drawings" and Operation and Maintenance Manuals.

PART 4 - MEASUREMENT AND PAYMENT

- A. Refer to Section 01 20 00.

*** END OF SECTION ***

Project Details



Facility # C-3115
AMERICAN AVENUE LANDFILL
2220 TULARE ST, 6TH FLOOR
ATTN: RESOURCES MANAGER
FRESNO, CA 93721

Notice of Permit Issuance

The enclosed permit unit requirements authorize the operation of the equipment as described. These permit unit requirements supersede any and all previous permits for the specified equipment.* Please insert these documents into the Facility Permit to Operate, and post copies on or near the equipment as required by District Rule 2010.

Please contact any of our Small Business Assistance (SBA) staff at the numbers below if you have any questions:

Modesto:	(209) 557-6446
Fresno:	(559) 230-5888
Bakersfield:	(661) 392-5665

*Failure to comply with the permit unit requirements may result in enforcement action.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



Permit to Operate

FACILITY: C-3115

EXPIRATION DATE: 07/31/2021

LEGAL OWNER OR OPERATOR:
MAILING ADDRESS:

AMERICAN AVENUE LANDFILL
2220 TULARE ST, 6TH FLOOR
ATTN: RESOURCES MANAGER
FRESNO, CA 93721

FACILITY LOCATION:

18950 W AMERICAN AVE
KERMAN, CA

FACILITY DESCRIPTION:

LANDFILL (EG SOURCE)

The Facility's Permit to Operate may include Facility-wide Requirements as well as requirements that apply to specific permit units.

This Permit to Operate remains valid through the permit expiration date listed above, subject to payment of annual permit fees and compliance with permit conditions and all applicable local, state, and federal regulations. This permit is valid only at the location specified above, and becomes void upon any transfer of ownership or location. Any modification of the equipment or operation, as defined in District Rule 2201, will require prior District approval. This permit shall be posted as prescribed in District Rule 2010.

Seyed Sadredin
Executive Director / APCO

Arnaud Marjollet
Director of Permit Services

San Joaquin Valley Air Pollution Control District

FACILITY: C-3115-0-3

EXPIRATION DATE: 07/31/2021

FACILITY-WIDE REQUIREMENTS

1. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100] Federally Enforceable Through Title V Permit
2. The District shall be notified in writing within ten days following the correction of any breakdown condition.. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100] Federally Enforceable Through Title V Permit
3. The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160] Federally Enforceable Through Title V Permit
4. Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rules 2010 and 2020] Federally Enforceable Through Title V Permit
5. The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 2080 and 2520] Federally Enforceable Through Title V Permit
6. A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. Every application for a permit required under Rule 2010 (12/17/92) (Permits Required) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
8. The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520] Federally Enforceable Through Title V Permit
9. The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520] Federally Enforceable Through Title V Permit
10. The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: AMERICAN AVENUE LANDFILL
Location: 18950 W AMERICAN AVE, KERMAN, CA
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11. Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520(6/21/01). [District Rules 2520 and 1100] Federally Enforceable Through Title V Permit
12. If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520] Federally Enforceable Through Title V Permit
13. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
14. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520] Federally Enforceable Through Title V Permit
15. The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520] Federally Enforceable Through Title V Permit
16. The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520] Federally Enforceable Through Title V Permit
17. The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520] Federally Enforceable Through Title V Permit
18. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
19. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
20. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520] Federally Enforceable Through Title V Permit
21. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520] Federally Enforceable Through Title V Permit
22. No air contaminants shall be discharged into the atmosphere from any source operation (as defined in District Rule 1020) for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (2/17/05), by using EPA method 9. If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

23. No person shall supply, sell, solicit or apply any architectural coating, except specialty coatings, that contains more than 250 grams of VOC per liter of coating (less water and exempt compounds, and excluding any colorant added to tint bases), or manufacture, blend, or repackage such coating with more than 250 grams of VOC per liter (less water and exempt compounds, and excluding any colorant added to tint bases) for use within the District, unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
24. No person shall apply, sell, solicit, or offer for sale any specialty architectural coating listed in the Table of Standards (District Rule 4601, Table 1 (12/17/09)), nor manufacture, blend, or repackage such coating for use within the District, which contains VOCs (less water and exempt compounds, excluding any colorant added to tint bases) in excess of the specified limits listed in Table 1 of Rule 4601 (12/17/09), unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
25. All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired, unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
26. A person shall not use VOCs for the cleanup of spray equipment unless equipment for collection of the cleaning compounds and minimizing its evaporation to the atmosphere is used, unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
27. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.2 (12/17/09), unless exempted under section 4.0 of District Rule 4601 (Amended 12/17/09). [District Rule 4601] Federally Enforceable Through Title V Permit
28. With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520] Federally Enforceable Through Title V Permit
29. If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
30. If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit
31. Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8021 and 8011] Federally Enforceable Through Title V Permit
32. Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8031 and 8011] Federally Enforceable Through Title V Permit
33. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8041 and 8011] Federally Enforceable Through Title V Permit
34. Whenever open areas are disturbed or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/04) or Rule 8011 (8/19/04) [District Rule 8051 and 8011] Federally Enforceable Through Title V Permit
35. Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/04) or Rule 8011 (8/19/04). [District Rule 8061 and 8011] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

36. Any unpaved vehicle/equipment area that anticipates more than 75 vehicle trips per day shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 100 vehicle trips per day shall comply with the requirements of Section 5.1.2 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/04) or Rule 8011 (8/19/04). [District Rule 8071 and 8011] Federally Enforceable Through Title V Permit
37. Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit
38. The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520] Federally Enforceable Through Title V Permit
39. Any Title V permittee shall submit an application permit renewal to the District at least six months, but not greater than 18 months, prior to the Title V permit expiration date. [District Rule 2520] Federally Enforceable Through Title V Permit
40. When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permit shall apply. [District Rule 2520] Federally Enforceable Through Title V Permit
41. The reporting periods for the Report of Required Monitoring and the Compliance Certification Report begin July 1 of every year, unless alternative dates are approved by the District Compliance Division. These reports are due within 30 days after the end of the reporting period. [District Rule 2520] Federally Enforceable Through Title V Permit
42. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-3115-2-14

EXPIRATION DATE: 07/31/2021

EQUIPMENT DESCRIPTION:

44.4 MILLION CUBIC YARD CAPACITY (367 ACRES) MUNICIPAL SOLID WASTE LANDFILL WITH A LANDFILL GAS COLLECTION AND CONTROL SYSTEM, INCLUDING COLLECTION WELLS, PIPING, VACUUM PUMP/BLOWER, CONDENSATE TRAPS AND A 3,150 GALLON CONDENSATE STORAGE TANK, CONTROLLED BY ONE 51 MMBTU/HR AND ONE 99 MMBTU/HR ENCLOSED GROUND FLARE USING AN LPG PILOT

PERMIT UNIT REQUIREMENTS

1. Annual amount of soil used for covering shall not exceed 5,920,933 cubic yards of soil, and PM10 emissions shall not exceed 0.008 lb PM10/ton of soil (using a soil density of 3,240 lbs/cubic yard of soil). Permittee shall keep annual records of the amount of soil used for covering. [District Rule 2201] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201 and 40 CFR Part 60.752(b)(2)(iii)(B)(2) and (b)(2)(iv), and 62.14353(b)] Federally Enforceable Through Title V Permit
3. All equipment shall be constructed, calibrated, maintained and operated according to the specifications and plans contained in the permit application except as otherwise specified herein. [District Rule 2201 and 40 CFR 60.755(d), 60.756(b), 62.14354(b) and 40 CFR part 64] Federally Enforceable Through Title V Permit
4. No air contaminant shall be discharged from the flare into the atmosphere for a period or periods aggregating more than five minutes in any two hours which is as dark as, or darker than, Ringelmann 1/4 or 5% opacity. [40 CFR 60.18(c)(1)] Federally Enforceable Through Title V Permit
5. Particulate matter emissions from any combustion source shall not exceed 0.1 grains/dscf (calculated to 12% carbon dioxide). [District Rule 4301] Federally Enforceable Through Title V Permit
6. Landfill gas condensate can be injected into the enclosed flares. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The enclosed flares shall be equipped with automatic dampers, an automatic shutdown device, and a flame arrester. [District Rule 2201 and 17 CCR 95464] Federally Enforceable Through Title V Permit
8. VOC emissions from this landfill operation controlled with the 51 MMBtu/hr and 99 MMBtu/hr enclosed flares shall not exceed 804.3 lb/day (includes landfill fugitive, flare landfill gas, flare pilot, and flare condensate emissions). [District Rule 2201] Federally Enforceable Through Title V Permit
9. The enclosed flares shall either reduce VOC by 98 weight percent or reduce the outlet VOC concentration to less than 20 parts per million by volume, dry basis as methane at 3 percent oxygen. [District Rules 2201 and 4102, and 40 CFR 60.752(b)(2)(iii)(B) and 62.14353(b)] Federally Enforceable Through Title V Permit
10. The methane destruction efficiency for the enclosed flares shall be at least 99% by weight. [17 CCR 95464]
11. The landfill gas consumption rate for the 51 MMBtu/hr enclosed flare shall not exceed 51 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

12. The landfill gas consumption rate for the 99 MMBtu/hr enclosed flare shall not exceed 99 MMBtu/hr. Heat input shall be calculated daily using landfill gas flow into the flare (cubic feet per minute) and the annually tested landfill gas heat content (Btu/cubic foot). [District Rule 2201] Federally Enforceable Through Title V Permit
13. Emissions from the 51 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.05 lb-NO_x/MMBtu; 0.0178 lb-SO_x/MMBtu (46.9 ppmv of H₂S in fuel); 0.2 lb-CO/MMBtu; or 0.008 lb-PM₁₀/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions from the 99 MMBtu/hr enclosed flare shall not exceed any of the following limits: 0.057 lb-NO_x/MMBtu; 0.0178 lb-SO_x/MMBtu (46.9 ppmv of H₂S in fuel); 0.110 lb-CO/MMBtu; or 0.008 lb-PM₁₀/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Landfill design capacity shall not exceed 44.4 million cubic yards, or 367 acres, of solid waste. Annual amount of refuse received shall not exceed 1,300,000 ton/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The enclosed flares shall be equipped with an LPG fired pilot. [40 CFR 60.18(c)(2) and (f)(2)] Federally Enforceable Through Title V Permit
17. Emissions from the flare LPG-fired pilot shall not exceed any of the following limits: 0.15 lb-NO_x/MMBtu, 0.0164 lb-SO_x/MMBtu, 0.0044 lb-PM₁₀/MMBtu, 0.021 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Source sampling to determine the compliance status of an emissions source shall be witnessed or authorized by District personnel. [District Rule 1081] Federally Enforceable Through Title V Permit
19. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days after testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing to demonstrate compliance with VOC, NO_x, and CO emission limits and VOC control efficiency requirements shall be conducted at least once every 12 months for each flare. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Source testing for NO_x shall be conducted using EPA Test Method 7E or CARB Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing for CO shall be conducted using EPA Test Method 10 or 10B, CARB Methods 1-5 with 10 or CARB Test Method 100. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Gas combusted in the flares shall be tested for H₂S content on a quarterly basis using Draeger tubes. If compliance is shown for two consecutive quarters, the testing frequency may be changed to annual. Quarterly testing shall resume if any annual test shows noncompliance. [District Rule 1081] Federally Enforceable Through Title V Permit
24. VOC emissions shall be measured by USEPA Test Method 18, 25, 25A, or 25C. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit
25. The enclosed flares shall be equipped with a temperature indicator and recorder which measures and records the operating temperature. The temperature indicator and recorder must operate continuously. [40 CFR 60.756(b)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
26. The enclosed flare control devices shall be operated within the parameter ranges established during the initial or most recent performance test. [40 CFR 60.752(b)(2)(iii)(B)(2) and 62.14353(b) and 17 CCR 95464] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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27. Except during periods of startup, shutdown, and malfunction, the permittee shall continuously monitor and record combustion chamber temperature. The enclosed flare average combustion temperature, for all 3-hour periods of operation, shall not drop more than 28 degrees C below the average combustion temperature, during the most recent performance test at which compliance with 60.752(b)(2)(iii)(B)(2) was determined. Upon detecting any temperature excursion lower than 28 degree C (50 degree F) below the source test average combustion temperature, averaged over a 3-hour period, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. Duration of startup, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for control devices where free venting of landfill gas occurs. [40 CFR 60.758(c)(1)(i), 60.755(e), 62.14354(b), and 40 CFR part 64] Federally Enforceable Through Title V Permit
28. The owner or operator shall measure the gauge pressure in the gas collection header at each individual interior well on a monthly basis as provided in 60.755(a)(3). If a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.755(a)(3), 60.756(a)(1), and 62.14354(b)] Federally Enforceable Through Title V Permit
29. The owner or operator shall monitor each interior well monthly for temperature and oxygen as provided in 60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within 5 calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the Administrator for approval. [40 CFR 60.753(c), 60.755(a)(3) and (a)(5), 60.756(a)(2) and (a)(3), and 62.14354(b)] Federally Enforceable Through Title V Permit
30. The operator shall record quarterly the surface emission tests including test time, weather conditions, precipitation records, areas sampled, calibration records, and test results. Corrective action shall be taken if required in accordance to 40 CFR 60.755(c). [District Rule 2201, 40 CFR 60.755(c), 60.756(f), and 62.14354(b)] Federally Enforceable Through Title V Permit
31. Permittee shall maintain continuous records of flare combustion temperature and volumetric gas flow rate. Permittee shall record and test the net heating value of landfill gas being combusted at least annually using ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2201 and 40 CFR 60.756(b), 60.758(b)(2)(i), (c)(2) and (b)(2)(i), and 62.14354(b)] Federally Enforceable Through Title V Permit
32. Permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. [40 CFR 60.758(d) and 60.34(c)] Federally Enforceable Through Title V Permit
33. The operator shall record emission control device source tests including VOC destruction/treatment efficiency and emissions of CO, NOx, and SOx, in pounds per MMBtu heat input. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Records of the weight of materials received (tons) of Class II/III waste material shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
35. This operating permit may be cancelled upon District approval when the landfill is closed, is not otherwise subject to the requirements of 40 CFR part 70 or part 71, and if the landfill meets the conditions for control system removal specified in 40 CFR 60.752(b)(2)(v). [40 CFR 62.14352(f)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

36. An active collection system shall be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment, collect gas from each area, cell, or group of cells in the landfill in which the initial solid waste has been placed for a period of 5 years or more if active; or 2 years or more if closed or at final grade, collect gas at a sufficient extraction rate, and be designed to minimize off-site migration of subsurface gas. [40 CFR 60.752(b)(2)(ii)(A) and 62.14353(b)] Federally Enforceable Through Title V Permit
37. If the landfill is permanently closed, a closure notification shall be submitted to the APCO within 30 days of waste disposal cessation. A permanent closure must take place in accordance with 40 CFR 258.60. If a closure report has been submitted, no additional waste may be placed in the landfill without filing a notification of modification to the APCO, pursuant to 40 CFR 60.7(a)(4). [40 CFR 60.752(b)(1)(ii)(B), 60.757(d), and 62.14354(b)] Federally Enforceable Through Title V Permit
38. For approval of collection and control systems that include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, owner or operator must follow the procedures in 40 CFR 60.752(b)(2). If alternatives have already been approved under 40 CFR Part 62 subpart GGG, these alternatives can be used to comply with 40 CFR 63 subpart AAAA, except that all affected sources must comply with the startup, shutdown, and malfunction (SSM) requirements in subpart A of 40 CFR 63 as specified in Table 1 of 40 CFR 63 subpart AAAA and all affected sources must submit compliance reports every 6 months as specified in 40 CFR 63.1980(a) and (b), including information on all deviations that occurred during the 6 month reporting period. Deviations for continuous emission monitors or numerical continuous parameter monitors must be determined using a 3 hour monitoring block average. [40 CFR 60.752(b)(2) and 63.1955(c)] Federally Enforceable Through Title V Permit
39. Permittee shall operate the landfill gas collection system with negative pressure at each wellhead except under the following conditions: (1) A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the annual reports as provided in 60.757(f)(1); (2) At a wellhead within the immediate vicinity of filling; (3) Use of a geomembrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan; (4) A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the APCO. [40 CFR 60.753(b) and 62.14354(b) and 17 CCR 95464, 17 CCR 95468] Federally Enforceable Through Title V Permit
40. Permittee shall operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the owner or operator shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The owner or operator may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. [40 CFR 60.753(d), 60.755(c)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
41. Compliance with the surface methane operational standard shall be demonstrated using the procedures outlined in 40 CFR 60.755(c) within 180 days of installation and startup of the collection and control system and quarterly thereafter. [40 CFR 60.753(d), 60.755(c), 62.14354(b), and 60.8] Federally Enforceable Through Title V Permit
42. Permittee shall operate the enclosed flares at all times when the collected gas is routed to it. [40 CFR 60.753(f) and 62.14354(b)] Federally Enforceable Through Title V Permit
43. Permittee shall operate the landfill gas collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: (1) five years or more if active; or (2) two years or more if closed or at final grade. [40 CFR 60.753(a) and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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44. Permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55 C and with oxygen level less than 5 percent except under the following conditions: (1) A fire or increased well temperature; or (2) at a wellhead within the immediate vicinity of filling. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decompositions by killing methanogens. [40 CFR 60.753(c) and 62.14354(b)] Federally Enforceable Through Title V Permit
45. The collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill, and such that all collected gases are sent to a control system designed and operated in compliance with 60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. [40 CFR 60.753(d), (e), 60.755(c), and 62.14354(b)] Federally Enforceable Through Title V Permit
46. If monitoring demonstrates that the operational requirements are not met, corrective action shall be taken as specified in 40 CFR 60.755(a)(3 - 5) or (c). [40 CFR 60.753(g) and 62.14354(b)] Federally Enforceable Through Title V Permit
47. For each interior wellhead, unless an alternative test method is established as allowed by 60.752(b)(2)(i) of this subpart, the oxygen shall be determined by a Landtec GEM gas meter or equal, in accordance with the equipment requirements set forth in 40 CFR 60.753 for field measurement of temperature and oxygen or an oxygen meter using Method 3A or 3C except that: (i) The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; (ii) A data recorder is not required; (iii) Only two calibration gases are required, a zero and span, and ambient air may be used as the span; (iv) A calibration error check is not required; (v) The allowable sample bias, zero drift, and calibration drift are +/-10 percent. [40 CFR 60.753(c)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
48. Surface emission monitoring shall be performed in accordance with section 4.3.1 of Method 21 of appendix A, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. Any reading of 500 parts per million or more above background at any location shall be recorded as a monitored exceedance and the actions specified in 40 CFR 60.755(c)(4)(i-v) shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of 60.753(d). [40 CFR 60.755(c)(3), (4) and 62.14354(b)] Federally Enforceable Through Title V Permit
49. Permittee shall calculate the NMOC emission rate for purposes of determining when the collection and control system can be removed as provided in 40 CFR 60.752(b)(2)(v) by using the equation found in 40 CFR 60.754(b). [40 CFR 60.754(b) and 62.14354(b)] Federally Enforceable Through Title V Permit
50. For the performance test required in 60.752(b)(2)(iii)(B), Method 25, 25C, or Method 18 of Appendix A must be used to determine compliance with the 98 weight percent efficiency or the 20 ppmv outlet concentration level, unless another method to demonstrate compliance has been approved by the APCO as provided by 60.752(b)(2)(i)(B). Method 3 or 3A shall be used to determine oxygen for correcting the NMOC concentration as hexane to 3 percent. In cases where the outlet concentration is less than 50 ppm NMOC as carbon (8 ppm NMOC as hexane), Method 25A should be used in place of Method 25. If using Method 18 of appendix A, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42). The following equation shall be used to calculate efficiency: $(\text{NMOC}_{\text{in}} - \text{NMOC}_{\text{out}}) / \text{NMOC}_{\text{in}}$. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081 and 40 CFR 60.754(d) and 62.14354(b)] Federally Enforceable Through Title V Permit
51. Each owner or operator shall place each well or design component as specified in the approved design plan as provided in 40 CFR 60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of: 1) 5 years or more if active or 2) 2 years or more if closed or at final grade. [40 CFR 60.755(b) and 62.14354(b)] Federally Enforceable Through Title V Permit
52. For the purposes of calculating the maximum expected gas generation flow rate from the landfill to determine compliance with 60.752(b)(2)(ii)(A)(1), one of the equations in Section 60.755(a)(1)(i) or (ii) or (iii) shall be used. [40 CFR 60.755(a)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. For the purposes of determining sufficient density of gas collectors for compliance with 60.752(b)(2)(ii)(A)(2), the owner or operator shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the APCO, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards. [40 CFR 60.755(a)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
54. Owners or operators are not required to expand the system as required in paragraph 60.755(a)(3) during the first 180 days after gas collection system startup. [40 CFR 60.755(a)(4) and 62.14354(b)] Federally Enforceable Through Title V Permit
55. The provisions of this subpart apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(e) and 62.14354(b)] Federally Enforceable Through Title V Permit
56. Surface monitoring shall be performed on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in 40 CFR 60.755(d). [40 CFR 60.755(c)(1) and 62.14354(b)] Federally Enforceable Through Title V Permit
57. When performing surface monitoring, the background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. [40 CFR 60.755(c)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
58. Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis. [40 CFR 60.755(c)(5) and 40 CFR 62.14354(b)] Federally Enforceable Through Title V Permit
59. The portable analyzer shall meet the instrument specifications of Method 21, section 3 (except that "methane" shall replace all references to VOC). The calibration gas shall be methane, diluted to a nominal concentration of 500 parts per million in air. To meet the performance evaluation requirements of Method 21, section 3.1.3, the instrument evaluation procedures of Method 21, section 4.4 shall be used. The calibration procedures provided in Method 21, section 4.2 shall be followed immediately before commencing a surface monitoring survey. The provisions of this condition apply at all times, except during periods of start-up, shutdown, or malfunction which shall not exceed 5 days for collections systems and shall not exceed 1 hour for treatment or control devices. [40 CFR 60.755(d), (e) and 62.14354(b)] Federally Enforceable Through Title V Permit
60. Each wellhead shall have a sampling port and a thermometer, other temperature-measuring device, or an access port for temperature measurements. [40 CFR 60.756(a)] Federally Enforceable Through Title V Permit
61. The enclosed flares shall be equipped with a temperature monitoring device equipped with a continuous recorder and having a minimum accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 degrees Celsius, whichever is greater. The temperature indicator and recorder must operate continuously. [District Rule 2201 and 40 CFR 60.756(b)(1) and 62.14354(b) and 40 CFR part 64] Federally Enforceable Through Title V Permit
62. The owner/operator shall install, calibrate, maintain, and operate a meter with a continuous recording device that measures and records the landfill gas flow rate into the flare at least once every 15 minutes. This meter shall also be capable of measuring the landfill gas flow rate that might bypass the flare in the event of equipment malfunction or maintenance. [40 CFR 60.754(b)(1), 60.756(b)(2) and 62.14354(b)] Federally Enforceable Through Title V Permit
63. When performing surface monitoring, any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. [40 CFR 60.756(f) and 62.14354(b)] Federally Enforceable Through Title V Permit
64. The operator shall monitor and record maintenance-related and other control system downtimes and individual well shutdowns. Exceedances defined under 60.758(c) shall be reported once every 180 days. [District Rule 4102 and 40 CFR 60.757(f), (g)(4) and 60.758(c) and (e), and 62.14354(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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65. Except as provided in 60.752(b)(2)(i)(B), each owner or operator of a controlled landfill shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in paragraphs 60.758(b)(1) through (b)(4) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the control device vendor specifications shall be maintained until removal. [40 CFR 60.758(b) and 62.14354(b)] Federally Enforceable Through Title V Permit
66. Permittee shall keep the following records: (1)(i) the maximum expected gas generation flow rate as calculated in 60.755(a)(1). The owner or operator may use another method to determine the maximum gas generation flow rate, if the method has been approved by the APCO; (ii) the density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in 60.759(a)(1); (2)(i) the average combustion temperature measured at least every 15 minutes and averaged over the same time period of the performance test; (ii) the percent reduction of NMOC determined as specified in 60.752(b)(2)(iii)(B) achieved by the control device. [40 CFR 60.758(b)(1) and (2) and 62.14354(b)] Federally Enforceable Through Title V Permit
67. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep, for the life of the collection system, an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector. If applicable, permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or nondegradable waste excluded from collection as well as any nonproductive areas excluded from collection. [40 CFR 60.758(d), 62.14354(b), and 60.34(c)] Federally Enforceable Through Title V Permit
68. Except as provided in 60.752(b)(2)(i)(B), permittee shall keep for at least 5 years up-to-date, readily accessible records of all collection and control system exceedances of the operational standards in 60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. [40 CFR 60.758(e)] Federally Enforceable Through Title V Permit
69. The landfill is no longer required to comply with the requirements of 40 CFR Part 63 Subpart AAAA when it is no longer required to apply controls as specified in the Federal plan or EPA approved and effective State plan or tribal plan that implements 40 CFR part 60, subpart Cc. [40 CFR 63.1950] Federally Enforceable Through Title V Permit
70. The permittee shall comply with the general provisions specified in Table 1 of 40 CFR Part 63 Subpart AAAA and 63.1960 through 63.1985 starting on the date required to install the gas collection and control system. [40 CFR 63.1955(b)] Federally Enforceable Through Title V Permit
71. The permittee shall maintain a copy of the SSM plan written according to the provisions in 40 CFR 63.6(e)(3). Failure to maintain a copy of the SSM plan is a deviation from the requirements of this subpart. [40 CFR 63.1960] Federally Enforceable Through Title V Permit
72. The permittee shall keep records and reports as specified in the Federal plan, EPA approved State plan or tribal plan that implements 40 CFR part 60, subpart Cc. The annual report described in 40 CFR 60.757(f) must be submitted every 6 months. [40 CFR 63.1980(a)] Federally Enforceable Through Title V Permit
73. The permittee shall maintain records as specified in the general provisions of 40 CFR part 60 and this part as shown in Table 1 of this subpart. Applicable records in the general provisions include items such as SSM plans and the SSM plan reports. [40 CFR 63.1980(b)] Federally Enforceable Through Title V Permit
74. The enclosed flare burner and its associated components and the vapor collection system shall be inspected on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR part 64] Federally Enforceable Through Title V Permit
75. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
76. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

77. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit
78. All records shall be retained for a minimum of 5 years, and shall be made available for District inspection upon request. [District Rule 1070 and 40 CFR 60.758(a) and (b) and 62.14354(b)] Federally Enforceable Through Title V Permit
79. Permittee may use actual landfill gas generation values in future expansion designs of the gas collection and control system(GCCS). All records and recovery data shall be submitted with GCCS plans. [17 CCR 95468]
80. Landfill collection and control system must be operated such that methane emission from the landfill do not exceed instantaneous or integrated limit requirements. [17 CCR 95464]
81. Landfill gas collection system components downstream of blower have a leak limit of 500 ppmv as methane. Components must be checked quarterly. If compliance with the methane limit has been demonstrated for 4 consecutive quarters, then the component checking frequency shall be annually. If an annual test fails to show compliance, quarterly testing shall resume. [17 CCR 95464]
82. Landfill collection and control system must be operated such that landfill surface methane emissions shall not exceed instantaneous surface emission limit of 500 ppmv as methane or integrated surface emission limit of 25 ppmv as methane. [17 CCR 95464, 17 CCR 95465]
83. Instantaneous and integrated landfill surface emissions measurements shall be done quarterly. The landfill may monitor annually provided they comply with requirements of 17 CCR 95469 (a)(1). [17 CCR 95469]
84. Permittee shall keep records of all gas collection system downtime exceeding five days, including individual well shutdown and disconnection times and the reason for downtime. [17 CCR 95470]
85. Permittee shall keep records of all gas control system downtime in excess of one hour, the reason for the downtime and the length of time the gas control system was shutdown. [17 CCR 95470]
86. Permittee shall keep records of the expected gas generation flow rate calculated pursuant to section 95471(e). [17 CCR 95470]
87. Permittee shall keep records of all instantaneous surface readings of 200 ppmv or greater; all exceedances of the limits in sections 95464(b)(1)(B) or 95465, including the location of the leak (or affected grid), leak concentration in ppmv, date and time of measurement, the action taken to repair the leak, date of repair, any required re-monitoring and the re-monitored concentration in ppmv, and wind speed during surface sampling; and the installation date and location of each well installed as part of a gas collection system expansion. [17 CCR 95470]
88. Permittee shall keep records of any positive wellhead gauge pressure measurements, the date of the measurements, the well identification number, and the corrective action taken. [17 CCR 95470]
89. Permittee shall conduct surface emission monitoring using either the procedures specified in section 95471 or the Los Angeles County Sanitation District monitoring procedure. Permittee shall keep records of which procedure was used. [17 CCR 95468]
90. Permittee shall keep records of delays encountered during repair of leaks or repair of positive wellhead readings. Documentation of delays shall be submitted with the annual report. [17 CCR 95468]
91. Permittee shall keep records of alternate landfill gas collection system modifications being implemented to correct an exceedance in the landfill gas surface emissions or wellhead pressure. Any alternative to installing a new well shall be documented and submitted with the annual report. [17 CCR 95468]
92. Permittee shall identify areas which are dangerous and unable to be inspected. Areas shall be clearly identified on a map of the facility. A copy of the map shall be kept onsite as well as submitted with the annual report. [17 CCR 95468]
93. Permittee shall conduct monitoring of the landfill surface within 3 inches of the surface. The facility may monitor surface emissions with the probe tip at the height of the vegetation if there is vegetation and it is impractical to monitor at 3 inches from the landfill surface. [17 CCR 95468]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

94. Permittee shall terminate surface emission testing when the measured average wind speed is over 15 mph or the instantaneous wind speed is over 30 mph. [17 CCR 95468, 17 CCR 95471]
95. Permittee shall only conduct surface emission testing when precipitation has met the following requirements. It has been 24 hours since measured precipitation of 0.01 to 0.15 inches. It has been 48 hours since measured precipitation of 0.16 to 0.24 inches. It has been 72 hours since measured precipitation of 0.25 or more inches. [17 CCR 95468]
96. Permittee shall keep records of the annual solid waste acceptance rate and the current amount of waste-in-place. [17 CCR 95470]
97. Permittee shall keep records of the nature, location, amount, and date of deposition of non-degradable waste for any landfill areas excluded from the collection system. [17 CCR 95470]
98. Permittee shall keep records of any source tests conducted pursuant to section 95464(b)(4). [17 CCR 95470]
99. Permittee shall keep records describing the mitigation measures taken to prevent the release of methane or other emissions into the atmosphere during the following activities: 1. When solid waste was brought to the surface during the installation or preparation of wells, piping, or other equipment; 2. During repairs or the temporary shutdown of gas collection system components; or, 3. When solid waste was excavated and moved. [17 CCR 95470]
100. Permittee shall keep records of any construction activities pursuant to section 95466. The records must contain the following information: 1. A description of the actions being taken, the areas of the MSW landfill that will be affected by these actions, the reason the actions are required, and any landfill gas collection system components that will be affected by these actions. 2. Construction start and finish dates, projected equipment installation dates, and projected shut down times for individual gas collection system components. 3. A description of the mitigation measures taken to minimize methane emissions and other potential air quality impacts. [17 CCR 95470]
101. Permittee shall keep records of the equipment operating parameters specified to be monitored under section 95469(b)(1) as well as records for periods of operation during which the parameter boundaries established during the most recent source test are exceeded. The records must include the following information: 1. For enclosed flares, all 3-hour periods of operation during which the average temperature difference was more than 28 degrees Celsius (or 50 degrees Fahrenheit) below the average combustion temperature during the most recent source test at which compliance with sections 95464(b)(2) was determined and a gas flow rate device which must record the flow to the control device at least every 15 minutes. [17 CCR 95470]
102. Permittee shall submit the following reports as required in section 95470(b): Closure notification, Equipment removal report and Annual report. All reports must be accompanied by a certification of truth, accuracy, and completeness signed by a responsible official. [17 CCR 95470]
103. Permittee may comply with the CARB regulation for landfill methane control measures by using approved alternative compliance options. The permittee shall obtain written District approval for the use of any alternative compliance options not approved by this permit. Changes to the approved alternate compliance options must be made and approved in writing. Documentation of approved alternative compliance options shall be available for inspection upon request. [17 CCR 95468]

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-3115-3-2

EXPIRATION DATE: 07/31/2021

EQUIPMENT DESCRIPTION:

755 BHP CUMMINS MODEL QSX15-69 DIESEL-FIRED EMERGENCY IC ENGINE POWERING AN ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

1. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
3. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115] Federally Enforceable Through Title V Permit
4. This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702, 17 CCR 93115, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
5. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] Federally Enforceable Through Title V Permit
6. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702] Federally Enforceable Through Title V Permit
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
8. During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702 and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
9. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702, 17 CCR 93115, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
10. Operation of this engine for all purposes combined shall not exceed 10 hours per day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

12. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
13. Emissions from this engine shall not exceed any of the following limits: 5.7 g-NO_x/hp-hr, 0.4 g-CO/hp/hr or 0.14 g-VOC/hp-hr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The PM₁₀ emissions rate shall not exceed 0.08 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]
16. The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] Federally Enforceable Through Title V Permit
17. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. For units at unstaffed sites or operated remotely, records may be maintained and retained at a District-approved off-site location. [District Rule 4702, 17 CCR 93115, and 40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
18. The engine's oil and filter shall be changed every 500 hours of operation or every 12 months, whichever comes first. [40 CFR Subpart ZZZZ] Federally Enforceable Through Title V Permit
19. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
20. The engine's air filter shall be inspected every 1,000 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
21. The engine's hoses and belts shall be inspected every 500 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
22. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of action taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
23. The engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

SELF-DEALING TRANSACTION DISCLOSURE FORM

(1) Company Board Member Information:

Name: _____ Date: _____

Job Title: _____

(2) Company/Agency Name and Address:

(3) Disclosure (Please describe the nature of the self-dealing transaction you are a party to)

(4) Explain why this self-dealing transaction is consistent with the requirements of Corporations Code 5233 (a)

(5) Authorized Signature

Signature: _____ Date: _____

SELF-DEALING TRANSACTION DISCLOSURE FORM INSTRUCTIONS

In order to conduct business with the County of Fresno (hereinafter referred to as “County”), members of a contractor’s board of directors (hereinafter referred to as “County Contractor”), must disclose any self-dealing transactions that they are a party to while providing goods, performing services, or both for the County. A self-dealing transaction is defined below:

“A self-dealing transaction means a transaction to which the corporation is a party and which one or more of its directors has a material financial interest”

The definition above will be utilized for purposes of completing the disclosure form.

- (1) Enter board member’s name, job title (if applicable), and date this disclosure is being made.
- (2) Enter the board member’s company/agency name and address.
- (3) Describe in detail the nature of the self-dealing transaction that is being disclosed to the County. At a minimum, include a description of the following:
 - a. The name of the agency/company with which the corporation has the transaction; and
 - b. The nature of the material financial interest in the Corporation’s transaction that the board member has.
- (4) Describe in detail why the self-dealing transaction is appropriate based on applicable provisions of the Corporations Codes.
- (5) Form must be signed by the board member that is involved in the self-dealing transaction described in Sections (3) and (4).

expression, age, sexual orientation, or military and veteran status. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.

2. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, § 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code, §§ 11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article.
3. Contractor or recipient shall permit access by representatives of the Department of Fair Employment and Housing and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause.
4. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
5. The contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

Under 2 CA Code of Regs § 11122:

STANDARD CALIFORNIA NONDISCRIMINATION CONSTRUCTION CONTRACT SPECIFICATIONS (GOV. CODE SECTION 12990)

These specifications are applicable to all state contractors and subcontractors having a construction contract or subcontract of \$5,000 or more.

1. As used in the specifications:
 - a. "Act" means the Fair Employment and Housing Act.
 - b. "Administrator" means Administrator, Office of Compliance Programs, California Department of Fair Employment and Housing, or any person to whom the Administrator delegates authority;
2. Whenever the contractor or any subcontractor subcontracts a portion of the work, it shall include in each subcontract of \$5,000 or more the nondiscrimination clause in this contract directly or through incorporation by reference. Any subcontract for work involving a construction trade shall also include the Standard California Construction Contract Specifications, either directly or through incorporation by reference.
3. The contractor shall implement the specific nondiscrimination standards provided in paragraphs 6(a) through (e) of these specifications.
4. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer members of any group protected by the Act shall excuse the contractor's obligations under these specifications, Government Code section 12990, or the regulations promulgated pursuant thereto.5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
6. The contractor shall take specific actions to implement its nondiscrimination program. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor must be able to demonstrate fully its efforts under steps a. through e. below:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and at all facilities at which the contractor's employees are assigned to work. The contractor shall specifically ensure that all foremen, superintendents, and other on-site

- supervisory personnel are aware of and carry out the contractor's obligations to maintain such a working environment.
- b. Provide written notification within seven days to the director of the DFEH when the referral process of the union or unions with which the contractor has a collective bargaining agreement has impeded the contractor's efforts to meet its obligations.
 - c. Disseminate the contractor's equal employment opportunity policy by providing notice of the policy to unions and training, recruitment and outreach programs and requesting their cooperation in assisting the contractor to meet its obligations; and by posting the company policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - d. Ensure all personnel making management and employment decisions regarding hiring, assignment, layoff, termination, conditions of work, training, rates of pay or other employment decisions, including all supervisory personnel, superintendents, general foremen, on-site foremen, etc., are aware of the contractor's equal employment opportunity policy and obligations, and discharge their responsibilities accordingly.
 - e. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the equal employment opportunity policy and the contractor's obligations under these specifications are being carried out.
7. Contractors are encouraged to participate in voluntary associations that assist in fulfilling their equal employment opportunity obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on equal employment opportunity in the industry, ensures that the concrete benefits of the program are reflected in the contractor's workforce participation, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's.
 8. The contractor is required to provide equal employment opportunity for all persons. Consequently, the contractor may be in violation of the Fair Employment and Housing Act (Government Code section 12990 et seq.) if a particular group is employed in a substantially disparate manner.
 9. The contractor shall not use the nondiscrimination standards to discriminate against any person because race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status.
 10. The contractor shall not enter into any subcontract with any person or firm decertified from state contracts pursuant to Government Code section 12990.
 11. The contractor shall carry out such sanctions and penalties for violation of these specifications and the nondiscrimination clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Government Code section 12990 and its implementing regulations by the awarding agency. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Government Code section 12990.
 12. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company equal employment opportunity policy is being carried out, to submit reports relating to the provisions hereof as may be required by OCP and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, status, (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in any easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

Add to the end of the 2nd sentence in the 1st paragraph of section 7-1.02K(1):

, and hauling and delivery of ready-mixed concrete.

04-22-16

Add between the 4th and 5th paragraphs of section 7-1.02K(3):

04-22-16

Submitted certified payrolls for hauling and delivering ready-mixed concrete must be accompanied by a written time record. The time record must include:

1. Truck driver's full name and address
2. Name and address of the factory or batching plant
3. Time the concrete was loaded at the factory or batching plant
4. Time the truck returned to the factory or batching plant
5. Truck driver's signature certifying under penalty of perjury that the information contained in this written time record is true and correct

Add between the 9th and 10th paragraphs of section 7-1.03:

07-15-16

If a height differential of more than 0.04 foot is created by construction activities at a joint transverse to the direction of traffic on the traveled way or a shoulder subject to public traffic, construct a temporary taper at the joint with a slope complying with the requirements shown in the following table:

Temporary Tapers

Height differential (foot)	Slope (horizontal:vertical)	
	Taper use of 14 days or less	Taper use of more than 14 days
Greater than 0.08	100:1 or flatter	200:1 or flatter
0.04–0.08	70:1 or flatter	70:1 or flatter

For a taper on existing asphalt concrete or concrete pavement, construct the taper with minor HMA under section 39-2.07.

Grind existing surfaces to accommodate a minimum taper thickness of 0.10 foot under either of the following conditions:

1. HMA material such as rubberized HMA, polymer-modified bonded wearing course, or open-graded friction course is unsuitable for raking to a maximum 0.02 foot thickness at the edge
2. Taper will be in place for more than 14 days

For a taper on a bridge deck or approach slab, construct the taper with polyester concrete under section 60-3.04B.

The completed surface of the taper must be uniform and must not vary more than 0.02 foot from the lower edge of a 12-foot straightedge when placed on its surface parallel and perpendicular to traffic.

If authorized, you may use alternative materials or methods to construct the required taper.

Replace § 337.15 in the 3rd item in the list in the paragraph of section 7-1.06B with:

05-06-16

§ 337.1

Add between the 1st and 2nd paragraphs of section 7-1.11A:

02-12-16

Comply with 46 CFR 381.7(a)–(b).

AA

To prevent encroachment onto the traveled way where the useable shoulder area is less than 15 feet wide, you may use a smaller message panel with at least 12-inch-high characters.

The message displayed on the sign must be visible from a distance of 1,500 feet and legible from a distance of 750 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20.

The characters on a sign panel may be 10 inches in height if:

1. PCMS is mounted on a service patrol truck or other incident response vehicle or used for traffic control operations on a highway facility where the posted speed limit is less than 40 mph
2. Message is legible from a distance of at least 650 feet at noon on a cloudless day and during the night by persons with 20/20 vision or vision corrected to 20/20

A matrix sign must provide a complete alphanumeric selection.

A PCMS must automatically adjust its brightness under varying light conditions to maintain the legibility of the message. The sign must be equipped with an automatic-dimming mode that automatically compensates for the influence of temporary light sources or abnormal lighting conditions. The sign must have 3 or more manual dimming modes of different intensities.

During the hours of darkness, a matrix sign not using lamps must be either internally or externally illuminated.

The controller must be an all solid-state unit containing the necessary circuitry for the storage of at least 5 preprogrammed messages. The controller must be installed at a location that allows the operator to perform all functions from a single position. The controller must have a keyboard entry system that allows the operator to generate an infinite number of additional messages in addition to the preprogrammed stored messages. The keyboard must be equipped with a security lockout feature to prevent unauthorized use of the controller.

The controller must have:

1. Nonvolatile memory that stores keyboard-created messages during periods when the power is not activated
2. Variable display rate that allows the operator to match the information display to the speed of approaching traffic
3. Screen upon which messages may be reviewed before being displayed on the sign

The flashing-off time must be adjustable from within the control cabinet.

12-3.32C Construction

Place a PCMS as far from the traveled way as practicable where it is legible to approaching traffic without encroaching on the traveled way. Where the vertical roadway curvature restricts the sight distance of approaching traffic, place the sign on or before the crest of the curvature where it is most visible to the approaching traffic. Where the horizontal roadway curvature restricts the sight distance of approaching traffic, place the sign at or before the curve where it is most visible to approaching traffic. Where practicable, place the sign behind guardrail or Type K temporary railing.

Make a taper consisting of 9 traffic cones placed 25 feet apart to delineate the location of a PCMS except where the sign is placed behind guardrail or Type K temporary railing.

When in full operation, the bottom of a sign must be at least 7 feet above the roadway in areas where pedestrians are anticipated and 5 feet above the roadway elsewhere, and the top of the sign must be not more than 14.5 feet above the roadway.

Operate the PCMS under the manufacturer's instructions.

Keep the PCMS clean to provide maximum visibility.

If multiple signs are needed, place each sign on the same side of the road at least 1,000 feet apart on freeways and expressways and at least 500 feet apart on other types of highways.

If more than one PCMS is simultaneously visible to traffic, only 1 sign may display a sequential message at any time. Do not use dynamic message displays, such as animation, rapid flashing, dissolving, exploding, scrolling, horizontal movement, or vertical movement of messages. The message must be centered within each line of the display.

You may use an additional PCMS if more than 2 phases are needed to display a message.

Display only messages shown or ordered.

Repeat the entire message continuously in not more than 2 phases of at least 3 seconds per phase. The sum of the display times for both of the phases must be a maximum of 8 seconds. If more than 2 phases are needed to display a message, use an additional PCMS.

You must be available by cell phone during activities that require a sign. Be prepared to immediately change the displayed message if ordered. You may operate the sign with a 24-hour timer control or remote control if authorized.

After the initial placement, move a sign from location to location as ordered.

When a PCMS is not in use, move it to an area at least 15 feet from the edge of the traveled way or remove it from the job site away from traffic.

12-3.32D Payment

Not Used

Add between the 1st sentence and 2nd sentences in the 1st paragraph of section 12-4.02A(3)(a):

07-15-16

For a project in District 7, submit the request at least 15 days before the proposed closure date.

Replace section 12-4.02C(2) with:

01-15-16

12-4.02C(2) Lane Closure System

12-4.02C(2)(a) General

The Department provides LCS training. Request the LCS training at least 30 days before submitting the 1st closure request. The Department provides the training within 15 days after your request.

LCS training is web-based or held at a time and location agreed upon by you and the Engineer. For web-based training, the Engineer provides you the website address to access the training.

With 5 business days after completion of the training, the Department provides LCS accounts and user IDs to your assigned, trained representatives.

Each representative must maintain a unique password and current user information in the LCS.

04-15-16

The project is not accessible in LCS after Contract acceptance.

01-15-16

12-4.02C(2)(b) Status Updates for Authorized Closures

Update the status of authorized closures using the LCS Mobile web page.

For a stationary closure, use code:

1. 10-97 immediately before you place the 1st advance warning sign
2. 10-98 immediately after you remove all of the advance warning signs

For a moving closure, use code:

1. 10-97 immediately before the actual start time of the closure
2. 10-98 immediately after the actual end time of the closure

AA

16 TEMPORARY FACILITIES

04-15-16

Add between the 1st and 2nd sentences of section 16-2.03A(1):

04-15-16

Constructing a high-visibility fence includes the installation of any signs specified in the special provisions.

BID BOOK

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

18950 W American Ave, Kerman, CA 93630

BUDGET / ACCOUNT: 9026 / 8150



Department of Public Works and Planning

CONTRACT NUMBER 20-18-SW

BID BOOK TABLE OF CONTENTS

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION CONTRACT NUMBER 20-18-SW

PROPOSAL NUMBER(S)	TITLE
NOT APPLICABLE	INSTRUCTIONS FOR COMPLETING THE BID BOOK
1	PROPOSAL TO THE BOARD OF SUPERVISORS OF THE COUNTY OF FRESNO
2	BID ITEM LIST
3	EVALUATION OF BID ITEM LIST
4	BID SECURITY
5	NON-COLLUSION DECLARATION
6	PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT
7	PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE AND PUBLIC CONTRACT CODE 10232 STATEMENT
8(A) – 8(I)	SUBCONTRACTORS
9 - 16	NOT USED
17	GUARANTY

INSTRUCTIONS FOR COMPLETING THE BID BOOK FOR NON-FEDERAL AID PROJECTS

General

Complete forms in the *Bid* book.

Submit an electronic bid online at <http://www.BidExpress.com> (Section 2-1.33D) or submit a hardcopy bid:

1. Under sealed cover addressed to the Department and labeled with the name of the bidder, the name of the project and the statement 'Do Not Open Until The Time Of Bid Opening.'
2. Marked as a bid
3. Identifying the contract number and the bid opening date

Certain bid forms must be submitted with the bid and properly executed.

Certain other forms and information must be submitted either with the bid or within the prescribed period after bid opening as specified elsewhere in these special provisions.

Failure to submit the forms and information as specified results in a nonresponsive bid.

If an agent other than the authorized corporation officer or a partnership member signs the bid, file a Power of Attorney with the Department either before opening bids or with the bid. Otherwise, the bid may be nonresponsive.

Bid Item List and Bid Comparison

Submit a bid based on the bid item quantities the Department shows on the Bid Item List. Bids will be evaluated and the low bidder determined as indicated in the *Notice to Bidders*.

Bid Document Completion

Proposal items are identified by title and by the word "Proposal" followed by the number assigned to the proposal item in question. Proposal items are included in the *Bid Book*.

Proposal to the Board of Supervisors of Fresno County – Proposal 1

Provided for information.

Bid Item List – Proposal 2

One or more sheet(s) or list(s) upon which the bidder completes the bid.

Fill out completely including a unit price and total for each unit price-based item and a total for each lump sum item.

Do not make any additions such as "plus tax", "plus freight", or conditions such as "less 2% if paid by 15th".

Use ink or typewriter for paper bids.

Evaluation of Bid Item List – Proposal 3

Describes how inconsistencies and irregularities are evaluated and corrected when Design Services reviews the Bid Item List.

Bid Security and Signature – Proposal 4

Submit one of the following forms of bidder's security equal to at least 10 percent of the bid:

- Cash
- Cashier's check
- Certified check
- Signed bidder's bond by an admitted surety insurer

Indicate type of bid security provided.

- Cash – Acceptable but not recommended. Cash is deposited in a clearing account and is returned to bidders by County warrant. This process may take several weeks.
- Cashier's or Certified Checks. This type of security is held until the bid is no longer under consideration. If submitted by a potential awardee, they will be returned when the contract is fully executed by the bidder and bonds and insurance have been approved.
- Bid Bonds - Must be signed by the bidder and by the attorney-in-fact for the bonding company. Provide notarized signature of attorney-in-fact accompanied by bonding company's affidavit authorizing attorney-in-fact to execute bonds. An unsigned bid bond will be cause for rejection.

Acknowledge Addenda

Provide contractor's license information.

State business name and if business is a:

- Corporation - list officers
- Partnership - list partners
- Joint Venture - list members; if members are corporations or partnerships, list their officers or partners.
- Individual - list Owner's name and firm name style

Signature of Bidder - the following lists types of companies and corresponding authorized signers.

- Corporation - by an officer
- Partnership - by a partner
- Joint Venture - by a member
- Individual - by the Owner

If signature is by a Branch Manager, Estimator, Agent, etc., the bid must be accompanied by a power of attorney authorizing the individual to sign the bid in question or to sign bids more generally, otherwise the bid may be rejected.

- Business Address - Firm's Street Address
- Mailing Address - P.O. Box or Street Address
- Complete, sign, and return with bid.

Noncollusion Declaration – Proposal 5

Must be completed, signed, and returned with bid.

Public Contract Code Section 10285.1 Statement – Proposal 6

Select “has” or “has not” in accordance with instructions on form, return with completed for with bid. Note that signing the bid constitutes signing this statement.

Public Contract Code Section 10162 Questionnaire And Public Contract Code 10232 Statement – Proposal 7

Select “yes” or “no” accordance with instructions on form, include explanation if “yes” is selected. Return completed form with bid. Note that signing the bid constitutes signing this questionnaire and statement.

Subcontractors – Proposal 8(a) through Proposal 8(f)

Sheet(s) or spaces where bidders list subcontractors. List each subcontractor to perform work in an amount in excess of 1/2 of 1 percent of the total bid (Pub Cont Code § 4100 et seq.).

The *Subcontractor List* submitted with the bid must show the name, location of business, work portions to be performed, and the contractor’s license number for each subcontractor listed.

- Use subcontractor’s business name style as registered with the License Board.
- Specify the city in which the subcontractor’s business is located and the state if other than California.
- Description of the work to be performed by the subcontractor. Indicate with bid item numbers from the bid item list and/or work descriptions similar to those on bid item list.
- List license number for each subcontractor.

Upon request from Design Services, provide the following additional information within 24 hours of bid opening if not included on the *Subcontractor List* submitted with the bid:

- Complete physical address for each subcontractor listed.
- Percentage of the total bid or dollar amount associated with each subcontractor listed.
- Department of Industrial Relations registration number.

Proposal 9 - Proposal 16 – Not Used

Guaranty - Proposal 17

Does not need to be signed with the bid. Part of the contract which must be signed by the contractor when contract is executed.

PROPOSAL TO THE BOARD OF SUPERVISORS OF THE COUNTY OF FRESNO

hereinafter called the Owner

**AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL
GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION**

18950 W American Ave, Kerman, CA 93630

The work embraced herein shall be done in accordance with the 2015 Standard Specifications and with the 2015 Standard Plans, of the State of California, Department of Transportation insofar as the same may apply and in accordance with these special provisions.

Except to the extent that they may conflict with these special provisions, revised Standard Specifications apply to the extent included in the section entitled "Project Details" of the book entitled "Specifications."

The work to be done is shown on a set of Plans, Department File No. 11307, entitled: "American Avenue Disposal Site Phase III Modules 3-8 Landfill Gas Collection and Control System (LFGCCS) Expansion"

The undersigned, as bidder, declares that the only persons, or parties interested in this proposal as principals are those named herein, that this proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes and agrees if this proposal is accepted, that he will contract with the Owner to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefor the following unit prices, to-wit:

COUNTY OF FRESNO
DEPARTMENT OF PUBLIC WORKS AND PLANNING
AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

BID ITEM LIST

ITEM No.	QUANTITY	F	UNIT OF MEASURE	ITEM	ITEM PRICE	TOTAL PRICE
1	1		LS	SUPPLEMENTAL WORK	\$ 50,000.00	\$ 50,000.00
2	1		LS	MOBILIZATION/DEMOBILIZATION		
3	1		LS	TRAFFIC CONTROL		
4	1		LS	CONSTRUCTION SITE MANAGEMENT		
5	1		LS	GRADE CHECKING		
6	1,126		LF	VERTICAL LANDFILL GAS WELL DRILLING		
7	1,195		LF	VERTICAL LANDFILL GAS EXTRACTION WELL INSTALLATION AND BACKFILL		
8	15,400		LF	HORIZONTAL LANDFILL GAS WELL INSTALLATION AND BACKFILL		
9	38		EA	VERTICAL AND HORIZONTAL LANDFILL GAS EXTRACTION WELL WELLHEAD INSTALLATION AND CONNECTION TO LATERAL		
10	113		LF	LANDFILL GAS EXTRACTION WELL, DRILL TO REFUSAL AND BACKFILL		
11	3,500		LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-9 AIR SUPPLY PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS		
12	3,500		LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-11 CONDENSATE FORCE MAIN PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS		
13	6,600		LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 6-INCH FITTINGS		
14	1,400		LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 6-INCH FITTINGS		
15	500		LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 12-INCH FITTINGS		
16	220		LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 12-INCH FITTINGS		
17	620		LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING, WITH GUIDES (ABOVE GRADE) AND 18-INCH FITTINGS		
18	2,600		LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 18-INCH FITTINGS		
19	24		EA	PROVIDE AND INSTALL 6-INCH VALVES		
20	1		EA	PROVIDE AND INSTALL 12-INCH VALVES		
21	4		EA	PROVIDE AND INSTALL 18-INCH VALVES		
22	320		LF	PROVIDE AND INSTALL 12-INCH CORRUGATED STEEL PIPE (CSP) AND ROAD CROSSINGS		
23	40		LF	PROVIDE AND INSTALL 18-INCH CSP AND ROAD CROSSINGS		
24	5		EA	CONNECT EXISTING LEACHATE COLLECTION AND REMOVAL SYSTEM (LCRS) RISER 10-INCH LFG LATERALS TO 18-INCH HEADER, WITH WELLHEAD, FITTINGS, AND OTHER APPURTENANCES		
25	6		EA	PROVIDE AND INSTALL NEW CONDENSATE SUMP WITH FITTINGS AND OTHER APPURTENANCES		
26	1		EA	CONNECT LFG HEADER DRAIN TO EXISTING CONDENSATE SUMP		
TOTAL BID (ITEMS 1-26)						

EVALUATION OF BID PROPOSAL ITEM LIST

Abbreviations used in the bid proposal sheet are identified in Section 1-1.06, "Abbreviations," of these special provisions.

Bids are required for the entire work. Bids will be compared on the basis indicated in the Notice to Bidders. The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;
- (b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentage-wise the unit price or item total in the Owner's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise, if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the Owner, and that discretion will be exercised in the manner deemed by the Owner to best protect the public interest in the prompt and economical completion of the work. The decision of the Owner respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this proposal shall be accepted and the undersigned shall fail to contract, as aforesaid, and to give the two bonds in the sums to be determined as aforesaid, with surety satisfactory to the Owner, within eight (8) days not including Saturdays, Sundays and legal holidays, after the bidder has received notice of award of the contract, the Owner, at its option, may determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void, and the forfeiture of such security accompanying this proposal shall operate and the same shall be the property of the Owner.

BID SECURITY AND SIGNATURE

Accompanying this proposal is security (check one only) in amount equal to at least ten percent (10%) of the total amount of the bid:

Bid Bond () ; Certified Check () ; Cashier's Check () ; Cash (\$)

Bidder has and acknowledges the following addenda: _____

The names of all persons interested in the foregoing proposal as principals are as follows:

IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last name in full.

FIRM NAME _____

Licensed in accordance with an act providing for the registration of Contractors,

Class _____ License No. _____ Expires _____

DIR Registration Number _____

Signature of Bidder

Dated

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if bidder is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the co-partnership; and if bidder is an individual, his signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Owner prior to opening bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

BUSINESS ADDRESS: _____
Zip Code

MAILING ADDRESS: _____
Zip Code

BUSINESS PHONE: (_____) _____ FAX NUMBER: (_____) _____

EMAIL ADDRESS _____

**Proposal 4
Contract Number 20-18-SW**

To the Board of Supervisors, County of Fresno:

NONCOLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID*

The undersigned declares:

I am the _____ of
(Owner, Partner, Corporate Officer (list title), Co-Venturer)

_____, the party making the foregoing bid.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____, 2021,

at _____,"
[city] [state]

(Signature)

(See Title 23 United States Code Section 112; Calif Public Contract Code Section 7106)

*NOTE: Completing, signing, and returning the Non-Collusion Declaration is a required part of the Proposal. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE

Public Contract Code Section 10285.1 Statement

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has _____, has not _____ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, 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?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

Public Contract Code 10232 Statement

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

BIDDER: _____

SUBCONTRACTORS:

The following named subcontractor(s) will perform with labor, or otherwise render services to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent of the total bid presented herewith. Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board. Each listed subcontractor's name, location of business and description of work, and both their contractor's license number and public works contractor registration number, issued pursuant to Section 1725.5 of the Labor Code, are REQUIRED, by Section 4104 of the California Public Contract Code, to be submitted prior to bid opening. (The "location of business" must specify the city in which the subcontractor's business is located, and the state if other than California.) All other requested information shall be submitted, either with the bid or within 24 hours after bid opening.

Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board.

FAILURE TO LIST SUBCONTRACTORS AS DIRECTED MAY RENDER THE BID NON-RESPONSIVE, OR MAY RESULT IN ASSESSMENT OF A PENALTY AGAINST THE BIDDER IN ACCORDANCE WITH SECTION 4110 OF THE CALIFORNIA PUBLIC CONTRACT CODE.

<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>

<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
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<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>

<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>
<p>SUBCONTRACTOR: _____</p> <p>Business Address: _____</p> <p>Class ____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount _____ OR Percentage of Total Bid _____</p> <p>Email Address: _____</p>

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SUBCONTRACTOR: _____
Business Address: _____
Class ____ License No. _____ DIR Registration No. _____
Item No. or Description of Work: _____
Dollar Amount _____ **OR** Percentage of Total Bid _____
Email Address: _____

SUBCONTRACTOR: _____
Business Address: _____
Class ____ License No. _____ DIR Registration No. _____
Item No. or Description of Work: _____
Dollar Amount _____ **OR** Percentage of Total Bid _____
Email Address: _____

(This guaranty shall be executed by the successful bidder in accordance with instructions in the special provisions. The bidder may execute the guaranty on this page at the time of submitting his bid.)

G U A R A N T Y

To the Owner: County of Fresno

CONTRACT NUMBER 20-18-SW

The undersigned guarantees the construction and installation of the following work included in this project:

ALL WORK

Should any of the materials or equipment prove defective or should the work as a whole prove defective, due to faulty workmanship, material furnished or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications, due to any of the above causes, all within twelve (12) months after date on which this contract is accepted by the Owner, the undersigned agrees to reimburse the Owner, upon demand, for its expenses incurred in restoring said work to the condition contemplated in said project, including the cost of any such equipment or materials replaced and the cost of removing and replacing any other work necessary to make such replacement or repairs, or, upon demand by the Owner, to replace any such material and to repair said work completely without cost to the Owner so that said work will function successfully as originally contemplated.

The Owner shall have the unqualified option to make any needed replacement or repairs itself or to have such replacements or repairs done by the undersigned. In the event the Owner elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the Owner.

Name (Printed): _____

Signature: _____

Title: _____

Date: _____

Contractor: _____

Proposal – 17
Contract Number 20-18-SW

A G R E E M E N T

THIS AGREEMENT made at Fresno, in Fresno County, California, by and between _____ hereinafter called the Contractor, and the County of Fresno hereinafter called the Owner.

WITNESSETH: That the Contractor and the Owner, for the consideration hereinafter named, agree as follows:

ARTICLE I. The Contractor agrees to furnish all labor and materials, including tools, implements, and appliances required, but excluding such materials as are mentioned in the specifications to be furnished by the Owner, and to perform all the work in a good and workmanlike manner, free from any and all liens and claims of mechanics, materialmen, teamsters, subcontractors, artisans, machinists, and laborers required for:

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

**CONTRACT NUMBER
18950 W AMERICAN AVE, KERMAN, CA 93630**

CONTRACT NUMBER 20-18-SW

All in strict compliance with the plans, drawings and specifications therefor prepared by the Owner, and other contract documents relating thereto.

ARTICLE II. The Contractor and the Owner agree that the Notice to Bidders and Special Provisions, the Wage Scale (Prevailing Wages), the Plans and Drawings, Addenda and Bulletins thereto, and the Proposal (Bid Book) hereto attached, together with this Agreement, form the contract, and they are as fully a part of the contract as if hereto attached or herein repeated.

All portions of the Standard Specifications of the State of California, Department of Transportation, dated 2015, which are not in conflict with this contract shall be deemed a part of the specifications as though fully therein set forth; provided, however, that revisions to the said Standard Specifications shall apply only to the extent, if any, included in the Project Details of these specifications or as otherwise incorporated directly herein. No part of said specifications which is in conflict with any portion of this agreement, or which is not actually descriptive of the work to be done thereunder, or of the manner in which said work is to be executed, shall be considered as any part of this agreement, but shall be utterly null and void.

ARTICLE III. The Owner agrees to pay the Contractor in current funds for the performance of the contract the sum of _____ **DOLLARS AND xx/100** (_____._____) it being understood that said price is based upon the estimated quantities of materials to be used as set forth in the Proposal, except where provisions are made in the contract documents whereby the estimated quantities shall constitute the final quantity; that upon completion of the project the final contract prices shall be revised by change order, if necessary, to reflect the true quantities used at the stated unit price thereof as contained in the Contractor's Proposal hereto attached. Payments on account thereof will be made as set forth in the special provisions.

ARTICLE IV. If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should persistently violate any of the provisions of the contract, or if he should persistently or repeatedly refuse or should fail, except in cases for which

extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Engineer, then the Owner may, upon certificate of the Engineer when sufficient cause exists to justify such action, serve written notice upon the Contractor and his surety of its intention to terminate the contract, and unless within five days after the serving of such notice, such violations shall cease and satisfactory arrangements for correction thereof be made, the contract shall, upon the expiration of said five days, cease and terminate.

In the event of any such termination, the Owner shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the contract, provided, however, that if the surety within ten (10) days after the serving upon it of notice of termination does not give the Owner written notice of its intention to take over and perform the contract or does not commence performance thereof within the ten (10) days stated above from the date of the serving of such notice, the Owner may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may without liability for so doing, take possession of and utilize in completing the work such materials, appliances, plant and other property belonging to the Contractor as may be on the site of the work and necessary therefor. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expenses of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner, as herein provided and damage incurred through the Contractor's default, shall be certified by the Engineer.

ARTICLE V. To the fullest extent permitted by law, with respect to any work required to be done under this contract, the Contractor will indemnify and hold harmless the COUNTY OF FRESNO, STATE OF CALIFORNIA, CONSULTANTS TETRA TECH and all other participating public agencies, whether or not said agencies are named herein, who have jurisdiction within the areas in which the work is to be performed, and all officers and employees of the Owner, the County, the State, the United States and said other participating agencies, from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents or employees under this Agreement, and from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to any person, firm or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents or employees under this Agreement. In addition, CONTRACTOR agrees to indemnify COUNTY for Federal, State of California and/or local audit exceptions resulting from non-compliance herein on the part of CONTRACTOR.

CONTRACTOR agrees to indemnify, save, hold harmless, and at COUNTY'S request, defend the COUNTY, its officers, agents, and employees from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents, or employees under this Agreement, and from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to any person, firm, or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents, or employees under this Agreement.

The Certificate of Insurance shall be issued in duplicate, to the COUNTY OF FRESNO and all other participating agencies, whether or not said agencies are named herein, who contribute to the cost of the work or have jurisdiction over areas in which the work is to be performed and all officers and employees of said agencies while acting within the course and scope of their duties and responsibilities.

In the event CONTRACTOR fails to keep in effect at all times insurance coverage as herein provided, the COUNTY may, in addition to other remedies it may have, suspend or terminate this Agreement upon the occurrence of such event.

All policies shall be with admitted insurers licensed to do business in the State of California. Insurance purchased shall be purchased from companies possessing a current A.M Best Company rating of A FSC VII or better.

Without limiting the COUNTY’S right to obtain indemnification from CONTRACTOR or any third parties, CONTRACTOR, at its sole expense, shall maintain in full force and effect, the following insurance policies or a program of self-insurance, including but not limited to, an insurance pooling arrangement or Joint Powers Agreement (JPA) throughout the term of the Agreement:

A. Commercial General Liability

Commercial General Liability Insurance with limits not less than those shown in the following table:

Liability Insurance Requirements

Total bid	For each occurrence ^a	Aggregate for products/completed operation	General aggregate ^b	Umbrella or excess liability ^c
≤ \$1,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$5,000,000
> \$1,000,000				
≤ \$10,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$10,000,000
> \$10,000,000				
≤ \$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$15,000,000
> \$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$25,000,000

^aCombined single limit for bodily injury and property damage.

^bThis limit must apply separately to your work under this Contract.

^cThe umbrella or excess policy must contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

This policy shall be issued on a per occurrence basis. COUNTY may require specific coverages including completed operations, products liability, contractual liability, Explosion-Collapse-Underground, fire legal liability, or any other liability insurance deemed necessary because of the of the nature of this contract.

Such Commercial General Liability insurance shall name the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents and employees shall be excess only and not contributing with insurance provided under CONTRACTOR's policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to COUNTY. CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance policy naming COUNTY as an additional insured and providing for a thirty (30) day prior written notice of cancellation or change in terms or coverage.

Within eight (8) days from date CONTRACTOR executes this Agreement, CONTRACTOR shall provide certificates of insurance and endorsement as stated above for all of the foregoing policies, as required herein, to the County of Fresno, stating that such insurance coverages have been obtained and are in full force; that the County of Fresno, its officers, agents and employees will not be responsible for an premiums on the policies; that such Commercial General Liability insurance names the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned; that such coverage for additional insured shall apply as primary insurance an any other insurance, or self- insurance shall not be cancelled or changed without a minimum of thirty (30) days advance, written notice given to COUNTY.

CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance naming the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents, and employees shall be excess only and not contributing with insurance provided under CONTRACTOR'S policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to COUNTY.

B. Automobile Liability

Comprehensive Automobile Liability Insurance with limits of not less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage. Coverage should include owned and non-owned vehicles used in connection with this Agreement and all applicable endorsements.

C. Professional Liability

If CONTRACTOR is a licensed professional or employs professional staff, (e.g., Architect, Engineer, Surveyor, etc.) in providing services, Professional Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per occurrence, Three Million Dollars (\$3,000,000.00) annual aggregate with a provision for 3 year tail coverage.

D. Worker's Compensation

A policy of Worker's Compensation insurance as may be required by the California Labor Code.

ARTICLE VI. Contractor represents that he has secured the payment of Worker's Compensation in compliance with the provisions of the Labor Code of the State of California and during the performance of the work contemplated herein will continue so to comply with said provisions of said Code. Contractor shall supply the Owner with certificates of insurance, in duplicate, evidencing that Worker's Compensation Insurance is in effect and providing that the Owner will receive ten days notice of cancellation. If Contractor self-insures Worker's Compensation, Certificate of Consent to Self-insure should be provided the Owner.

ARTICLE VII. The Contractor shall forthwith furnish in duplicate, a faithful performance bond in an amount equal to 100% of the contract price and a payment bond in an amount equal to 100% of the contract price, both bonds to be written by a surety company acceptable to the Owner and in the form prescribed by law.

The payment bond shall contain provisions such that if the Contractor or his subcontractors shall fail to pay (a) amounts due under the Unemployment Insurance Code with respect to work performed under the contract, or (b) any amounts required to be deducted, withheld and paid over to the Employment Development Department and to the Franchise Tax Board from the wages of the employees of the Contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, then the surety will pay these amounts. In case suit is brought upon the payment bond, the surety will pay a reasonable attorney's fee to be fixed by the court.

ARTICLE VIII. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Except as provided in Labor Code section 1725.5(f), no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

Except as provided in Labor Code section 1725.5(f), no contractor or subcontractor may be awarded a contract for public work on a public works project or engage in the performance of work on any public

works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

Contractor shall comply with all applicable laws and regulations relating to wages and employment, including all requirements imposed by the California Department of Industrial Relations (DIR). Contractor shall cooperate with County to furnish timely all information necessary for County's completion of the form required to be submitted by County when registering the Project on the DIR website; and County thereafter shall provide to Contractor the "Project ID Number" assigned by DIR in order to facilitate Contactor's submission to DIR of its certified payrolls for the Project, in the manner required and using such form as may be prescribed by DIR, in accordance with the provisions of Labor Code section 1771.4(a)(3).

ARTICLE IX: Governing Law – Venue for any action arising out of or relating to this Agreement shall be in Fresno County, California. This Agreement shall be governed by the laws of the State of California.

This Contract, **20-18-SW**, was awarded by the Board of Supervisors on _____. It has been reviewed by the Department of Public Works and Planning and is in proper order for signature of the Chairman of the Board of Supervisors.

IN WITNESS WHEREOF, they have executed this Agreement this _____ day of _____, 2021

(CONTRACTOR)

COUNTY OF FRESNO
(OWNER)

(Taxpayer Federal I.D. No.)

By _____

By _____
Steve Brandau, Chairman
of the Board of Supervisors of the
County of Fresno

Title _____

ATTEST:
Bernice E. Seidel
Clerk of the Board of Supervisors
County of Fresno, State of California

By _____
Deputy

Executed in Duplicate Original
PAYMENT BOND - PUBLIC WORK
SECTIONS 3247 - 3252, CIVIL CODE
(CALIFORNIA)

U.S. Specialty Insurance Company SURETY COMPANY

Bond No. 1001146507
Premium: \$21,855.00

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, The County of Fresno has awarded to BSE General Engineering, Inc.
as Contractor, a contract for the work described as follows: American Ave. Disposal Site Phase III Module 3-8 Landfill
Gas Collection and Control System Expansion

AND WHEREAS, Said Contractor is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics, materialmen, and other persons as provided by law.

NOW, THEREFORE, We the undersigned Contractor and Surety are held and firmly bound unto the County of Fresno in the amount required by law, the sum of \$1,998,421.00 for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if said Contractors shall fail to pay (1) Any of the persons named in Civil Code Section 3181, (2) amounts due under the Unemployment Insurance Code for work or labor performed in connection with said contract by any such claimant, or (3) any amounts required to be deducted, withheld and paid over to the Employment Development Department and to the Franchise Tax Board from wages of the employees of Contractor and his sub-contractors with respect to such work and labor, pursuant to Section 13020 of the Unemployment Insurance Code, then the Surety or Sureties herein will pay for the same in an aggregate amount not exceeding the sum specified in this bond, and also in case suit is brought upon the bond, a reasonable attorney's fee, to be fixed by the court, otherwise the above obligation shall be void.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 3181 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

This bond is executed and filed to comply with the provisions of the act of Legislature of the State of California as designated in Civil Code, Sections 3247 - 3252 inclusive, and all amendments thereto.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this 5th day of May, 2021,

BSE General Engineering, Inc.

[Signature]
Contractor

U.S. Specialty Insurance Company SURETY COMPANY

By [Signature]
Martha Barreras, Attorney-in-Fact

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Diego

On May 7, 2021 before me, John D. Elliott, Notary Public. Here Insert Name and Title of the Officer

personally appeared Terri Sonn Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature [Handwritten Signature] Signature of Notary Public

Place Notary Seal and/or Stamp Above

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document:

Document Date: Number of Pages:

Signer(s) Other Than Named Above:

Capacity(ies) Claimed by Signer(s)

Signer's Name:

- Corporate Officer - Title(s)
Partner - Limited General
Individual Attorney in Fact
Trustee Guardian of Conservator
Other:

Signer is Representing:

Signer's Name:

- Corporate Officer - Title(s)
Partner - Limited General
Individual Attorney in Fact
Trustee Guardian of Conservator
Other:

Signer is Representing:

ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of Orange }

On MAY 05 2021 before me, Gina L. Garner, Notary Public
(Here insert name and title of the officer)

personally appeared Martha Barreras,
who proved to me on the basis of satisfactory evidence to be the person(s) whose
name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that
~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by
~~his~~/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

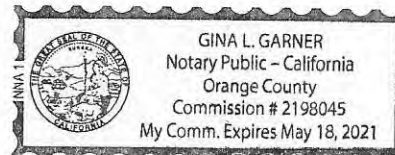
I certify under PENALTY OF PERJURY under the laws of the State of California that
the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Notary Public Signature

(Notary Public Seal)



ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

(Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he~~/she/~~they~~, is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.



TOKIOMARINE
HCC

POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Janina Monroe, Michelle Haase or Martha R. Barreras of Irvine, California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** *****Seventy Five Million***** Dollars (***75,000,000.00***). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.


Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
County of Los Angeles



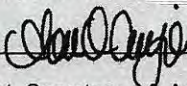
By: 
Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seal of said Companies at Los Angeles, California this day of MAY 05 2021.

Corporate Seals
Bond No. _____
Agency No. 16594




Kio Lo, Assistant Secretary

Executed in Duplicate Original
PAYMENT BOND - PUBLIC WORK
SECTIONS 3247 - 3252, CIVIL CODE
(CALIFORNIA)

U.S. Specialty Insurance Company SURETY COMPANY

Bond No. 1001146507
Premium: \$21,855.00

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, The County of Fresno has awarded to BSE General Engineering, Inc.
as Contractor, a contract for the work described as follows: American Ave. Disposal Site Phase III Module 3-8 Landfill
Gas Collection and Control System Expansion

AND WHEREAS, Said Contractor is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics, matenamen, and other persons as provided by law.

NOW, THEREFORE, We the undersigned Contractor and Surety are held and firmly bound unto the County of Fresno in the amount required by law, the sum of \$ 1,998,421.00 for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if said Contractors shall fail to pay (1) Any of the persons named in Civil Code Section 3181, (2) amounts due under the Unemployment Insurance Code for work or labor performed in connection with said contract by any such claimant, or (3) any amounts required to be deducted, withheld and paid over to the Employment Development Department and to the Franchise Tax Board from wages of the employees of Contractor and his sub-contractors with respect to such work and labor, pursuant to Section 13020 of the Unemployment Insurance Code, then the Surety or Sureties herein will pay for the same in an aggregate amount not exceeding the sum specified in this bond, and also in case suit is brought upon the bond, a reasonable attorney's fee, to be fixed by the court, otherwise the above obligation shall be void.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 3181 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

This bond is executed and filed to comply with the provisions of the act of Legislature of the State of California as designated in Civil Code, Sections 3247 - 3252 inclusive, and all amendments thereto.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this 5th day of May, 2021.

BSE General Engineering, Inc.

[Signature]
Contractor

U.S. Specialty Insurance Company SURETY COMPANY
By [Signature]
Martha Barreras, Attorney-In-Fact

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of San Diego }

On May 7, 2021 before me, John D. Elliott, Notary Public
Date Here Insert Name and Title of the Officer

personally appeared Terri Sonn
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.
WITNESS my hand and official seal.

Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal and/or Stamp Above

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____
Document Date: _____ Number of Pages: _____
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____ Signer's Name: _____
 Corporate Officer – Title(s): _____ Corporate Officer – Title(s): _____
 Partner – Limited General Partner – Limited General
 Individual Attorney in Fact Individual Attorney in Fact
 Trustee Guardian of Conservator Trustee Guardian of Conservator
 Other: _____ Other: _____
Signer is Representing: _____ Signer is Representing: _____

ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of Orange }

On MAY 05 2021 before me, Gina L. Garner, Notary Public
(Here insert name and title of the officer)

personally appeared Martha Barreras,
 who proved to me on the basis of satisfactory evidence to be the person(s) whose
 name(s) is/are subscribed to the within instrument and acknowledged to me that
~~he/she/they~~ executed the same in ~~his/her/their~~ authorized capacity(ies), and that by
~~his/her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of
 which the person(s) acted, executed the instrument.

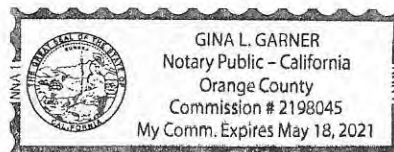
I certify under PENALTY OF PERJURY under the laws of the State of California that
 the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[Handwritten Signature]

Notary Public Signature

(Notary Public Seal)



ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

- Individual (s)
- Corporate Officer
- _____
- (Title)
- Partner(s)
- Attorney-in-Fact
- Trustee(s)
- Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

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- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
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- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he/she/they~~, is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.



POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Janina Monroe, Michelle Haase or Martha R. Barreras of Irvine, California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** *****Seventy Five Million***** Dollars (***75,000,000.00***). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.


Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
 County of Los Angeles



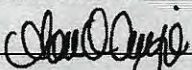
By: 
 Daniel P. Aguilar, Vice President

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On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this day of MAY 05 2021 .

Corporate Seals
 Bond No. _____
 Agency No. 16594




 Kio Lo, Assistant Secretary

A G R E E M E N T

THIS AGREEMENT made at Fresno, in Fresno County, California, by and between BSE GENERAL ENGINEERING, INC. hereinafter called the Contractor, and the County of Fresno hereinafter called the Owner.

WITNESSETH: That the Contractor and the Owner, for the consideration hereinafter named, agree as follows:

ARTICLE I. The Contractor agrees to furnish all labor and materials, including tools, implements, and appliances required, but excluding such materials as are mentioned in the specifications to be furnished by the Owner, and to perform all the work in a good and workmanlike manner, free from any and all liens and claims of mechanics, materialmen, teamsters, subcontractors, artisans, machinists, and laborers required for:

AMERICAN AVENUE DISPOSAL SITE PHASE III – MODULES 3-8 LANDFILL GAS COLLECTION AND CONTROL SYSTEM (LFGCCS) EXPANSION

**CONTRACT NUMBER
18950 W AMERICAN AVE, KERMAN, CA 93630**

CONTRACT NUMBER 20-18-SW

All in strict compliance with the plans, drawings and specifications therefor prepared by the Owner, and other contract documents relating thereto.

ARTICLE II. The Contractor and the Owner agree that the Notice to Bidders and Special Provisions, the Wage Scale (Prevailing Wages), the Plans and Drawings, Addenda and Bulletins thereto, and the Proposal (Bid Book) hereto attached, together with this Agreement, form the contract, and they are as fully a part of the contract as if hereto attached or herein repeated.

All portions of the Standard Specifications of the State of California, Department of Transportation, dated 2015, which are not in conflict with this contract shall be deemed a part of the specifications as though fully therein set forth; provided, however, that revisions to the said Standard Specifications shall apply only to the extent, if any, included in the Project Details of these specifications or as otherwise incorporated directly herein. No part of said specifications which is in conflict with any portion of this agreement, or which is not actually descriptive of the work to be done thereunder, or of the manner in which said work is to be executed, shall be considered as any part of this agreement, but shall be utterly null and void.

ARTICLE III. The Owner agrees to pay the Contractor in current funds for the performance of the contract the sum of ONE MILLION NINE HUNDRED AND NINETY EIGHT THOUSAND FOUR HUNDRED AND TWENTY ONE DOLLARS AND 00/100 (\$1,998,421.00) it being understood that said price is based upon the estimated quantities of materials to be used as set forth in the Proposal, except where provisions are made in the contract documents whereby the estimated quantities shall constitute the final quantity; that upon completion of the project the final contract prices shall be revised by change order, if necessary, to reflect the true quantities used at the stated unit price thereof as contained in the Contractor's Proposal hereto attached. Payments on account thereof will be made as set forth in the special provisions.

ARTICLE IV. If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should persistently violate any of the provisions of the

contract, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for material or labor, or persistently disregard laws, ordinances or the instructions of the Engineer, then the Owner may, upon certificate of the Engineer when sufficient cause exists to justify such action, serve written notice upon the Contractor and his surety of its intention to terminate the contract, and unless within five days after the serving of such notice, such violations shall cease and satisfactory arrangements for correction thereof be made, the contract shall, upon the expiration of said five days, cease and terminate.

In the event of any such termination, the Owner shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the contract, provided, however, that if the surety within ten (10) days after the serving upon it of notice of termination does not give the Owner written notice of its intention to take over and perform the contract or does not commence performance thereof within the ten (10) days stated above from the date of the serving of such notice, the Owner may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may without liability for so doing, take possession of and utilize in completing the work such materials, appliances, plant and other property belonging to the Contractor as may be on the site of the work and necessary therefor. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price shall exceed the expenses of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner, as herein provided and damage incurred through the Contractor's default, shall be certified by the Engineer.

ARTICLE V. To the fullest extent permitted by law, with respect to any work required to be done under this contract, the Contractor will indemnify and hold harmless the COUNTY OF FRESNO, STATE OF CALIFORNIA, CONSULTANTS TETRA TECH and all other participating public agencies, whether or not said agencies are named herein, who have jurisdiction within the areas in which the work is to be performed, and all officers and employees of the Owner, the County, the State, the United States and said other participating agencies, from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents or employees under this Agreement, and from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to any person, firm or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents or employees under this Agreement. In addition, CONTRACTOR agrees to indemnify COUNTY for Federal, State of California and/or local audit exceptions resulting from non-compliance herein on the part of CONTRACTOR.

CONTRACTOR agrees to indemnify, save, hold harmless, and at COUNTY'S request, defend the COUNTY, its officers, agents, and employees from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its officers, agents, or employees under this Agreement, and from any and all costs and expenses, damages, liabilities, claims, and losses occurring or resulting to any person, firm, or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents, or employees under this Agreement.

The Certificate of Insurance shall be issued in duplicate, to the COUNTY OF FRESNO and all other participating agencies, whether or not said agencies are named herein, who contribute to the cost of the work or have jurisdiction over areas in which the work is to be performed and all officers and employees of said agencies while acting within the course and scope of their duties and responsibilities.

In the event CONTRACTOR fails to keep in effect at all times insurance coverage as herein provided, the COUNTY may, in addition to other remedies it may have, suspend or terminate this Agreement upon the occurrence of such event.

All policies shall be with admitted insurers licensed to do business in the State of California. Insurance purchased shall be purchased from companies possessing a current A.M Best Company rating of A FSC VII or better.

Without limiting the COUNTY'S right to obtain indemnification from CONTRACTOR or any third parties, CONTRACTOR, at its sole expense, shall maintain in full force and effect, the following insurance policies or a program of self-insurance, including but not limited to, an insurance pooling arrangement or Joint Powers Agreement (JPA) throughout the term of the Agreement:

A. Commercial General Liability

Commercial General Liability Insurance with limits not less than those shown in the following table:

Liability Insurance Requirements

Total bid	For each occurrence ^a	Aggregate for products/completed operation	General aggregate ^b	Umbrella or excess liability ^c
≤ \$1,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$5,000,000
> \$1,000,000				
≤ \$10,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$10,000,000
> \$10,000,000				
≤ \$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$15,000,000
> \$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$25,000,000

^aCombined single limit for bodily injury and property damage.

^bThis limit must apply separately to your work under this Contract.

^cThe umbrella or excess policy must contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

This policy shall be issued on a per occurrence basis. COUNTY may require specific coverages including completed operations, products liability, contractual liability, Explosion-Collapse-Underground, fire legal liability, or any other liability insurance deemed necessary because of the of the nature of this contract.

Such Commercial General Liability insurance shall name the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents and employees shall be excess only and not contributing with insurance provided under CONTRACTOR's policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to COUNTY. CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance policy naming COUNTY as an additional insured and providing for a thirty (30) day prior written notice of cancellation or change in terms or coverage.

Within eight (8) days from date CONTRACTOR executes this Agreement, CONTRACTOR shall provide certificates of insurance and endorsement as stated above for all of the foregoing policies, as required herein, to the County of Fresno, stating that such insurance coverages have been obtained and are in full force; that the County of Fresno, its officers, agents and employees will not be responsible for an premiums on the policies; that such Commercial General Liability insurance names the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only

insofar as the operations under this Agreement are concerned; that such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance shall not be cancelled or changed without a minimum of thirty (30) days advance, written notice given to COUNTY.

CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance naming the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents, and employees shall be excess only and not contributing with insurance provided under CONTRACTOR'S policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to COUNTY.

B. Automobile Liability

Comprehensive Automobile Liability Insurance with limits of not less than One Million Dollars (\$1,000,000) per accident for bodily injury and property damage. Coverage should include owned and non-owned vehicles used in connection with this Agreement and all applicable endorsements.

C. Professional Liability

If CONTRACTOR is a licensed professional or employs professional staff, (e.g., Architect, Engineer, Surveyor, etc.) in providing services, Professional Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per occurrence, Three Million Dollars (\$3,000,000.00) annual aggregate with a provision for 3 year tail coverage.

D. Worker's Compensation

A policy of Worker's Compensation insurance as may be required by the California Labor Code.

ARTICLE VI. Contractor represents that he has secured the payment of Worker's Compensation in compliance with the provisions of the Labor Code of the State of California and during the performance of the work contemplated herein will continue so to comply with said provisions of said Code. Contractor shall supply the Owner with certificates of insurance, in duplicate, evidencing that Worker's Compensation Insurance is in effect and providing that the Owner will receive ten days notice of cancellation. If Contractor self-insures Worker's Compensation, Certificate of Consent to Self-insure should be provided the Owner.

ARTICLE VII. The Contractor shall forthwith furnish in duplicate, a faithful performance bond in an amount equal to 100% of the contract price and a payment bond in an amount equal to 100% of the contract price, both bonds to be written by a surety company acceptable to the Owner and in the form prescribed by law.

The payment bond shall contain provisions such that if the Contractor or his subcontractors shall fail to pay (a) amounts due under the Unemployment Insurance Code with respect to work performed under the contract, or (b) any amounts required to be deducted, withheld and paid over to the Employment Development Department and to the Franchise Tax Board from the wages of the employees of the Contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, then the surety will pay these amounts. In case suit is brought upon the payment bond, the surety will pay a reasonable attorney's fee to be fixed by the court.

ARTICLE VIII. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Except as provided in Labor Code section 1725.5(f), no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

Except as provided in Labor Code section 1725.5(f), no contractor or subcontractor may be awarded a contract for public work on a public works project or engage in the performance of work on any public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

Contractor shall comply with all applicable laws and regulations relating to wages and employment, including all requirements imposed by the California Department of Industrial Relations (DIR). Contractor shall cooperate with County to furnish timely all information necessary for County's completion of the form required to be submitted by County when registering the Project on the DIR website; and County thereafter shall provide to Contractor the "Project ID Number" assigned by DIR in order to facilitate Contractor's submission to DIR of its certified payrolls for the Project, in the manner required and using such form as may be prescribed by DIR, in accordance with the provisions of Labor Code section 1771.4(a)(3).

ARTICLE IX: Governing Law – Venue for any action arising out of or relating to this Agreement shall be in Fresno County, California. This Agreement shall be governed by the laws of the State of California.

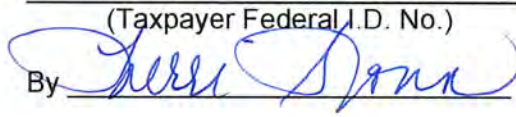
This Contract, **20-18-SW**, was awarded by the Board of Supervisors on April 13, 2021. It has been reviewed by the Department of Public Works and Planning and is in proper order for signature of the Chairman of the Board of Supervisors.

IN WITNESS WHEREOF, they have executed this Agreement this _____ day of _____, 2021

BSE GENERAL ENGINEERING, INC.
(CONTRACTOR)

COUNTY OF FRESNO
(OWNER)

82-0621648
(Taxpayer Federal I.D. No.)

By 

By _____
Steve Brandau, Chairman
of the Board of Supervisors of the
County of Fresno

Title SENIOR VICE PRESIDENT, CFO

ATTEST:
Bernice E. Seidel
Clerk of the Board of Supervisors
County of Fresno, State of California

By _____
Deputy

SURETY VERIFICATION

(Complete and return with Performance and Payment Bonds)

PROJECT American Avenue Disposal Site Phase III Module 3-8
Landfill Gas Collection and Control System Expansion

Contract No. 20-18-SW

Contractor BSE General Engineering Inc.

Contact Person Terri Sonn Phone No. _____

SURETY COMPANY (Exact Name Style, Home Office Address)

U.S Specialty Insurance Company

801 S. Figueroa Street Suite 700

Los Angeles, CA. 90017

AGENT / BROKER

Attorney-in-fact Janina Monroe Phone No. 949-252-4405

Firm Lockton Insurance Brokers, LLC

Mail Address 19800 MacArthur Blvd. Ste. 1250

City, State, ZIP Irvine, CA. 92612

CA Dept of Insurance License No. 0B50664 Expires 1 2 / 3 1 / 2 2
(or attach copy of License)

Owner's use only

Received ____ / ____ / ____ By _____

Surety admitted ____ / ____ / ____

Surety Best's Class ____ Rating ____

Comments

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That We, **BSE General Engineering, Inc.**, as Principal, and the **U.S. Specialty Insurance Company**, a corporation organized and existing under the laws of the State of **California**, and authorized to do business in the State of **California** as Surety, are held and firmly bound unto the **County of Fresno**, as Obligee, in the sum of **Ten Percent of the Amount Bid** DOLLARS (**\$10% of Amount Bid**), lawful money of the United States of America, to the payment of which sum well and truly to be made, the said Principal and Surety bind themselves, their and each of their heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Obligee shall make any award to the Principal for:

**Contract 20-18-SW AADS Phase III Mod 3-8 Landfill
Gas Collection and Control System Expansion**

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with the **U.S. Specialty Insurance Company** as Surety or with other Surety or Sureties approved by the Obligee, or if the Principal shall, in case of failure so to do, pay to the Obligee the damages which the Obligee may suffer by reason of such failure not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

Signed, sealed and dated this **8th** day of **March 2021**.

BSE General Engineering, Inc.

(Principal)

(Seal)

By: 

U.S. Specialty Insurance Company

(Surety)

(Seal)

By: 

Janina Monroe/ Attorney-In-Fact



ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of Orange }

On MAR 08 2021 before me, M. Barreras, Notary Public
(Here insert name and title of the officer)

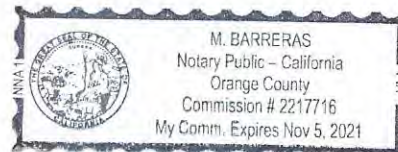
personally appeared Janina Monroe
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

M. Barreras
Notary Public Signature

(Notary Public Seal)



ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

- Individual (s)
 Corporate Officer

(Title)

- Partner(s)
 Attorney-in-Fact
 Trustee(s)
 Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/~~they~~ is /~~are~~) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Janina Monroe, Michelle Haase & Martha Barreras of Irvine, California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** ***** Fifty Million and 00/100 ***** Dollars (** \$50,000,000.00 **). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.


Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
 County of Los Angeles



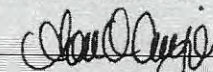
By: 
 Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.


WITNESS my hand and official seal.

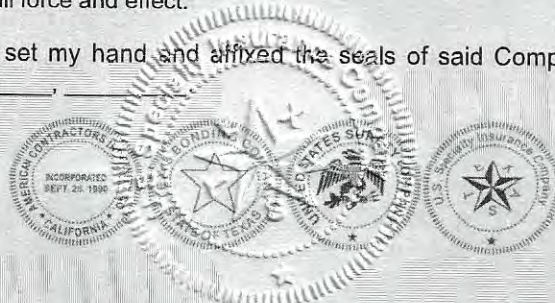
Signature  (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this _____ day of MAR 08 2021

Corporate Seal 
 Bond No. _____
 Agency No. 19268




 Kio Lo, Assistant Secretary

General Info

Total:

\$1,998,421.00

Number	Description
20-18-SW American Avenue Disposal Site Phase III Modules 3-8 Landfill Gas Collection and Control System Expansion	The work to be done consists, in general, of installing 23 new single depth Landfill Gas (LFG) vertical extraction wells and 15 LFG horizontal extraction wells; installing header and lateral piping to connect new extraction wells to the collection system; furnishing, installing and testing 6 condensate sumps, associated pumps and furnishing all appurtenances and performing all incidental work to effectuate the planned expansion of the site's landfill gas collection and control system
Deadline	Allows zero unit prices and labor
03/11/2021 10:00 PM UTC	Yes
Vendor	Allows negative unit prices and labor
BSE GENERAL ENGINEERING, INC.	Yes
Submitted	
03/11/2021 12:05 AM UTC	
Signed by	
TERRI SONN Account Holder Terri Sonn	
Opened	
03/11/2021 10:03 PM UTC By jgeddert@fresnocountyca.gov	

Attachment List

Project Website
RFC form, bid opening details, any Supplemental Information including RFC responses, prebid conference information, etc.

Specifications (4 MB)
Specifications (4 MB)

Plans (7 MB)
Plans (7 MB)

Proposal to the Board of Supervisors of the County of Fresno - Proposal 1

The work embraced herein shall be done in accordance with the 2015 Standard Specifications and with the 2015 Standard Plans, of the State of California, Department of Transportation insofar as the same may apply and in accordance with these special provisions.

Except to the extent that they may conflict with these special provisions, revised Standard Specifications apply to the extent included in the section entitled "Project Details" of the book entitled "Specifications."

The work to be done is shown on a set of Plans, Department File No. 11307, entitled: "American Avenue Disposal Site Phase III Modules 3-8 Landfill Gas Collection and Control System (LFGCCS) Expansion".

The undersigned, as bidder, declares that the only persons, or parties interested in this proposal as principals are those named herein, that this proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes and agrees if this proposal is accepted, that he will contract with the Owner to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefor the following unit prices, to-wit:

Bid Item List - Proposal 2

\$1,998,421.00

Item No.	F, S	Quantity	Unit	Item Description	Item Price	Extension
1	0	1	LS	SUPPLEMENTAL WORK	\$50,000.00	\$50,000.00
2	0	1	LS	MOBILIZATION/DEMOBILIZATION	\$122,700.00	\$122,700.00
3	0	1	LS	TRAFFIC CONTROL	\$78,673.28	\$78,673.28
4	0	1	LS	CONSTRUCTION SITE MANAGEMENT	\$62,545.74	\$62,545.74
5	0	1	LS	GRADE CHECKING	\$44,297.65	\$44,297.65
6	0	1,126	LF	VERTICAL LANDFILL GAS WELL DRILLING	\$64.78	\$72,942.28
7	0	1,195	LF	VERTICAL LANDFILL GAS EXTRACTION WELL INSTALLATION AND BACKFILL	\$58.08	\$69,405.60
8	0	15,400	LF	HORIZONTAL LANDFILL GAS WELL INSTALLATION AND BACKFILL	\$34.43	\$530,222.00
9	0	38	EA	VERTICAL AND HORIZONTAL LANDFILL GAS EXTRACTION	\$996.53	\$37,868.14
Total:						\$1,998,421.00

Item No.	F, S	Quantity	Unit	Item Description	Item Price	Extension
				WELL WELLHEAD INSTALLATION AND CONNECTION TO LATERAL		
10	0	113	LF	LANDFILL GAS EXTRACTION WELL, DRILL TO REFUSAL AND BACKFILL	\$56.18	\$6,348.34
11	0	3,500	LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-9 AIR SUPPLY PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS	\$2.50	\$8,750.00
12	0	3,500	LF	PROVIDE AND INSTALL 2-INCH HDPE SDR-11 CONDENSATE FORCE MAIN PIPE (ABOVE GRADE OR IN COMMON TRENCH) AND 2-INCH FITTINGS	\$2.45	\$8,575.00
13	0	6,600	LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 6-INCH FITTINGS	\$21.57	\$142,362.00
14	0	1,400	LF	PROVIDE AND INSTALL 6-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 6-INCH FITTINGS	\$24.26	\$33,964.00
15	0	500	LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING, WITH ANCHORS AND GUIDES (ABOVE GRADE) AND 12-INCH FITTINGS	\$50.72	\$25,360.00
16	0	220	LF	PROVIDE AND INSTALL 12-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 12-INCH FITTINGS	\$81.38	\$17,903.60
17	0	620	LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING, WITH GUIDES (ABOVE GRADE) AND 18-INCH FITTINGS	\$109.39	\$67,821.80
18	0	2,600	LF	PROVIDE AND INSTALL 18-INCH HDPE SDR-11 PIPING (BELOW GRADE) AND 18-INCH FITTINGS	\$103.67	\$269,542.00
19	0	24	EA	PROVIDE AND INSTALL 6-INCH VALVES	\$881.07	\$21,145.68
20	0	1	EA	PROVIDE AND INSTALL 12-INCH VALVES	\$2,475.32	\$2,475.32
21	0	4	EA	PROVIDE AND INSTALL 18-INCH VALVES	\$8,719.75	\$34,879.00
22	0	320	LF	PROVIDE AND INSTALL 12-INCH CORRUGATED STEEL PIPE (CSP) AND ROAD CROSSINGS	\$28.42	\$9,094.40
23	0	40	LF	PROVIDE AND INSTALL 18-INCH CSP AND ROAD CROSSINGS	\$49.75	\$1,990.00
24	0	5	EA	CONNECT EXISTING LEACHATE COLLECTION AND REMOVAL SYSTEM (LCRS) RISER 10-INCH LFG LATERALS TO 18-INCH HEADER, WITH WELLHEAD, FITTINGS, AND	\$3,105.14	\$15,525.70
Total:						\$1,998,421.00

Item No.	F, S	Quantity	Unit	Item Description	Item Price	Extension
OTHER APPURTENANCES						
25	0	6	EA	PROVIDE AND INSTALL NEW CONDENSATE SUMP WITH FITTINGS AND OTHER APPURTENANCES	\$43,508.79	\$261,052.74
26	0	1	EA	CONNECT LFG HEADER DRAIN TO EXISTING CONDENSATE SUMP	\$2,976.73	\$2,976.73
Total:						\$1,998,421.00

Evaluation of Bid Item List - Proposal 3

Abbreviations used in the bid proposal sheet are identified in Section 1-1.06, "Abbreviations," of these special provisions.

Bids are required for the entire work. Bids will be compared on the basis indicated in the Notice to Bidders. The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

- (a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;
- (b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentage-wise the unit price or item total in the Owner's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise, if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the Owner, and that discretion will be exercised in the manner deemed by the Owner to best protect the public interest in the prompt and economical completion of the work. The decision of the Owner respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this proposal shall be accepted and the undersigned shall fail to contract, as aforesaid, and to give the two bonds in the sums to be determined as aforesaid, with surety satisfactory to the Owner, within eight (8) days not including Saturdays, Sundays and legal holidays, after the bidder has received notice of award of the contract, the Owner, at its option, may determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void, and the

forfeiture of such security accompanying this proposal shall operate and the same shall be the property of the Owner.

Bidder Signature - Proposal 4

Business Name *

BSE GENERAL ENGINEERING, INC.

IMPORTANT NOTICE: If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer and manager thereof; if a copartnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last name in full.

Type of Business *

Corporation - list Officers

List additional type of business information below. *

BOB SONN, CEO, PRESIDENT
TERRI SONN, CFO, TREASURER
JEFFREY SONN, SECRETARY

Licensed in accordance with an act providing for the registration of Contractors,

Class *

A

Contractor License Number *

361295

Expires *

5/31/2021

DIR Registration Number *

1000050709

Signature of Bidder *

Terri Sonn

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if bidder is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the co-partnership; and if bidder is an individual, his signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Owner prior to opening bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

Business Address *

26132 OLD HIGHWAY 80, DESCANSO, CA 91916-9797

Mailing Address

Business Phone *

(619) 473-1000

Fax Number

Email Address *

tsonnbse@gmail.com

Bid Security - Proposal 4

Bond Percentage

10.00%

Guarantee Method *

Cash, Cashier's Check,
Certified Check, Paper Bid
Bond

Cash, Cashier's Check, Certified Check, Paper Bid Bond

Confirmation *

I have provided a Paper Bid Bond for the Bid Security Amount above prior to the solicitation deadline.

You must either attach an electronic bid bond here or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening.

Note: While it is strongly encouraged that you comply with the above bidding requirement if at all possible, it is acknowledged that this bid opening is occurring during the COVID-19 State of Emergency in Fresno County, the impact of which is immense. If, as a result of the emergency, you are unable to provide the original bid security or electronic bid bond prior to the bid opening (and if your bid is otherwise appropriately responsive to bid requirements), then staff will request that the Board of Supervisors consider exercising its discretion to waive the bidding irregularity (regarding the time of delivery of the bid security) IF you: (1) attach a scanned copy of the original bid security to the Bid; and (2) provide for hand-delivery of the original bid security to the County within 24 hours of the bid opening.

Addendum Acknowledgement - Proposal 4

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:**

(Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

Type N/A if no addenda were issued. Click "+" to add additional fields.

Addendum No. *

N/A

Dated *

3/10/2021

Noncollusion Declaration - Proposal 5

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID*

The undersigned declares:

I am the (Choose one of the following options): *

Corporate Officer

If Corporate Officer please list Title:

CFO, TREASUER

of (Business Name): *

BSE GENERAL ENGINEERING, INC.

the party making the foregoing bid.

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____, 2021,

Date: *

3/10/2021

at City, State: *

DESCANSO, CALIFORNIA

Signature: *

TERRI SONN

(See Title 23 United States Code Section 112; Calif Public Contract Code Section 7106)

*NOTE: Completing, signing, and returning the Non-Collusion Affidavit is a required part of the Proposal. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code - Proposal 6-7

Public Contract Code Section 10285.1 Statement - Proposal 6

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder

Choose an option: *

Has not been convicted

within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

The above Statement is part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire - Proposal 7

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, 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?

Choose an option: *

No

If the answer is No, please type N/A. If the answer is Yes, explain the circumstances in the following space. *

N/A

Public Contract Code Section 10323 Statement - Proposal 7

In conformance with Public Contract Code Section 10322, the Contractor hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the

immediately preceding two-years period because of the Contractor's failure to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Statement and Questionnaire. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Subcontractors - Proposal 8(a)

The following named subcontractor(s) will perform with labor, or otherwise render services to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent of the total bid presented herewith. Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board. Submission of subcontractor's name, location of business and description of work, California contractor's license number and public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, all are REQUIRED, by Section 4104 of the California Public Contract Code, to be submitted prior to bid opening. (The "location of business" must specify the city in which the subcontractor's business is located, and the state if other than California.) All other requested information shall be submitted, either with the bid or within 24 hours after bid opening.

Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board.

FAILURE TO LIST SUBCONTRACTORS AS DIRECTED MAY RENDER THE BID NON-RESPONSIVE, OR MAY RESULT IN ASSESSMENT OF A PENALTY AGAINST THE BIDDER IN ACCORDANCE WITH SECTION 4110 OF THE CALIFORNIA PUBLIC CONTRACT CODE.

Subcontractor: To add more subcontractor listings, click the "+" to add additional fields.

Subcontractor: *

TBCO INC.

Business Address *

9657 MIZPAH LN. , DESCANSO, CA ., 91916-9726

Class

A and C57

License No. *

709037

DIR Registration No. *

1000028480

Item No. or Description of Work *

FUSING 12 " AND 18" HDPE

Dollar Amount:

OR

Percentage of Total Bid:

7%

Email Address:

travis726@cox.net

Subcontractors - Proposal 8(b)

Optional: Vendor is not required to complete.

Subcontractor: To add more subcontractor listings, click the "+" to add additional fields.

Subcontractor: *

SACRAMENTO DRILLING, INC.

Business Address *

1143 BLUMENFELD DRIVE, SUITE 100, SACRAMENTO, CA 95815

Class

A

License No. *

759193

DIR Registration No. *

1000004496

Item No. or Description of Work *

VERTICAL LANDFILL GAS WELL DRILLING

Dollar Amount:

OR

Percentage of Total Bid:

2.35%

Email Address:

Proposal 9 - 16

NOT USED

Guaranty - Proposal 17

Optional: Vendor is not required to complete.

(This guaranty shall be executed by the successful bidder in accordance with instructions in the special provisions. The bidder may execute the guaranty on this page at the time of submitting their bid.)

G U A R A N T Y

To the Owner: County of Fresno

C O N T R A C T N U M B E R

The undersigned guarantees the construction and installation of the following work included in this project: 20-18-SW

A L L W O R K

Should any of the materials or equipment prove defective or should the work as a whole prove defective, due to faulty workmanship, material furnished or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications, due to any of the above causes, all within twelve (12) months after date on which this contract is accepted by the Owner, the undersigned agrees to reimburse the Owner, upon demand, for its expenses incurred in restoring said work to the condition contemplated in said project, including the cost of any such equipment or materials replaced and the cost of removing and replacing any other work necessary to make such replacement or repairs, or, upon demand by the Owner, to replace any such material and to repair said work completely without cost to the Owner so that said work will function successfully as originally contemplated.

The Owner shall have the unqualified option to make any needed replacement or repairs itself or to have such replacements or repairs done by the undersigned. In the event the Owner elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the Owner.

Date: *

3/10/2021

Name (Printed): *

TERRI SONN

Signature: *

TERRI SONN

Title: *

CFO, TREASUER

Contractor: *

BSE GENERAL ENGINEERING, INC.

Additional Documents (Use if needed)

Name	Omission Terms	Submitted File
Optional: Vendor is not required to complete.		
Not Required Extra Space if needed	Extra space not needed	BID BOND.pdf
Not Required Extra Space if needed	Extra space not needed	I am not enclosing this document because the omission terms have been met.
Not Required Extra Space if needed	Extra space not needed	I am not enclosing this document because the omission terms have been met.
3 Required Documents		

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That We, **BSE General Engineering, Inc.**, as Principal, and the **U.S. Specialty Insurance Company**, a corporation organized and existing under the laws of the State of **California**, and authorized to do business in the State of **California** as Surety, are held and firmly bound unto the **County of Fresno**, as Obligee, in the sum of **Ten Percent of the Amount Bid** DOLLARS (**\$10% of Amount Bid**), lawful money of the United States of America, to the payment of which sum well and truly to be made, the said Principal and Surety bind themselves, their and each of their heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Obligee shall make any award to the Principal for:

**Contract 20-18-SW AADS Phase III Mod 3-8 Landfill
Gas Collection and Control System Expansion**

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with the **U.S. Specialty Insurance Company** as Surety or with other Surety or Sureties approved by the Obligee, or if the Principal shall, in case of failure so to do, pay to the Obligee the damages which the Obligee may suffer by reason of such failure not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

Signed, sealed and dated this **8th** day of **March 2021**.

BSE General Engineering, Inc.

(Principal)

(Seal)

By: _____

U.S. Specialty Insurance Company

(Surety)

(Seal)

By: _____

Janina Monroe/ Attorney-In-Fact



ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of Orange }

On MAR 08 2021 before me, M. Barreras, Notary Public
(Here insert name and title of the officer)

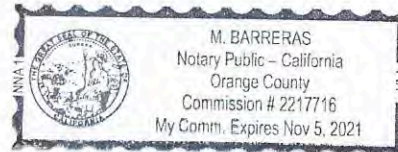
personally appeared Janina Monroe
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

M. Barreras
Notary Public Signature

(Notary Public Seal)



ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

- Individual (s)
 Corporate Officer

(Title)

- Partner(s)
 Attorney-in-Fact
 Trustee(s)
 Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they- is /are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Janina Monroe, Michelle Haase & Martha Barreras of Irvine, California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** ***** Fifty Million and 00/100 ***** Dollars (** \$50,000,000.00 **). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

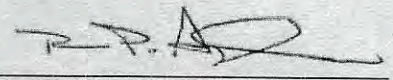
Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
County of Los Angeles



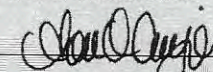
By: 
Daniel P. Aguilar, Vice President

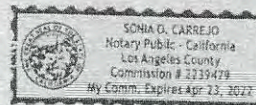
A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

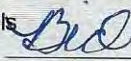
WITNESS my hand and official seal.

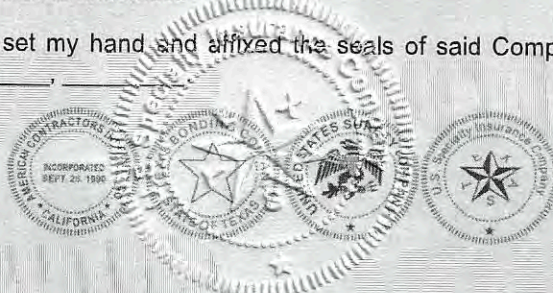
Signature  (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this _____ day of MAR 08 2021

Corporate Seal 
Bond No. _____
Agency No. 19268




Kio Lo, Assistant Secretary

▼ Contractor's License Detail for License # 361295

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

- ▶ CSLB complaint disclosure is restricted by law (B&P 7124.6) If this entity is subject to public complaint disclosure click on link that will appear below for more information. Click [here](#) for a definition of disclosable actions.
- ▶ Only construction related civil judgments reported to CSLB are disclosed (B&P 7071.17).
- ▶ Arbitrations are not listed unless the contractor fails to comply with the terms.
- ▶ Due to workload, there may be relevant information that has not yet been entered into the board's license database.

Data current as of 3/12/2021 10:29:47 AM

Business Information

BSE GENERAL ENGINEERING INC
26132 OLD HWY 80
DESCANSO, CA 91916
Business Phone Number:(619) 473-1000

Entity Corporation
Issue Date 08/03/1978
Reissue Date 05/02/2017
Expire Date **05/31/2021**

License Status

This license is current and active.

All information below should be reviewed.

Classifications

A - GENERAL ENGINEERING CONTRACTOR

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with [AMERICAN CONTRACTORS INDEMNITY COMPANY](#).

Bond Number: 100344428

Bond Amount: \$15,000

Effective Date: 05/02/2017

[Contractor's Bond History](#)

Bond of Qualifying Individual

The qualifying individual BOBBY GENE SONN certified that he/she owns 10 percent or more of the voting stock/membership interest of this company; therefore, the Bond of Qualifying Individual is not required.

Effective Date: 05/02/2017

Workers' Compensation

This license has workers compensation insurance with the [WESCO INSURANCE COMPANY](#)

Policy Number:WWC3517872

Effective Date: 03/01/2021

Expire Date: 03/01/2022

[Workers' Compensation History](#)

Miscellaneous Information

- ▶ 05/02/2017 - LICENSE REISSUED TO ANOTHER ENTITY





State of California

Department of Industrial Rel

Contractor Information

Legal Entity Name

BSE GENERAL ENGINEERING, INC

Legal Entity Type

Corporation

Status

Active

Registration Number

1000050709

Registration effective date

07/01/20

Registration expiration date

06/30/21

Mailing Address

26132 OLD HWY 80 DESCANSO 91916 CA Unite...

Physical Address

26132 OLD HWY 80 DESCANSO 91916 CA Unite...

Email Address

tsonnbse@gmail.com

Trade Name/DBA
License Number (s)

CSLB:361295

CSLB:361295

[Back to DIR>> \(https://www.dir.ca.gov/\)](https://www.dir.ca.gov/)

Registration History

Effective Date	Expiration Date
06/03/18	06/30/19
07/04/17	06/30/18
07/01/19	06/30/20
07/01/20	06/30/21

Legal Entity Information

Corporation Entity Number:

3988740

Federal Employment Identification Number:

820621648

President Name:

BOB SONN

Vice President Name:

TERRI SONN

Treasurer Name:
Secretary Name:

JEFFREY SONN

CEO Name:
Agency for Service:
Agent of Service Name:

BOB SONN

Agent of Service Mailing Address:

26132 OLD HWY 80 DESCANSO 9191

Worker's Compensation

Do you lease employees through Professional Employer Organization (PEO)?: No
Please provide your current worker's compensation insurance information below:

PEO PEO PEO
PEO InformationName Phone Email

Insured by Carrier

Policy Holder Name: BSE GENI
Insurance Carrier: AMTRUS
Policy Number: RUW100
Inception date: 03/01/1
Expiration Date: 03/01/2

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Who we are

(https://www.dir.ca.gov/about.html)

DIR Divisions, Boards & Commissions

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Jobs at DIR

(https://www.dir.ca.gov/dirjobs.html)

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(https://www.dir.ca.gov/permissions.html)

licenses-

contactus.html certifications.html)

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(https://www.dir.ca.gov/dosh/Required-Notifications.html)

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Requests

(https://www.dir.ca.gov/prarequest.html)

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CONTRACTORS STATE LICENSE BOARD



Contractor's License Detail for License # 759193

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

- ▶ CSLB complaint disclosure is restricted by law ([B&P 7124.6](#)) If this entity is subject to public complaint disclosure click on link that will appear below for more information. Click [here](#) for a definition of disclosable actions.
- ▶ Only construction related civil judgments reported to CSLB are disclosed ([B&P 7071.17](#)).
- ▶ Arbitrations are not listed unless the contractor fails to comply with the terms.
- ▶ Due to workload, there may be relevant information that has not yet been entered into the board's license database.

Data current as of 3/12/2021 10:00:33 AM

Business Information

SACRAMENTO DRILLING INC
1143 BLUMENFELD DRIVE STE 100
SACRAMENTO, CA 95815
Business Phone Number:(916) 638-1766

Entity Corporation
Issue Date 02/16/1999
Expire Date **02/28/2023**

License Status

This license is current and active.

All information below should be reviewed.

Classifications

- ▶ [A - GENERAL ENGINEERING CONTRACTOR](#)
- ▶ [C57 - WELL DRILLING](#)

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with [AMERICAN CONTRACTORS INDEMNITY COMPANY](#).

Bond Number: 10114482
Bond Amount: \$15,000
Effective Date: 01/01/2016
[Contractor's Bond History](#)

Bond of Qualifying Individual

- ▶ The qualifying individual PIETRO GRAHAME SAVIOTTI certified that he/she owns 10 percent or more of the voting stock/membership interest of this company; therefore, the Bond of Qualifying Individual is not required.
Effective Date: 05/15/2002
- ▶ This license filed Bond of Qualifying Individual number **64928396** for CHESTER EDWARD BOYER in the amount of **\$12,500** with [WESTERN SURETY COMPANY](#).
Effective Date: 02/08/2020
[BQI's Bond History](#)

Workers' Compensation

This license has workers compensation insurance with the [ZURICH AMERICAN INSURANCE COMPANY](#)

Policy Number: BAP021344005
Effective Date: 03/01/2021
Expire Date: 03/01/2022
[Workers' Compensation History](#)

Other

▶ Personnel listed on this license (current or disassociated) are listed on other licenses.

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Contractor Information

Legal Entity Name

SACRAMENTO DRILLING, INC.

Legal Entity Type

Corporation

Status

Active

Registration Number

1000004496

Registration effective date

7/1/2020

Registration expiration date

6/30/2021

Mailing Address

1143 BLUMENFELD DRIVE, SUITE 100 SACRAMENTO 95815...

Physical Address

1143 BLUMENFELD DRIVE, SUITE 100 SACRAMENTO 95815...

Email Address**Trade Name/DBA**

SACRAMENTO DRILLING, INC.

License Number(s)

CSLB:759193

CSLB:759193

Registration History

Effective Date	Expiration Date
6/20/2018	6/30/2019
5/9/2017	6/30/2018
5/31/2016	6/30/2017
6/24/2015	6/30/2016
12/30/2014	6/30/2015
7/1/2019	6/30/2020
7/1/2020	6/30/2021

Legal Entity Information

Corporation Number:

2131030

Federal Employment Identification Number:**President Name:**

PIETRO SAVIOTTI

Vice President Name:**Treasurer Name:****Secretary Name:****CEO Name:****Agent of Service Name:**

PIETRO SAVIOTTI

Agent of Service Mailing Address:

1143 BLUMENFELD DRIVE. SUITE 100 SACRAMENTO 95815 CA United States of America

Workers Compensation

Do you lease employees through Professional Employer Organization (PEO)?: No

Please provide your

Please provide your
current workers
compensation insurance
information below:

	PEO	PEO	PEO
PEO Information	Name	Phone	Email

Insured by Carrier

Policy Holder Name:SACRAMENTO DRILLING, INC.**Insurance Carrier:**

ZURICH AMERICAN INSURANCE COMPANY**Policy Number:**WC021342404**Inception date:**

2/29/2020**Expiration Date:**2/28/2021

Home



CONTRACTORS STATE LICENSE BOARD



Contractor's License Detail for License # 709037

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

- ▶ CSLB complaint disclosure is restricted by law ([B&P 7124.6](#)) If this entity is subject to public complaint disclosure click on link that will appear below for more information. Click [here](#) for a definition of disclosable actions.
- ▶ Only construction related civil judgments reported to CSLB are disclosed ([B&P 7071.17](#)).
- ▶ Arbitrations are not listed unless the contractor fails to comply with the terms.
- ▶ Due to workload, there may be relevant information that has not yet been entered into the board's license database.

Data current as of 3/12/2021 10:10:59 AM

Business Information

TRAVIS BROOKSHIRE
DBA TBCO

9657 MIZPAH LANE
DESCANSO, CA 91916
Business Phone Number:(619) 279-4244

Entity Sole Ownership
Issue Date 06/29/1995
Expire Date **03/31/2021**

License Status

This license is current and active.

All information below should be reviewed.

Classifications

- ▶ [A - GENERAL ENGINEERING CONTRACTOR](#)
- ▶ [C57 - WELL DRILLING](#)

Bonding Information

Contractor's Bond

This license filed a Contractor's Bond with [AMERICAN CONTRACTORS INDEMNITY COMPANY](#).

Bond Number: 100492392

Bond Amount: \$15,000

Effective Date: 04/14/2020

[Contractor's Bond History](#)

Workers' Compensation

This license has workers compensation insurance with the [STATE COMPENSATION INSURANCE FUND](#)

Policy Number:9205268

Effective Date: 02/22/2019

Expire Date: 02/22/2021

[Workers' Compensation History](#)

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Contractor Information

Legal Entity Name

TRAVIS BROOKSHIRE DBA TBCO

Legal Entity Type

Sole Proprietorship

Status

Active

Registration Number

1000028480

Registration effective date

8/10/2020

Registration expiration date

6/30/2021

Mailing Address

9657 MIZPAH LN DESCANSO 91916 CA United ...

Physical Address

9657 MIZPAH LN DESCANSO 91916 CA United ...

Email Address**Trade Name/DBA**

TBCO

License Number(s)

CSLB:709037

Other:709037

Registration History

Effective Date	Expiration Date
6/16/2018	6/30/2019
7/5/2017	6/30/2018
6/28/2016	6/30/2017
8/24/2015	6/30/2016
6/15/2020	6/30/2020
8/10/2020	6/30/2021

Legal Entity Information

Sole Proprietor Name:

Workers Compensation

Do you lease employees through Professional Employer Organization (PEO)?: No

Please provide your current workers compensation insurance information below:

PEO InformationName	PEO Phone	PEO Email
---------------------	-----------	-----------

Insured by Carrier

Policy Holder Name:TBCO**Insurance Carrier:**STATE COMPENSATION INSURANCE FUND

Policy Number:9205268-2019**Inception date:**2/21/2019**Expiration Date:**2/21/2020

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That We, **BSE General Engineering, Inc.**, as Principal, and the **U.S. Specialty Insurance Company**, a corporation organized and existing under the laws of the State of **California**, and authorized to do business in the State of **California** as Surety, are held and firmly bound unto the **County of Fresno**, as Obligee, in the sum of **Ten Percent of the Amount Bid** DOLLARS (**\$10% of Amount Bid**), lawful money of the United States of America, to the payment of which sum well and truly to be made, the said Principal and Surety bind themselves, their and each of their heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Obligee shall make any award to the Principal for:

**Contract 20-18-SW AADS Phase III Mod 3-8 Landfill
Gas Collection and Control System Expansion**

according to the terms of the proposal or bid made by the Principal therefor, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with the **U.S. Specialty Insurance Company** as Surety or with other Surety or Sureties approved by the Obligee, or if the Principal shall, in case of failure so to do, pay to the Obligee the damages which the Obligee may suffer by reason of such failure not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

Signed, sealed and dated this **8th** day of **March 2021**.

BSE General Engineering, Inc.

(Principal)

(Seal)

By: _____

U.S. Specialty Insurance Company

(Surety)

(Seal)

By: _____

Janina Monroe/ Attorney-In-Fact



ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of Orange }

On MAR 08 2021 before me, M. Barreras, Notary Public
(Here insert name and title of the officer)

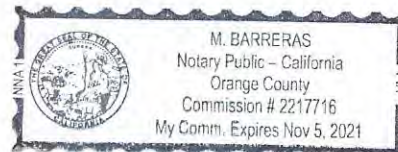
personally appeared Janina Monroe
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

M. Barreras
Notary Public Signature

(Notary Public Seal)



ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

- Individual (s)
 Corporate Officer

(Title)

- Partner(s)
 Attorney-in-Fact
 Trustee(s)
 Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/~~they~~ is /~~are~~) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ❖ Indicate title or type of attached document, number of pages and date.
 - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Janina Monroe, Michelle Haase & Martha Barreras of Irvine, California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** ***** Fifty Million and 00/100 ***** Dollars (** \$50,000,000.00 **). This Power of Attorney shall expire without further action on April 23rd, 2022. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.


Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 1st day of June, 2018.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
 County of Los Angeles



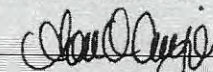
By: 
 Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 1st day of June, 2018, before me, Sonia O. Carrejo, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.


WITNESS my hand and official seal.

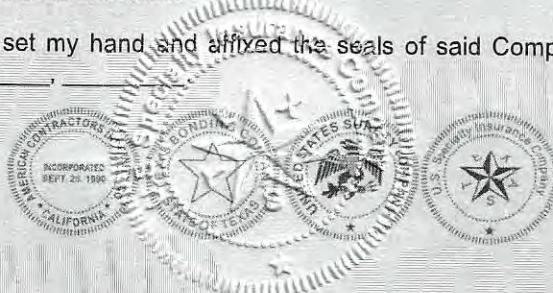
Signature  (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this _____ day of MAR 08 2021

Corporate Seal 
 Bond No. _____
 Agency No. 19268




 Kio Lo, Assistant Secretary