

LAS VIRGENES MUNICIPAL WATER DISTRICT

ADDENDUM NO. 1

November 19, 2013

The following clarifications, revisions, additions, or deletions shall be made part of the Contract Documents:

CONSTRUCTION DRAWINGS

1. The following clarification is made to Detail A on Drawing C-01:
The base thickness is a uniform 5" thick. The finish surface, base and subgrade slope west.
2. Add the following note to Section F on Drawing CD-08:
"WALL FINISH AND COLOR TO MATCH 5 MG TANK"
3. Revise Note B.3 on Drawing S-01 to read as follows:
Wall 4,000 PSI (6.0 SK/CY)
4. Add to Section A on Drawing S-02 a wall height dimension of 20'-5".
5. Add the following to Note 9 on Drawing G-05
Fueling of the tank stressing machine, crane and jacking machine (if required) will be permitted at the tank site and or over the dam provided the Contractor has BMP's and a spill mitigation plan that have gone through the submittal process. The spill mitigation plan will provide measures to prevent any fuel spill from entering the open water reservoir.
6. Replace the following note on Section C, Drawing CD-06
"PIPE ZONE SAND PER SPECIFICATION #312300" with
"PIPE ZONE ONE SACK SLURRY PER SECTION 312316 TRENCHING, BACKFILLING AND COMPACTION, PART 2.03.A"

NOTICE INVITING SEALED PROPOSALS (BIDS)

The bid date has changed from December 3rd to Tuesday December 10th, 2013. The time and location remain the same.

AGREEMENT

7. Section 24 Time for Completion, replace Part (b) (i) with the following:
Fixed and liquidated damages, which are not a penalty, equal to \$1,500 for each calendar day of delay beyond the Completion Date.

PROPOSAL

8. Replace the proposal section that was provided with the Issued for Bid Contract Documents and replace with the attached.

SPECIFICATIONS

9. SECTION 011100 COORDINATION OF WORK, PERMITS AND REGULATIONS

- A. Replace Part 1.10.A.6 with the following:

City of Westlake Village – An Oak Tree Permit is not required. Mitigation measures for working under or near existing Oak Trees are located in Appendix C.

- B. Add the following statement to the end of 1.17.B

Following planned or unplanned shutdowns as a result of work in this Contract or at any time requested by the Owner, the Contractor shall repair damage or complete connections as needed, and coordinate with Owner to return the Westlake Filtration Plant back online within 24 hours.

- C. Add the following subsection:

1.21 DSOD INSPECTION

- A. Representatives from California Department of Water Resources Division of Safety of Dams (DSOD) will periodically inspect the work in progress during construction. Contractor shall allow DSOD representatives access to all locations within project boundaries. All communications with DSOD pertaining to the project shall be coordinated through the Owner's Representative.
- B. Addenda and contract change orders to the plans or specifications are subject to review and acceptance by DSOD before incorporated into the work. DSOD shall be notified of the aforementioned and be allowed a minimum of 15 calendar days to respond.
- C. Contractor submittals shall be reviewed for acceptance by both the Engineer and DSOD. Engineer and DSOD shall be allowed a minimum of 15 calendar days to respond unless noted otherwise.
- D. DSOD will periodically inspect elements of the work during construction, including the materials being incorporated. DSOD will also review test results and documentation associated with the project. The Contractor shall cooperate with the Owner's Representative by giving 72 hours notice of any inspection or review that is required to be performed by DSOD in order to avoid delaying the work and to assure that the Owner's Representative has sufficient time to coordinate DSOD involvement.

10. SECTION 0112000 MEASUREMENT AND PAYMENT

Replace the section with the attached revised Section 012000.

11. SECTION 312310 BLASTING

A. Replace Part 1.04.A.2 with the following:

Blasting Plan. Submit at least 30 days prior to start of blasting:

- a) General blasting methods that are expected to be used for rock excavation.
- b) Description of blasting techniques as well as techniques to control noise, blasting vibrations, air-overpressures, and fly rock. Include detailed specifications of blasting mats and how they will be safely placed to cover all blasts as required Part 3.01.D.

B. Replace Paragraph 1.04.C with the following:

Submit the blasting plan for review and acceptance by both Engineer/Owner's Representative and DSOD at least 30 calendar days prior to start of blasting in accordance with Section 013300. Review and acceptance by Engineer/Owner's Representative and DSOD of the Conceptual Blasting Plan and Individual Shot Plans proposed by Contractor will only be with respect to the basic principles and methods that Contractor intends to employ. Acceptance by Engineer/Owner's Representative and DSOD does not relieve Contractor of sole responsibility and liability for the safety of persons and property.

12. SECTION 312316 TRENCHING, BACKFILLING AND COMPACTION

A. Replace Part 2.03.A with the following:

Pipe zone materials are herein defined as those materials used as pipeline bedding and shading, and as structure bedding. Pipe zone materials should consist of a one sack slurry. Tickets shall be provided from a certified weigh master showing the cement content used in the mix design. The pipe zone materials shall extend from at least 6 inches below the pipe to 12 inches above the crown. Pipe zone materials shown as having concrete bedding under or outside of the reservoir shall be constructed per the detail referenced on the construction drawings.

B. Delete the following section:

Section 2.03.B

13. SECTION 331620 PRESTRESSED CIRCULAR CONCRETE TANKS

- A. Part 1.03, item 2: change the Maximum water depth for overflow at wall top of overflow pipe from 22 feet to 20 feet
- B. Part 1.03, item 3: change the Free-board below top of wall to high operating level from 2 feet to three feet.

- C. Part 1.03, item 4: change the wall height from 23 feet to 20'-5"
- D. Replace Part 2.09A: Floor Construction Joints: Minimum 3/8" by 6 inch water stop
- E. Replace Part 2.09D: Construction Joints in Roof: Minimum 3/8-inch by 6 inch water stop
- F. Part 3.06.B.1: replace the last sentence in this section as follows:
 The minimum shotcrete cover over the outermost wrapped strand shall be 2.0 inches.

REQUESTS FOR INFORMATION (RFIs)

1. **SECTION 328210 PACKAGED LANDSCAPE IRRIGATION PUMPING STATION**

The following request for information was received on 11-1-13:

Reference Drawing(s): LI-1 Specification Section(s): 328210

"Description of Request: Could you confirm the attached perimeters for the Packaged Landscape Irrigation Pumping Station, It does not appear to be on the drawings or in the spec."

SYSTEM DESIGN PARAMETERS

IBCR5-5-2-2/VFD/T System Model Number	30 GPM System Design Flow Rate	90 PSI System Boost Pressure	1.5 INCH System Piping Size
Flooded Minimum Suction Pressure	460 VAC System Electrical Voltage	3 PHASE 60 Hz System Electrical Phase and Frequency	
CR5-10 Pump Model Number	30 GPM Pump Capacity (GPM)	220 FEET Pump Total Head (Feet)	
5 HP Pump Horsepower	3500 RPM Pump RPM	7 AMPS @ 460/3 ph System Full Load Amperage	

Response – Parameters for the above items are located in Specification Section 328210, Part 2.B and C:

- System Design Flow Rate
- System Boost Pressure
- System Electrical Phase and Frequency
- System Electrical Voltage
- Pump Capacity

2. **SECTION 055100 LADDERS, STAIRS AND STAIR NOSINGS**

The following RFI was received on November 11, 2013

"Description of Request: Could you please clarify if there are (2) interior ladders or (1) ladder and the other opening being used as an equipment hatch? Also drawing S-09 states the ladder

cage being omitted for clarity but I do not see a detail of the interior ladder cage just the exterior ladder cage”

Response – Two ladders are required. Note the reference on Drawing S-01 refers to Detail C on Drawing S-09. Detail C on Drawing S-09 shows a ladder in plan view.

RFIs 3 through 9 were received on November 13, 2013:

3. Owner’s drawing S-02, section A and S-08, detail A, show the high water elevation at 1085. With a top of floor elevation of 1065 at the inside face of the wall footing, the high water depth at the inside face of the tank wall is approximately 20’-0” above the floor. However, project specification section 331620.1.03, item 2, indicates that the maximum water depth for overflow at wall should be 22 feet, resulting in an overflow EL of 1067.0.

Question – Please review and clarify what the appropriate high water/overflow level should the tank be designed too.

Response – See addenda Items referring to Drawings S-02 and Specification Section 331620.

4. Owner’s drawing S-02, section A, indicates that the total distance from the top of floor to the top of wall shall be 23’-0”. Since the minimum wall footing thickness is to be 2’-7”, this will result in a wall height of 21’-5”. However, Owner’s specification section 331620.1.03, item 4, indicates that the wall height shall be 23’-0”.

Question – Please review and clarify what the minimum wall height needs to be for this project.

Response – See response to Drawings S-02 and Specification Section 331620.

5. Based on Owner’s drawing S-02, section A, the resulting freeboard inside the tank is 36”. However, Owner’s specification section 33160.1.03, item 3, indicates that the free board below the top of wall to high operating water level shall be 24”. According to our preliminary calculations in order to minimize the structural impact on the tank roof, we would recommend a minimum freeboard of 24” above the high water level.

Question – Please review and clarify what should the minimum free board should be for this project.

Response – The correct freeboard is 36”.

6. Owner’s drawing C-07 and S-12, outline a required baffle wall layout/configuration within the tank. However, we were not able to determine specific lengths for the baffle wall runs, spacing between the baffle channels and proximity of the baffle near the inside face of the tank wall.

Question – Please review and specify lengths, layout and configuration of the baffle wall system in order to properly estimate the baffles for this project.

Response – Final dimensions shall be coordinated with column layout and other features of the tank in the shop drawings.

7. Owner’s drawing S-06, Circumferential Pre-stressing note 10, indicates that the minimum shotcrete cover over the outermost layer of strand shall be 2” thick. However, Specification

section 331620.3.06.B, item 1, indicates that the minimum shotcrete cover over the outermost wrapped strand shall be 1.5 inches.

Question – Please review and clarify what the minimum shotcrete cover over the outermost layer of the strand needs to be for this project.

Response – See Addenda Item for Specification 331620.

8. Owner's drawing S-05, detail 2, indicates that the floor, vertical wall and roof joints are to be provided with a 6" flat strip pvc water stop. However, project specification section 331620.2.09, items A and D, indicates that the floor and roof waterstops are to be provided with a 3/8" minimum center bulb. In order to minimize the structural impact on the floor and roof, and since both the floor and roof joins are non-movable joints, it has been our experience that a 6" flat stip (no centerbulb) pvc waterstop will provide the desired performance.

Question – Please review and determine if a 6" flat strip pvc waterstop, as shown on Owner's drawing S-05, detail 2, can be used for this project.

Response – See Addenda Item for Specification Section 331620.

9. Owner's drawing S-02, General Notes B.3, indicates that the minimum 28th day concrete strength shall be 4500 psi. However, specification section 331620.2.02.C, indicates that the minimum 28 day concrete compressive strength for the pre-stressed tanks walls shall be 4000 psi.

Question – Please review and clarify what the minimum 28 day concrete compressive strength needs to be for the pre-stressed concrete walls.

Response – We understand that the above question pertains to Drawings S-01, Note B.3. See the related Addenda Item.

Questions from the Pre Bid Job Walk dated 11-12-13

1. **Access Road over dam** - Please clarify the thickness of aggregate base across the dam as shown on Detail A, sheet C-01.

Response – The base thickness is a uniform 5" thick. The finish surface and road section slope west.

2. **Rip Rap at Pipe Supports** – Can the existing rip rap be used for backfilling the pipe support? Response - Yes, the existing surface rip rap can be used for putting back in place on the surface. The gradation shall match existing surface rip rap that is undisturbed. The gradation for material to be used for backfill of the concrete pipe supports and headwalls is in Specification Section 312300, part 2.11.

3. **Access Road around Filtration Plant** – Can the existing access road be used for trucks to use to loop around the Westlake Filtration Plant? Response - Yes, the Contractor can use the access road around the plant for looping around the treatment plant. At no time shall the Contractor block the paved access road for periods longer than fifteen (15) minutes.

Gradation of Material for Dry Material Storage area and Earthen Berm – Is there a gradation for the material to be placed in the Dry Material Storage area and Earthen Berm areas?

Dry Storage Area – In the dry storage area east of the tank, there is no gradation requirement. At the Contractor’s discretion, a gradation can be provided to improve his use of this storage area, but this will be at no cost increase to the Owner.

Visual Concealment Berm west of tank Response – The gradation for this can be found on Specification Section 312300, Part 3.13.

4. **K-Rail across Saddle Dam** – Is K-Rail required across the saddle dam? Response – It is the Contractor’s choice to use K-Rail across the dam.
5. **Blasting Permit** – Is the District issuing the blasting permit? Response – Yes.
6. **Access to tank site** – Can the access road west of saddle dam that connects to paved access entrance road be used by the Contractor? Response – Yes, however the Contractor must perform his or her own investigations regarding the stability and safety of using this road for access. The existing paved access road to the plant cannot be blocked for more than 15 minutes. Permission to block this access road is at the discretion of the District. For consideration, the Contractor shall provide 24 hours written notice.
7. **Blasting Specifications** – Do the blasting specifications address vibration damage to utilities? Response – Specification Section 312310, Part 3.01.H.2. states the Peak Particle Velocity shall not exceed 5.0 in/s at ground above buried utilities.
8. **Existing WFP Drawings** – Can you provide the existing plant drawings for the Filtration Plant Building Construction? Yes, the Owner has made this information available for review on the LVMWD website.
9. **Dry Storage Area** - The Spec’s state that Fueling *“Specific bermed equipment maintenance and refueling areas”*.

“The contract will require some equipment be refueled that are not on wheels or tracks. Like DN Tanks stressing machine, The pipe Jacking machine required for installation of the 36” pipe across Dam. Generators at the Tank site. Just to name a few.”

“How do we fuel these per the spec’s”

Response – See Item 6 in the Construction Drawings section above
10. **Concrete for Fill Areas beneath 5 MG Tank** - “The Plans call for a Concrete Slurry Fill on top of the rock under the SOG of the Tank. What Class of Concrete is this? Class A, B of C of is it the Slurry Cement Backfill?”

Response – Use Class A concrete shown in Specifications, Section 030500, Part 2.25.D.



John Coffman, PE
AECOM Technical Services, Inc.



Dave Scherschel, S.E.
AECOM Technical Services, Inc.

**PROPOSAL
TO
LAS VIRGENES MUNICIPAL WATER DISTRICT
FOR THE CONSTRUCTION OF
1235-Foot Backbone Improvements Project
5 MG Tank**

Name of Bidder: _____

Business Address: _____

Phone No.: _____

The site of the work to be constructed and referred to herein is in the County of Los Angeles, California.

The work is to be in accordance with the specifications and Contract Documents and as shown on plans therefore entitled: 1235-Foot Backbone Improvement Project 5 MG Tank.

TO THE GOVERNING BOARD OF LAS VIRGENES MUNICIPAL WATER DISTRICT.

In compliance with your notice inviting sealed proposals (bids) and other documents, the undersigned Bidder proposes to perform the work and in a workmanlike manner, in strict conformity with the plans and specifications and other Contract Documents, including Addenda Nos. ^[____], ^[____], and ^[____], on file in the office of the Secretary of the District for the contract lump sum prices and contract unit prices herein.

BID SCHEDULE

Item No.	Item Description	Estimated Quantity	Unit	Unit Price	Total
1	Mobilization, Including Schedule, Bonds and Insurance	1	LS		
2	Sheeting, Shoring, and Bracing	1	LS		
3	SWPPP Preparation and Implementation	1	LS		
4	Rock Excavation at Tank Site	1	LS		
4A	Monitoring for Blasting (tank and pipeline)	44	EA		
5	Fill at Tank Site	1	LS		
6	5 MG Tank	1	LS		
7	Tank Baffling	1	LS		
8	Inlet/Outlet Valve Vault (Vault, Valves, Expansion Joints, Hatches)	1	LS		
9	36" Steel Pipelines	1	LS		
10	42" Steel Casing (including pipe supports and head walls)	1	LS		
11	Additional Trench Excavation (Inlet/Outlet Pipeline Trench)	100	LF		
12	Additional Trench Excavation (16" and Smaller Pipe)	100	LF		
13	Lower 30" Raw Water and 8" Domestic Water Pipelines	1	LS		
14	Drainage Assembly (Sta.11+18.42)	1	LS		
15	Filtered Water Pipeline (30" Pipeline, Valves, Fittings, Combined Air Vacuum Assembly and Connections at Water Filtration Plant)	1	LS		
16	8" Domestic Assembly (Connections, Pipe, Isolation Valves, Backflow Protection, Meter and Motor Operated Valve)	1	LS		
17	Ammonia System (Containment Pipelines, Manhole and two 4" Outlets)	1	LS		
18	Dam Access Road	1	LS		
19	Site Improvements	1	LS		
20	Electrical	1	LS		
21	Process Control And Instrumentation System	1	LS		
22	Site Irrigation and Landscaping	1	LS		
23	Permanent Rock Protection System	1	LS		
	TOTAL BID				

It is understood the foregoing quantities are approximate only and are solely for the purpose of facilitating the comparison of bids. The Contractor's compensation will be computed upon the basis of the actual quantities in the complete work, whether they are more or less than those shown.

State manufacturers name and address for each type of material upon which this proposal is based.

TYPE OF MATERIAL

MANUFACTURER

Steel Pipe Supplier

Concrete Supplier

Valves

Valve Vault

Rock Netting Designer Fabricator

Rock Netting Fabricator

Contractor shall submit to District the following information:

(1) The name and location of the place of business of each subcontractor performing work, labor or render construction services and each subcontractor licensed by the State of California specially fabricating and installing improvements according to detailed drawings or the plans and specifications, in an amount in excess of one-half of one percent of the Contractor's total bid.

(2) The portion of the work to be done by each subcontractor.

Each Bidder shall list only one subcontractor for each portion of the work identified in the bid. Include a pre-qualified Blasting Contractor.

DIVISION OF
WORK OR TRADE

NAME OF SUBCONTRACTOR

LOCATION OF MILL,
SHOP OR OFFICE

SIGNATURE OF AUTHORIZED

OFFICER OF BIDDER:

PRINTED NAME:

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. If the Bidder is an individual, the signature shall be placed above. If a joint venture of a special partnership, the names of the general partners and special partners shall be submitted.

SECTION 012000 MEASUREMENT AND PAYMENT

1.01 WORK LISTED IN THE SCHEDULE OF WORK ITEMS

- A. Work under this contract will be paid on a unit price or lump-sum basis as outlined on the Bid Form for the quantity of work installed.
- B. The unit prices and lump-sum prices include full compensation for providing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in the contract documents.
- C. The application for payment will be for a specific item based on the percentage completed or quantity installed. The percentage complete will be based on the value of the partially completed work relative to the value of the item when entirely completed and ready for service.

1.02 WORK NOT LISTED IN THE SCHEDULE OF WORK ITEMS

- A. The Agreement and items in the Supplement to General Provisions, general requirements, and specifications which are not listed in the schedule of work as items of the Bid Schedule are, in general, applicable to more than one listed work item, and no separate work item is provided therefor. Include the cost of work not listed but necessary to complete the project designated in the contract documents in the various listed work items of the Bid Schedule.
- B. The bids for the work are intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the Bid Schedule, include the cost for that work in some related bid item so that the Proposal for the project reflects the total cost for completing the work in its entirety.

1.03 MOBILIZATION, INCLUDING SCHEDULE, BONDS AND INSURANCE (ITEM 1)

Payment for mobilization including schedule, bonds and insurance shall be made at the time of the first progress payment after the Contractor has purchased bonds and insurance and has submitted a detailed construction schedule in Microsoft Project or Primavera Version P6 or greater and a schedule of values.

1.04 SHEETING, SHORING, AND BRACING (ITEM 2)

Sheeting and shoring for worker protection will be paid as a separate item on a lump sum basis. Payment will include the cost to prepare plans, obtain permits, install, operate, maintain and remove the system. Payment shall be made proportional to work involving sheeting and shoring.

1.05 SWPPP PREPARATION AND IMPLEMENTATION (ITEM 3)

Payment for preparing, submitting and implementing the SWPPP in conformance with the MS-4 permit for Los Angeles County, including Best Management Practices in

construction activities, monitoring runoff and other storm water control measures shall be made at the contract lump-sum bid price and shall be invoiced equally throughout the length of the contract.

1.06 ROCK EXCAVATION AT TANK SITE (ITEM 4)

Excavation, including excavation operations and monitoring, to establish the subgrade of the new 5 million gallon tank will be paid at the applicable lump sum price named in the Bid Form. Payments for partial completion of excavation shall be based on quantity estimates as approved by the Owner's observer. Payment shall include all labor, equipment, and materials for clearing and grubbing, excavation, removal and disposal of deleterious or un-useable materials, temporary storage and movement of materials and other work incidental to excavation. Trenching, including excavation for pipelines and pipe supports shall be paid under separate bid items.

1.07 MONITORING FOR BLASTING (TANK AND PIPELINE)(ITEM 4A)

Monitoring for blasting (Tank and Pipeline) will be paid at the applicable unit price named in the Bid Form and shall include all labor, equipment, materials to perform the monitoring per the Specifications. Payment will be per individual residential unit as listed in the Specifications where monitoring has been performed upon completion of the blasting work and receipt of the required records. Payment for monitoring of the west saddle dam, Westlake Filtration Plant and at buried utilities will be paid under separate bid items.

1.08 FILL AT TANK SITE (ITEM 5)

Fill at Tank Site shall be paid for on a lump sum basis. Fill at Tank Site shall include the placement of, moisture control, and compaction to the lines and grades shown on the plans. To the extent that there is excess material to be disposed, it shall be legally disposed of and included in the lump sum price for Item 5 "Fill at Tank Site." Fill at Tank Site shall include materials, labor, equipment, and other work necessary to place material to the lines and grades shown on the plans.

1.09 5 MG TANK (ITEM 6)

5.0 MG Prestressed Concrete Tank shall be paid on a lump sum basis and shall include labor, equipment, design of the tank, materials, tank concrete and reinforcing, slurry fill under tank, ladders, vents, hatches, valves, piping, handrails, downspouts, formwork, sealing, coating, painting, disinfection, sampling pipeline, leak detection system, testing, subgrade work, filter material, and appurtenances necessary to install tank as shown in the Drawings.

1.10 TANK BAFFLING (ITEM 7)

Tank Baffling shall be paid on a lump sum basis and shall include labor, equipment, materials, fitting, baffling, concrete curbs, fittings and appurtenances necessary to install the tank baffling as shown in the drawings.

1.11 INLET/OUTLET VALVE VAULT (VAULT, VALVES, EXPANSION JOINTS, HATCHES) (ITEM 8)

Inlet/Outlet Valve Vault (vault, valves, expansion joints, hatches) shall be paid on a lump sum basis and shall include labor, vault excavation, backfill, equipment, materials, fittings, and appurtenances necessary to install the Inlet/Outlet Valve Vault and appurtenances as shown in the drawings.

1.12 36" STEEL PIPELINES (ITEM 9)

This item shall be paid on a lump sum basis. The price for this item shall include full compensation for providing the inlet and outlet pipes, potholing, pipeline excavation, export of excess materials, monitoring, sawcuts, pavement removal and restoration, pipe zone material, pipe base material, street zone base material, testing, disinfection, labor, equipment, materials, valves, couplings, and all appurtenances, including pipe in the vault, necessary to install the pipe as shown in the drawings. Steel casing, pipe support and headwalls shall be paid under a separate item.

1.13 42" STEEL CASING (INCLUDING PIPE SUPPORTS AND HEADWALLS) (ITEM 10)

This item shall be measured for payment on a lump sum basis. The price for this item shall include full compensation for providing the casing, coating, spacers, pipe supports, headwalls, excavation, backfill, labor, equipment, materials and appurtenances necessary to install the Casing, Supports, and Headwalls as shown in the drawings.

1.14 ADDITIONAL TRENCH EXCAVATION (INLET/OUTLET PIPELINE TRENCH) (ITEM 11)

This item shall be measured for payment on a cubic yard basis. Additional Trench Excavation shall be provided at locations deemed as necessary should unforeseen conditions occur. Payment will be made per cubic yard of additional Trench Excavation beyond what is shown on the approved drawings, as performed by the Contractor. Such costs shall include all equipment, monitoring, labor and equipment.

1.15 ADDITIONAL TRENCH EXCAVATION (16" AND SMALLER PIPE (ITEM 12)

This item shall be measured for payment on a cubic yard basis. Additional Trench Excavation shall be provided at locations deemed as necessary should unforeseen conditions occur. Payment will be made per cubic yard of additional Trench Excavation beyond what is shown on the approved drawings, as performed by the Contractor. Such costs shall include all equipment, monitoring, labor and equipment.

1.16 LOWER 30" RAW WATER AND 8" DOMESTIC WATER PIPELINES (ITEM 13)

This item shall be measured for payment on a lump sum basis. The price for this item shall include full compensation for providing the pipes, potholing, pipeline excavation, backflow devices, pavement removal and restoration, pipe zone material, pipe base material, street zone base material, testing, relocation and lowering of existing 6" water pipe, disinfection, labor, equipment, materials and appurtenances necessary to install the pipes as shown in the drawings.

1.17 DRAINAGE ASSEMBLY (STATION 11+18.42) (ITEM 14)

This item shall be measured for payment on a lump sum basis. The price for this item shall include full compensation for providing the pipe, trenching and monitoring, pipeline excavation, pipe zone material, pipe base material, testing, pipe, valves, disinfection, labor, equipment, materials and appurtenances necessary to install the pipes as shown in the drawings.

1.18 FILTERED WATER PIPELINE (30" PIPELINE, VALVES, FITTINGS, COMBINED AIR VACUUM ASSEMBLY AND CONNECTIONS AT WATER FILTRATION PLANT) (ITEM 15)

This item shall be measured for payment on a lump sum basis. The price for this item shall include full compensation for providing the pipes, potholing, pipeline excavation, pavement removal and restoration, pipe zone material, pipe base material, street zone base material, testing, disinfection, labor, equipment, materials and appurtenances necessary to install the pipes as shown in the drawings.

1.19 8" DOMESTIC ASSEMBLY (CONNECTIONS, PIPE, ISOLATION VALVES, BACKFLOW PROTECTION, METER & MOTOR OPERATED VALVE (ITEM 16)

This item shall be measured for payment on a lump sum basis. The price for this item shall include full compensation for providing the pipe, potholing, pipeline excavation, backflow devices, meter, pavement removal and restoration, pipe zone material, pipe base material, street zone base material, testing, disinfection, labor, equipment, materials and appurtenances necessary to install the pipes as shown in the drawings.

1.20 AMMONIA SYSTEM (CONTAINMENT PIPELINES, MANHOLE AND TWO 4" OUTLETS) (ITEM 17)

This item shall be measured for payment on a lump sum basis. The price for this item shall include full compensation for providing the pipe, manhole and conduit excavation, pavement removal and restoration, pipe zone material, pipe base material, street zone base material, testing, disinfection, labor, equipment, materials and appurtenances necessary to install the Ammonia System as shown in the drawings.

1.21 DAM ACCESS ROAD (ITEM 18)

AC Paved Access Road shall be paid for at the lump price as shown in the Bid Schedule. Payment for these items shall include full compensation for providing all labor, materials, equipment, adjustment of DAM monitoring points, and traffic control to provide the interim and final structural sections across the Saddle Dam.

1.22 SITE IMPROVEMENTS (ITEM 19)

Site Improvements shall be paid for at the applicable lump-sum price named in the Bid Schedule. Payment shall constitute full compensation for materials, labor, equipment, tools, rock rip rap, headwalls, free standing walls, overflow drain, storm drain, catch basins, roads, fencing, gates, v-ditches, curbs, gutters, excavation and backfill, drains, leak detection vault, manhole and appurtenances for future ammonia injection, valves, backflow devices, hot taps, pipelines, and piping not covered under the 5.0 MG Prestressed Concrete Tank bid items, and any other appurtenance necessary to construct the site improvements as shown in the plans.

1.23 ELECTRICAL (ITEM 20)

This item is a lump sum bid for furnishing and installing all electrical conduits, conduit supports, pull boxes, wires, circuit breakers and associated accessories, lighting, wiring devices, disconnect switches, grounding system, testing and start up activities as shown on the plans, in accordance with the technical specifications, and as required, to provide a complete and operation system.

1.24 PROCESS CONTROL AND INSTRUMENTATION (ITEM 21)

This item is a lump sum bid for furnishing and installing all instrumentation work including but not limited to, complete instrument enclosure, complete instrument control panel, fiber-optic communications system, PLC programming, modifications to existing SCADA communications and Main PLC panel, modifications to SCADA program, testing and start up as shown on the plans and in accordance with the technical specifications to provide a complete and operation system.

1.25 SITE IRRIGATION AND LANDSCAPING (ITEM 22)

Site Irrigation and landscaping shall be paid for at the applicable lump-sum price named in the Bid Schedule. Payment shall constitute full compensation for materials, labor, equipment, tools, planting, fertilizers, valves, compost, hydroseeding, controllers, irrigation conduit, sleeves, fittings, irrigation pump, trees, shrubs, samples and any other

appurtenance necessary to construct the irrigation and planting improvements as shown in the plans including maintenance requirements.

1.26 PERMANENT ROCK PROTECTION SYSTEM (ITEM 23)

Permanent Rock Protection System shall be paid for at the applicable lump-sum price named in the Bid Schedule. Payment shall constitute full compensation for the design and installation of the Permanent Rock Protection System including materials, labor, equipment and tools, necessary to construct the Permanent Rock Protection System as shown in the plans.

END OF SECTION