



Package 8 Replacement – Bitters Site Bore Project
Solicitation Number: CO-00311
Job No.: 19-4534

ADDENDUM 3
October 29, 2019

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the bid proposal, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the bid proposal.

RESPONSES TO QUESTIONS

1. Question 1

Will a geotechnical baseline report and/or geotechnical data report be provided for this project?

Response: A geotechnical engineering study is available. A geotechnical baseline report/geotechnical data report was not completed for this project. See changes to the Specifications, #6 of this Addendum.

2. Question 2

The direction of the microtunnel drive is shown proceeding downhill. This adds unnecessary risk of equipment flooding during unexpected weather, slurry leak, or lubrication leak events. Can the Contractor choose as his means-and-methods to bore in the uphill direction?

Response: The direction of microtunnel drive is shown this way due to workspace limitations and existing utility locations. The contractor may choose to bore in the upgradient direction at his own discretion/risk. However, the contractor shall adhere to the work areas as shown on the plans and Right of Entry Agreements. Any additional materials, equipment, supplies or work necessary shall be performed by contractor at no additional cost to SAWS.

3. Question 3

The Entry Pit has a conflict with existing WWL and UT. The Receiving Pit has conflicts with a WWL, W, and potentially a GL. What is SAWS intent for how each of these conflicts to be addressed. Who pays for the resolution?

Response: Entry and receiving pit dimensions and locations shown on plans are approximate only. Contractor shall submit proposed entry and receiving pit locations and sizes and site plan per Specification 02310, Paragraphs 1.5(A)(2) and 1.5(A)(7) for approval. The existing wastewater line within the entry pit is to be temporarily removed and flows bypassed during all times that the wastewater line is out of service. The existing underground telephone shown within entry pit shall be supported and protected by the Contractor if exposed. The existing wastewater line within the receiving pit is to be temporarily removed and flows bypassed at all times that the wastewater line is out of service. This work shall be subsidiary to other pay items, no separate payment.

The existing water line within the receiving pit shall be removed and a temporary water main installed to provide clearance in the receiving pit as shown on Sheet 11 of 37 in the Plans. After completion of sewer installation, the waterline shall be permanently relocated as shown on Sheet 11 of 37 in the Plans. Removal of existing waterline

shall be paid for under Item 3000 - Removal, Transportation and Disposal of AC Pipe. Temporary water main shall be paid for under Item SS 1000 – 8” Temporary Water Main. Permanent waterline adjustment to be paid for under Items 818, 828, 836, 840, 841, and 844.

4. Question 4

If an obstruction is encountered per 02300-3.3.E, is the Contractor compensated for the downtime and additional work created by that obstruction?

Response: See Article VI Contract Changes of the General Conditions, specifically Section 6.7 Claims for Additional Work, and Section 6.8 No Damages for Delay Clause.

5. Question 5

The cover under the concrete channel is show as a minimum of 2ft. This brings up two questions:

- a. Can SAWS confirm that the paving thickness, subgrade, false work, rubble, etc. left in place during construction of the channel do not extend into the proposed tunnel alignment?**
- b. Best practices for microtunnel cover is 2.5 tunnel diameters to avoid slurry and/or lubrication “frac-out” to the surface. Who is responsible when the slurry or lubrication systems required by Section 02300 cause an inadvertent return of slurry or lubrication to the surface due to the non-standard cover depth?**

Responses:

- a. The contractor shall verify the condition in the field prior to beginning construction by coring and potholing the existing concrete drainage channel. The contractor shall core the existing concrete channel and return conditions to pre-existing conditions after verification. Bid Item SP4000 - Core, Pothole and Repair Existing Concrete Drainage Channel to Determine Subsurface Conditions has been added to the bid proposal for this work. See changes to the Specifications, #3 of this Addendum.*
- b. A frac-out plan shall be prepared and submitted as part of the submittal process. The contractor should make allowances for handling any modifications to operations for frac-out including lowering fluid pressures at the face. See item #9 of Changes to Specifications in this Addendum.*

6. Question 6

What work does Pay Item 18 (551) Temporary Special Shoring contain?

Response: The work included in Item 551 Temporary Special Shoring is described in City of San Antonio Specification Item 551, Section 551.6 which states:

“This price is full compensation for the furnishing of all structural design/geotechnical/equipment consultant services, excavation and backfill; furnishing, placing and removing shoring, sheeting, or bracing; dewatering or diversion of water; jacking and jack removal; and equipment, labor, materials, tools, and incidentals.”

7. Question 7

Will trenchless methods other than microtunneling be allowed?

Response: See changes to the Specifications, #9 of this Addendum. Only trenchless methods specified in Special Specification “Section 02300 Crossings by Microtunneling or Guided Boring” will be allowed.

8. Question 8

Will a geotechnical report be issued for this project?

Response: See changes to the Specifications, #6 of this Addendum.

CHANGES TO THE SPECIFICATIONS

1. The estimated cost for this project has changed to **\$1,752,000.00**, which is also now reflected on SAWS website at the following:

https://apps.saws.org/Business_Center/Contractsol/Drill.cfm?id=3665&View=Yes
2. Invitation to Bidders: Remove the word “microtunneling” from first paragraph and replace with the words “microtunneling or guided boring”.
3. Remove the “Bid Proposal Form”, Pages BP-1 and BP-2, and replace with the revised Pages BP-1 and BP-2 attached to this addendum. Bidders shall use this version of the revised bid proposal when submitting a bid. The following changes have been made:
 - Item SP100.1 Intermediate Demobilization/Remobilization has been added.
 - TxDOT Item 168 Vegetative Watering, “UNIT” has been revised to “LS” and “QUANTITY” has been revised to “1”.
 - Revised Item SS 2300 “Crossings by Microtunneling” to read “Crossings by Microtunneling or Guided Boring”
 - Item SP4000 - “Core, Pothole and Repair Existing Concrete Drainage Channel to Determine Subsurface Conditions” has been added.
4. Remove the “Statement of Bidder’s Experience” in its entirety and replace with the revised version attached to this addendum. Bidders shall use this version of the revised form when submitting a bid. The following changes have been made:
 - Added guided boring to pages SBE-2 and SBE-3
 - Added Check Boxes to indicate which trenchless method was used for the project experience on pages SBE-2 and SBE-3.
5. Insert “General Wage Decision for Construction Type: Heavy and Highway, General Decision Number TX190007 01/04/2019 TX7”.
6. Remove the “Special Conditions” in its entirety and replace with the revised version attached to this addendum. The following changes have been made:
 - Section 1 – Scope of Work, 1st sentence added “or guided boring”.
 - Section 1 – Scope of Work, 2nd and 3rd sentences of second paragraph removed. Added paragraph pertaining to geotechnical engineering study.
 - Section 4 – Consent Decree Notice Provision, Link to Consent Decree has been updated.
7. Remove the “Supplemental Conditions” in its entirety and replace with the revised version attached to this addendum. Item (d) under “Instructions to Bidders” has been revised to read: “Statement of Bidder’s Experience”.
8. Remove the “Special Provisions to Technical Specifications” in its entirety and replace with the revised version attached to this addendum. The following changes have been made:
 - A special provision has been added for Intermediate Demobilization and Remobilization.
 - A special provision has been added for TxDOT Specification No. 168 (Vegetative Watering) to be measured and paid on a lump sum basis.

9. Remove Special Specification “Section 02300 Crossings by Microtunneling” in its entirety and replace with “Section 02300 Crossings by Microtunneling or Guided Boring” attached to this addendum. The following changes have been made:
 - Added Guided Boring as an approved method.
 - Added the following to paragraph 1.3 Submittals:
 - H. Submit a frac-out plan for addressing preventative and remedial measures for crossing in low-cover zones including any proposed ground improvement, operating pressures, surface monitoring, field-observations, and clean-up procedures in the event of a frac-out.
10. Revise paragraph 1.2.A. of Special Specification “Section 02310 Jacking and Receiving Pits” to read:

“A. Section 02300 – Crossings by Microtunneling or Guided Boring”.
11. Revise paragraph 1.2.2. of Special Specification “Section 02311 Tunnel Grout” to read:

“2. Section 02300 – Crossings by Microtunneling or Guided Boring”.
12. Remove Right of Entry (ROE) Agreements for Hixon Properties Inc. and for Countryside Plaza Ltd. from Appendix B and replace in entirety with the attached executed Right of Entry Agreements for Hixon Properties, Inc. and for Countryside Plaza Ltd.

CHANGES TO THE PLANS

1. All references to “Microtunneling” in the plans shall be removed and replaced with “Microtunneling or Guided Boring”.
2. Plan Sheet 2 (Sheet G-02, Index of Sheets and SAWS General Construction Notes) - Replace sheet dated 10/1/19 with attached sheet dated 10/25/19.
3. Plan Sheet 5 (Sheet G-05, Symbols, Abbreviations, & Quantity Summary) - Replace sheet dated 10/10/19 with attached sheet dated 10/25/19.
4. Plan Sheet 9 (Sheet C-02, Segment 1015944 San Pedro Ave US 281 Crossing Plan and Profile Sta. 10+00 to Sta. 11+00 and Enlarged Plan) - Replace sheet dated 10/1/19 with attached sheet dated 10/25/19.
5. Plan Sheet 16 (Sheet C-05, Segment 1015944 San Pedro Ave US 281 Crossing Permanent Paving and Striping Restoration (West Side Work Area)) - Replace sheet dated 10/1/19 with attached sheet dated 10/25/19.
6. Plan Sheet 17 (Sheet C-06, Segment 1015944 San Pedro Ave US 281 Crossing Permanent Paving and Striping Restoration (East Side Work Area)) - Replace sheet dated 10/1/19 with attached sheet dated 10/25/19.

END OF ADDENDUM

This Addendum, including these five (5) pages, is sixty-eight (68) pages with attachments in its entirety.

Attachments:

Bid Proposal Form (Pages BP-1 and BP-2)
 Statement of Bidder’s Experience (Pages SBE-1, SBE-2, and SBE-3)
 General Wage Decision: Heavy and Highway, General Decision Number TX190007 01/04/2019 TX7
 Special Conditions
 Supplemental Conditions
 Special Provisions to Technical Specifications
 Special Specification “Section 02300 Crossings by Microtunneling or Guided Boring”
 Plan Sheet 2 (Sheet G-02, Index of Sheets and SAWS General Construction Notes)
 Plan Sheet 5 (Sheet G-05, Symbols, Abbreviations, & Quantity Summary)

Plan Sheet 9 (Sheet C-02, Segment 1015944 San Pedro Ave US 281 Crossing Plan and Profile Sta. 10+00 to Sta. 11+00 and Enlarged Plan)

Plan Sheet 16 (Sheet C-05, Segment 1015944 San Pedro Ave US 281 Crossing Permanent Paving and Striping Restoration (West Side Work Area))

Plan Sheet 17 (Sheet C-06, Segment 1015944 San Pedro Ave US 281 Crossing Permanent Paving and Striping Restoration (East Side Work Area))

Right of Entry (ROE) Agreement for Hixon Properties Inc.

Right of Entry (ROE) Agreement for Countryside Plaza Ltd.



Jeffrey E. Reck
Arcadis US, Inc.
TBPE Firm No. F-533



10-29-19

BID PROPOSAL

PROPOSAL OF _____, a corporation
a partnership consisting of _____
an individual doing business as _____

THE SAN ANTONIO WATER SYSTEM:

Pursuant to Instructions and Invitation to Bidders, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the project as specified, in accordance with the Plans and Specifications for the following prices in the bid proposal to wit:

PLEASE SEE ATTACHED LIST OF BID ITEMS.

BIDDER'S SIGNATURE & TITLE

FIRM'S NAME (TYPE OR PRINT)

FIRM'S ADDRESS

FIRM'S PHONE NO. /FAX NO.

FIRM'S EMAIL ADDRESS

The Contractor herein acknowledges receipt of the following:
Addendum Nos. _____

OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID.

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price, and to complete the Project within **150** calendar days after the start date as set forth in the Authorization to Proceed. **The bidder understands and accepts the provisions of the contract Documents relating to liquidated damages of the project if not completed on time.**

Complete the additional requirements of the Bid Proposal which are included on the following pages.

ITEM	SPEC NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	SP 100.1	INTERMEDIATE DEMOBILIZATION/REMOBILIZATION (OWNER WRITTEN APPROVAL REQUIRED FOR PAYMENT)	LS	1	\$	\$
2	103.1	REMOVE CONCRETE CURB	LF	367	\$	\$
3	TXDOT 104	REMOVE CONCRETE DRIVEWAY	SY	111	\$	\$
4	TXDOT 160	TOPSOIL	CY	105	\$	\$
5	TXDOT 162	BLOCK SODDING	SY	950	\$	\$
6	TXDOT 168	VEGETATIVE WATERING	LS	1	\$	\$
7	238	RUBBERIZED EMULSION AGGREGATE SLURRY WITH POLYMER (REAS)	SY	1852	\$	\$
8	TXDOT 401	FLOWABLE BACKFILL	CY	254	\$	\$
9	500.1	CONCRETE CURB & GUTTER	LF	367	\$	\$
10	503.4	ASPHALTIC CONCRETE DRIVEWAY	SY	2314	\$	\$
11	SS 518.2	TREE PROTECTION - LEVEL IIB	EA	2	\$	\$
12	SS 518.3	TREE REMOVAL AND REPLACEMENT (8" CREPE MYRTLE)	EA	1	\$	\$
13	TXDOT 530	CONCRETE DRIVEWAYS	SY	111	\$	\$
14	530.7	BARRICADES, SIGNS, AND TRAFFIC HANDLING	LS	1	\$	\$
15	535.1	4 INCH WIDE YELLOW LINE	LF	3225	\$	\$
16	535.2	4 INCH WIDE WHITE LINE	LF	300	\$	\$
17	540.7	TEMPORARY CONSTRUCTION PERIMETER FENCE (INSTALL/REMOVE)	LF	900	\$	\$
18	550	TRENCH EXCAVATION SAFETY PROTECTION	LF	286	\$	\$
19	551	TEMPORARY SPECIAL SHORING	SF	5460	\$	\$
20	SS 804.1	HYDROEXCAVATION OR HAND DIGGING WITHIN 2 FEET OF GAS MAIN	LS	1	\$	\$
21	818	8" PVC C900 WATERLINE (ALL DEPTHS), FULLY RESTRAINED	LF	60	\$	\$
22	828	8" GATE VALVE	EA	1	\$	\$
23	836	PIPE FITTINGS (ALL SIZES AND TYPES)	TN	0.3	\$	\$
24	840	8" WATER TIE-IN	EA	2	\$	\$
25	841	HYDROSTATIC TESTING	EA	1	\$	\$
26	844	2" BLOW-OFF TEMPORARY	EA	1	\$	\$
27	848	8" ASTM D3034 SDR 26 PVC SAN. SEWER LINE (6'-10')	LF	50	\$	\$
28	848	12" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (10'-14')	LF	23	\$	\$
29	848	12" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (0'-6')	LF	37	\$	\$
30	848	15" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (14'-18')	LF	124	\$	\$
31	852	STANDARD PRECAST 4' DIAMETER MANHOLE (0'-6')	EA	2	\$	\$
32	852	STANDARD EXTRA DEPTH MANHOLES (>6')	VF	38	\$	\$
33	852	STD DROP MANHOLE 4' DIAMETER (0'-6')	EA	3	\$	\$
34	854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	1	\$	\$
35	856	12" CARRIER PIPE- PVC SDR 26 ASTM D2241 (RESTRAINED)	LF	502	\$	\$
36	856	30" CASING	LF	502	\$	\$
37	864-S1	BYPASS PUMPING (SMALL DIAMETER SANITARY SEWERS)	LS	1	\$	\$
38	866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	736	\$	\$
39	SS 1000	8" TEMPORARY WATER MAIN (INSTALL AND REMOVE) INCLUDING ALL FITTINGS, TIE-INS, DISINFECTION AND APPURTENANCES	LF	80	\$	\$
40	SS 2300	CROSSINGS BY MICROTUNNELING OR GUIDED BORING - 30" DIAMETER	LF	502	\$	\$
41	3000	REMOVAL, TRANSPORTATION, AND DISPOSAL OF AC PIPE	LF	55	\$	\$
42	SP 4000	CORE, POTHOLE AND RESTORE EXISTING CONCRETE DRAINAGE CHANNEL TO DETERMINE SUBSURFACE CONDITIONS	LS	1	\$	\$
43	SS 7185	ABANDONMENT AND GROUTING OF SANITARY SEWER MAIN (12" DIA)	LF	552	\$	\$
SUBTOTAL (ITEMS 1 - 43)						\$
44	100	MOBILIZATION AND DEMOBILIZATION; MAX OF 10% OF THE TOTAL OF ITEMS 1-43	LS	1	\$	\$
45	101	PREPARING RIGHT OF WAY; MAX OF 5% OF THE TOTAL OF ITEMS 1-43	LS	1	\$	\$
TOTAL BID PRICE (ITEMS 1 - 43 AND 44-45)						\$

Mobilization and Preparing of Right of Way shall be limited to the maximum percentage shown. If the percentage exceeds the allowable maximum stated for mobilization and/or preparation of Right of Way, SAWS reserves the right to cap the amount at the percentages shown and adjust the extensions of the bid items accordingly.

STATEMENT OF BIDDER'S EXPERIENCE

Package 8 Replacement – Bitters Site Bore Project

SAWS Job No. 19-4534

SAWS Solicitation No. CO-00311-AT

A. Please complete **all** the fields below.

If all fields are not completed, the Bid may be at risk of being rejected due to non-responsiveness. It is not acceptable to indicated "See attached".

Project A-1 is to have been completed by the Bidder.

- Project A-1 demonstrates construction of a minimum of 100 LF by open cut construction for sanitary sewer mains 8-inches in diameter or greater that included locating, protecting and working around a high number of existing utilities.
- Project A-1 shall be a different project than Project A-2 listed.
- Project A-1 shall have been completed between 2014 and 2019.

Project A-1 Description

Name of Project: _____ Location: _____

Scope of work: _____

Pipe Size(s): _____ Pipe Length(s): _____

Owner Contact's Name: _____ Owner Contact's Title: _____

Owner Contact's Phone Number(s): _____

Project Bid Amount: _____ Project Final Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

A. Please complete **all** the fields below.

If all fields are not completed, the Bid may be at risk of being rejected due to non-responsiveness. It is not acceptable to indicated "See attached".

Project A-2 is to have been completed by the Bidder.

- Project A-2 demonstrates construction of a minimum of 500 LF by microtunneling or guided boring construction methods for sanitary sewer mains 12-inches in diameter and greater.
- Project A-2 shall have been completed between 2014 and 2019.

Project A-2 Description

Name of Project: _____ Location: _____

Scope of work: _____

Pipe Size(s): _____ Pipe Length(s): _____

Owner Contact's Name: _____ Owner Contact's Title: _____

Owner Contact's Phone Number(s): _____

Project Bid Amount: _____ Project Final Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Bidder is submitting this Project A-2 experience record for the following method (check one):

- Microtunneling
- Guided Boring

A. Please complete **all** the fields below.

If all fields are not completed, the Bid may be at risk of being rejected due to non-responsiveness. It is not acceptable to indicated "See attached".

Project A-3 is to have been completed by the Bidder or Bidder's Subcontractor.

- Project A-3 demonstrates construction of a minimum of 500 LF of sanitary sewer pipe with 30-inch casing pipe or greater (installed in one continuous segment) using microtunneling or guided boring construction methods.
- Project A-3 shall have been completed between 2014 and 2019.
- Project A-3 may be the same as Project A-2 listed.

Project A-3 Description

Name of Project: _____ Location: _____

Scope of work: _____

Pipe Size(s): _____ Pipe Length(s): _____

Owner Contact's Name: _____ Owner Contact's Title: _____

Owner Contact's Phone Number(s): _____

Project Bid Amount: _____ Project Final Amount: _____

Project Start Date: _____ Project End Date: _____

Additional Information: _____

Bidder is submitting this Project A-3 experience record for the following method (check one):

- Microtunneling
- Guided Boring

General Decision Number: TX190007 01/04/2019 TX7

Superseded General Decision Number: TX20180016

State: Texas

Construction Types: Heavy and Highway

Counties: Atascosa, Bandera, Bastrop, Bell, Bexar, Brazos, Burleson, Caldwell, Comal, Coryell, Guadalupe, Hays, Kendall, Lampasas, McLennan, Medina, Robertson, Travis, Williamson and Wilson Counties in Texas.

HEAVY (excluding tunnels and dams, not to be used for work on Sewage or Water Treatment Plants or Lift / Pump Stations in Bell, Coryell, McClellon and Williamson Counties) and HIGHWAY Construction Projects

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

* SUTX2011-006 08/03/2011

Rates	Fringes
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CEMENT MASON/CONCRETE FINISHER (Paving and

Structures).....	\$ 12.56
ELECTRICIAN.....	\$ 26.35
FORM BUILDER/FORM SETTER	
Paving & Curb.....	\$ 12.94
Structures.....	\$ 12.87
LABORER	
Asphalt Raker.....	\$ 12.12
Flagger.....	\$ 9.45
Laborer, Common.....	\$ 10.50
Laborer, Utility.....	\$ 12.27
Pipelayer.....	\$ 12.79
Work Zone Barricade Servicer.....	\$ 11.85
PAINTER (Structures).....	\$ 18.34
POWER EQUIPMENT OPERATOR:	
Agricultural Tractor.....	\$ 12.69
Asphalt Distributor.....	\$ 15.55
Asphalt Paving Machine.....	\$ 14.36
Boom Truck.....	\$ 18.36
Broom or Sweeper.....	\$ 11.04
Concrete Pavement Finishing Machine.....	\$ 15.48
Crane, Hydraulic 80 tons or less.....	\$ 18.36
Crane, Lattice Boom 80 tons or less.....	\$ 15.87
Crane, Lattice Boom over 80 tons.....	\$ 19.38
Crawler Tractor.....	\$ 15.67
Directional Drilling Locator.....	\$ 11.67
Directional Drilling Operator.....	\$ 17.24
Excavator 50,000 lbs or Less.....	\$ 12.88
Excavator over 50,000 lbs...	\$ 17.71
Foundation Drill, Truck Mounted.....	\$ 16.93
Front End Loader, 3 CY or Less.....	\$ 13.04
Front End Loader, Over 3 CY.	\$ 13.21
Loader/Backhoe.....	\$ 14.12
Mechanic.....	\$ 17.10
Milling Machine.....	\$ 14.18
Motor Grader, Fine Grade....	\$ 18.51
Motor Grader, Rough.....	\$ 14.63
Pavement Marking Machine....	\$ 19.17
Reclaimer/Pulverizer.....	\$ 12.88
Roller, Asphalt.....	\$ 12.78
Roller, Other.....	\$ 10.50
Scraper.....	\$ 12.27
Spreader Box.....	\$ 14.04

Trenching Machine, Heavy....\$ 18.48

Servicer.....\$ 14.51

Steel Worker

 Reinforcing.....\$ 14.00

 Structural.....\$ 19.29

TRAFFIC SIGNAL INSTALLER

 Traffic Signal/Light Pole

 Worker.....\$ 16.00

TRUCK DRIVER

 Lowboy-Float.....\$ 15.66

 Off Road Hauler.....\$ 11.88

 Single Axle.....\$ 11.79

 Single or Tandem Axle Dump

 Truck.....\$ 11.68

 Tandem Axle Tractor w/Semi

 Trailer.....\$ 12.81

WELDER.....\$ 15.97

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification

and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage

determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an

interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

Special Conditions

SECTION 1 - SCOPE OF WORK

The San Antonio Water System is soliciting bids for the purpose of retaining a Contractor for the construction of sanitary sewer mains using open cut and microtunneling or guided boring methods, and replacement of associated manholes.

There is one (1) project location near Bitters Road and US 281 N. Some of the work involved in the project may require but is not limited to installation, replacement, or removal of driveways, concrete curbs, topsoil, sodding, and concrete or asphalt replacement.

A Geotechnical Engineering Study has been developed for SAWS on this project and is being made available for Contractors for informational purposes only. SAWS will require the execution of a SAWS disclaimer form by the Contractor as a condition of and prior to the release of the reports. To complete the disclaimer form and obtain the reports, please go to the following link on SAWS website:

https://apps.saws.org/business_center/ContractSol/Drill.cfm?id=3665&View=Yes

SECTION 2 - PROJECT REQUIREMENTS

Contractor shall submit by the pre-construction meeting a project schedule which includes milestones. As stated in the General Conditions, the Contractor is required to update the schedule monthly, as part of the Pay Application approval process.

Contractor shall submit a completion report to SAWS when construction is completed.

The completion report shall include but not be limited to the following:

- Pre and post MPEG-1 format and written to CD/DVD video and video logs.
- Any test and/or submittals specified in this contract documents such as density tests, structural properties, etc. that are required.

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2.1 PERFORMANCE TIME

The table below shows the project location as identified in the design plans, contract documents, easement(s) and ROE agreements. The Contractor shall submit and maintain throughout construction, a detailed construction baseline schedule showing sequence of work, to clearly identify the project location construction activities.

Location No.	Project Location	Scope	Segment(s)/ COMPKEYS*	Permit(s)
1	Bitters Road and US 281 N	Open Cut/Sewer Re-route/New Sewer Installation	1015944	TxDOT ROW Permit, CoSA Floodplain Development Permit, and CoSA Tree Permit

**Please note COMPKEY pertains to the segment that is being abandoned. New COMPKEYS to be assigned by SAWS and reflected on project as-built/redline drawings.*

Contractor shall not commence any work until applicable permits are obtained. Copies of these permits shall be kept on site at all times, readily available. Contractor shall always abide by the permitting entities' requirements.

Final completion of the project, all project locations, shall be achieved in **150 calendar days** from the start date noted on the Notice to Proceed.

Work on this project cannot commence later than February 28, 2020 (no penalty for starting sooner). Work cannot be extended passed July 28, 2020. Liquidated damages specified in Supplemental Conditions Insertions (Article VIII – Contract Completion Time) will be assessed if work is not completed on or before July 28, 2020. See Right of Entry Agreements in Appendix B for specific schedule limitations for each property.

Project substantial complete can be achieved when the SAWS Inspector and Engineer confirm all the sanitary sewer pipeline and manhole work (replacement, installation, rehabilitation, reconstruction, etc.) has been completed, tested and the sewer system has been accepted for service. The Contractor shall address all Substantial Completion walkthrough punch-list items.

2.2 PERMITS:

SAWS will obtain Utility Installation Request/ROW permits from TxDOT in accordance with the project contract documents. Note that TxDOT permits expire if construction has not started within 90 calendar days from the date of original permit issuance unless a permit amendment is requested. If construction has not started within 45 days of original TxDOT permit issuance, Contractor shall provide

Special Conditions

SAWS written notification to allow time for SAWS to prepare the amendment. The amendment grants an additional 90 days to start construction and only one amendment is allowed per permit. If a permit expires prior to Contractor notifying of amendment request, the permit must be resubmitted to TxDOT by SAWS. TxDOT has up to 30 calendar days for review.

Contractor shall provide notification to SAWS if construction has not started 45 calendar days prior to expiration of permit that has already been amended so that SAWS may resubmit the permit request to TxDOT. If Contractor elects to use another bypass route other than that which is specified in the plans, Contractor must include the revised bypass plan within the 45-day notice for SAWS to include in the TxDOT permit submittal. Revised bypass plan must be signed and sealed by a Professional Engineer licensed in the state of Texas. Contractor shall bear delays in construction time and costs incurred for not providing the required advance notice to SAWS prior to the permit expiring. Delays resulting in liquidated damage fees shall also be borne by the Contractor.

SAWS has also obtained all applicable Floodplain Development Permit(s) and CoSA Tree Permit(s) from City of San Antonio. Contractor is responsible for all other required permits per the General Conditions. This includes applying and paying CoSA street cut permits.

2.3 RIGHT OF ENTRY AND ACCESS:

Access to project locations are defined in the design plans, contract documents, and Right-of-Entry (ROE) exhibits. The Contractor shall carefully review these documents and shall closely coordinate with landowners and their tenants.

ROE agreements include additional insurance requirements for contractor. Contractor shall name the affected property owners as additional insured and provide a certificate evidencing coverage limits specified in each ROE agreement prior to contract execution. See Right of Entry Agreements in Appendix B for more information.

2.4 CONSTRUCTION ACCESS AND STAGING AREA:

The Contractor shall stake the edges of the Right-of-Entry area(s) (both sides) and easement (s) as indicated in the drawings.

Certain properties with Right-of-Entry areas have schedule limitations that are different than the overall contract duration. Refer to specific limitations of Right-of-Entry Agreements in the Appendix. Contractor shall schedule their work accordingly to complete the project within the Contract Time.

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SECTION 3 - SPECIFICATIONS

All work performed shall be in accordance with the Contract Documents and the current San Antonio Water System Specifications for Water and Sanitary Sewer Construction, these Special Conditions, the current Texas Department of Transportation Standard Specification for Construction of Highways, Streets, and Bridges, the current City of San Antonio Standard Specifications for Public Work Construction, City of San Antonio Utility Excavation Criterial Manual, or specifications and requirements of any other governing jurisdiction that may apply.

SECTION 4 - CONSENT DECREE NOTICE PROVISION

The San Antonio Water System (“SAWS”), the United States of America and the State of Texas have entered into a Consent Decree in Civil Action No. 5:13-cv-00666- DAE, United States of America and State of Texas v. San Antonio Water System, in the United States District Court for the Western District of Texas, San Antonio Division (the “Consent Decree”). A copy of the Consent Decree is available at:

https://apps.saws.org/infrastructure/epa/docs/20131015_SAWS_EPA_FinalDecree.pdf

Work performed pursuant to this contract is work that SAWS is required to perform pursuant to the terms of the Consent Decree. In the event of any conflict between the terms and provisions of this Consent Decree Notice Provision and any other terms and provisions of this Contract or the Contract Documents, the terms and provisions of this Consent Decree Notice Provision shall prevail.

A. **Retention of documents.**

Contractor shall retain and preserve all non-identical copies of all documents, reports, research, analytical or other data, records or other information of any kind or character (including documents, records, or other information in electronic form including, but not limited to e-mails) in its or its sub-contractors’ or agents’ possession or control, or that come into its or its sub- contractors’ or agents’ possession or control, and that relate in any manner to this contract, or the performance of any work described

in this contract (the “Information”). This retention requirement shall apply regardless of any contrary corporate or institutional policy or procedure or legal requirement. Contractor, Contractor’s sub-contractors and agents shall retain and shall not destroy any of the Information until such time as Contractor has received written approval from the General Counsel of SAWS that the Information or any part of the Information may be destroyed. Contractor shall, within 30 days after receipt of a written request by SAWS, deliver the Information to SAWS. Contractor

Special Conditions

shall instruct and require its agents and sub-contractors performing any part of the work described in this contract to comply with the requirements of this paragraph.

B. Notification of events that may cause delay.

If any event occurs that may delay performance by Contractor, or Contractor's agents or sub-contractors of any work or obligation of any kind under this contract, Contractor shall provide notice in accordance with the Notice Provisions of this contract to SAWS within two (2) business days of the date Contractor or Contractor's agents or sub-contractors first knew that the event might cause a delay. Contractor shall provide a written explanation and description of the reasons for the delay, the anticipated duration of the delay, all actions taken or to be taken to prevent or minimize the delay, and a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay. **TIME IS OF THE ESSENCE** in the performance of the requirements of this paragraph and of any work to be performed by the Contractor in this contract.

Liability for stipulated penalties.

The Consent Decree provides that the United States of America, the United States Environmental Protection Agency and the State of Texas may assess stipulated penalties against SAWS upon the occurrence of certain events. To the extent that Contractor or Contractor's agents or sub-contractors cause or contribute to, in whole or in part, the assessment of any stipulated penalty against SAWS, Contractor agrees that it shall pay to SAWS the full amount of any stipulated penalty assessed against and paid by SAWS that is caused or contributed to in whole or in part by any action, failure to act, or failure to act within the time required by any provision of this contract. Contractor shall also pay to SAWS all costs, attorney fees, expert witness fees and all other fees and expenses incurred by SAWS in connection with the assessment or payment of any such stipulated penalties, or in contesting the assessment or payment of any such stipulated penalties. In addition to any and all other remedies to which SAWS may be entitled at law or in equity, Contractor expressly authorizes SAWS to withhold all amounts assessed and paid as stipulated penalties, and all associated costs, fees, or expenses from any amount unpaid to Contractor under the terms of this contract, or from any retainage provided in the contract.

- END -

Supplemental Conditions

Instructions to Bidders IB-1

IB-1 Instructions to Bidders IB-1, Page IB-7, Item 24 shall be replaced with:

To assist the San Antonio Water System Contracting Office in performing the bidder evaluation and subsequent recommendation of award, all bidders will submit the following items with their bids on the day of the bid opening. Failure to provide the required information may result in determining a nonresponsive bidder:

- (a) An information packet on company showing experience, organization and equipment. (Field visits may take place by SAWS personnel to verify and/or clarify submitted equipment prior to award of Contract.)
- (b) A statement regarding ability to complete work orders within the performance time as described in SC 2.4 taking into account existing commitments.
- (c) A completed and signed W-9 Request for Taxpayer Identification Number and Certification form.
- (d) Statement of Bidders Experience.

The remainder will remain unchanged.

ARTICLE III. CONTRACT DOCUMENTS AND BONDS

Section 3.3.1 of the General Conditions shall be replaced in its entirety with the following:

RECORD DRAWINGS – The Contractor shall formally submit to SAWS, along with the invoice, a set of red line drawings noting work completed for each work order on the invoice. Red Line drawings should also reflect any and all variations to the standard specifications and reflect all actual dimensions necessary for the development of as built drawings. As a condition precedent to any payment, the Contractor shall have a duty to submit, and coordinate with SAWS, Contractor's properly marked drawings. Prior to payment to the Contractor, the Contractor who has control of the Work and is in a position to know how the Project was constructed, shall formally submit to SAWS with the invoice the set of clearly marked red line drawings and related documents noting work completed and any variations from the original plan and specifications for SAWS use in preparing Owner's final "Record Drawings" for the SAWS permanent file.

ARTICLE IV- CONTRACT ADMINISTRATION

Section 4.4 of the general conditions shall be amended to add the following:

CONTRACTORS – The Contractor shall perform the Work with its own organization on at least

40% of the total original contract price to be confirmed by the Bidder on page 1 of the Good Faith Effort Plan.

The term to “perform the Work with its own organization” is defined herein as utilizing only:

- Workers employed and paid directly by the Contractor or a wholly owned subsidiary of the contractor.
- Equipment owned by the contractor or its wholly owned subsidiary.
- Rented or leased equipment operated by the Contractor’s, or its wholly owned subsidiaries, employees.
- For purposes of determining the value of the Work self-performed, the amount shall include all materials incorporated into the Work where the majority of the value of the Work involved in incorporating the material is performed by the Contractor’s own Organization, including wholly owned subsidiary; and
- Labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor code for non-supervisory personnel if the contractor or wholly owned subsidiary maintains direct control over the labor.

Remove Section 4.6.2.1 in its entirety and replace with the following:

TERMINATION FOR CONVENIENCE - The right to terminate this Contract for the convenience of Owner (including, but not limited to, non-appropriation of funding) expressly is retained by Owner. In the event of a termination for convenience by Owner, Owner shall, at least ten (10) calendar days in advance, deliver written notice of the termination for convenience to Contractor. Upon Contractor’s receipt of such written notice, Contractor immediately shall cease the performance of the Work and shall take reasonable and appropriate action to secure and protect the Work then in place. Contractor shall then be paid by Owner, in accordance with the terms and provisions of the Contract Documents, an amount not to exceed the actual labor costs incurred, the actual cost of all materials installed and the actual cost of all materials stored at the Project site or away from the Project site, as approved in writing by Owner, but not yet paid for and which cannot be returned; and actual, reasonable and documented demobilization costs, if any, paid by Contractor and approved by Owner in connection with the Work in place which is completed as of the date of termination by Owner and that is in conformance with the Contract Documents, less all amounts previously paid for the Work. No amount ever shall be owed or paid to Contractor for lost or anticipated profits on any part of the Work not performed or for consequential damages of any kind or unabsorbed overhead, opportunity costs or other damages as a result of a termination for convenience under this section. In addition, any amount payable to the Contractor pursuant to this section shall be reduced in the amount of (1) any claim Owner may have against the Contractor under this Contract, and (2) the fair value, as determined by Owner, of property which is destroyed, lost, stolen or damaged so as to become undeliverable to Owner, excluding normal spoilage and except to the extent that Owner shall have otherwise expressly assumed the risk of loss with respect to such property hereunder.

Remove Section 4.9.2 of the general conditions and replace with the following:

The Contractor shall not, except upon procuring written consent from proper private parties, enter or occupy with men, tools, materials, or equipment, any privately owned land except for those on

easements or rights of entry provided herein by SAWS. Contractor must submit a copy of the written consent from the land owner to SAWS.

The remaining sections of Article IV shall remain the same.

ARTICLE V – CONTRACT RESPONSIBILITIES

Remove Section 5.7.1.1.7.8 in its entirety and replace with the following:

Installation Floater - Physical Damage Insurance which insures SAWS and the City for damages to all Property Purchased for, or Assigned to, the Project commencing on the start date through completion. Policy limits shall be in an amount equal to the total contract cost contracted herewith. The policy form shall be an All Risk form and shall include coverage for both during transit and while stored at the work site.

ARTICLE VI – CONTRACT CHANGES

6.4 Delete section 6.4 in its entirety.

6.6 Delete section 6.6 in its entirety.

The remaining sections of Article VI shall remain the same.

ARTICLE VIII. - CONTRACT COMPLETION TIME

Section 8.6 Liquidated Damages for Failure to Complete on Time: of the General Conditions shall be amended as follows:

Add the following to the end of the paragraph:

Liquidated Damages, will be assessed as follows for final completion extending beyond contract time of all Project Locations:

Liquidated Damages Charges		
Category	Duration (days)	Charge (\$/day)
Tier 1	1-7	\$460
Tier 2	8-14	\$540
Tier 3	15-21	\$600
Tier 4	22-28	\$640
Tier 5	29-35	\$670
Tier 6	36-42	\$690

Any days tallied after 42 days will be assessed as Tier 6 rate.

The remaining sections of Article VIII shall remain the same.

Special Provisions to Technical Specifications

A. Revision to SAWS Standard Specification Item 100 Mobilization

100.1 DESCRIPTION: ADD the following paragraph at the end of the section:

The Intermediate Demobilization and Remobilization item shall govern the demobilization and remobilization of personnel, equipment, and supplies as indicated and directed by Owner. Intermediate demobilization and remobilization shall include all of the associated expenses and fees incurred by the Contractor for an Owner approved/directed intermediate demobilization to include stabilization of the project area to safe conditions during the demobilization time and a remobilization for project completion upon re-authorization from Owner. The demobilization and remobilization shall be approved as a written directive from the Owner only if delay outside the Contractor's control is experienced and that are otherwise not described would impede completion of work at the site. Contractor shall perform the proposed work at this site without hindering any events beyond what is approved on the permits

100.2 MEASUREMENT: ADD the following paragraph at the end of the section:

Measurement of the Intermediate Demobilization and Remobilization item shall be by "Lump Sum," but requires written approval from SAWS. If there is no event(s) requiring the intermediate demobilization and remobilization there shall be no measurement and payment for this item.

100.3 PAYMENTS: ADD the following paragraph at the end of the section:

Payment of the Intermediate Demobilization and Remobilization item shall only be paid if prior authorization in writing was given by SAWS. Payment of this item is limited to delays outside the Contractor's control and that are not otherwise described and provided in the General Conditions. Contractor shall be paid 50% for this item upon demobilization and 50% of this item upon remobilization. There shall be no payment of this item if the Owner does not approve any intermediate demobilization and remobilization for the project.

All other language in this specification 100 remains in full force.

B. Revision to CoSA Specification Item 530 Barricades, Signs, and Traffic Handling

530.2 GUIDELINES FOR BARRICADING ON THE CITY RIGHT-OF-WAY: ADD the following:

This item shall also govern for barricades and signs on TxDOT right-of-way

Special Provisions to Technical Specifications

(ROW). Contractor shall comply with TxDOT ROW permit. Barricades and sign placement in TxDOT ROW shall meet the requirements of TxDOT Specification Item 502 Barricades, Signs, and Traffic Handling.

530.6 PAYMENT: DELETE this section in its entirety and **REPLACE** with the following:

This item will be paid for at the unit price bid per Lump Sum for “barricades, signs, and traffic handling”. This price shall be full compensation for furnishing all labor, materials, supplies, signs (including electronic portable changeable message signs at locations identified in the plans), equipment, and incidentals necessary to complete the work as specified. Failure to complete the work within time allowed in the project contract due to approving designs, testing, material shortages, closed construction season, curing periods, and testing periods will not qualify for additional compensation.

All other language in this specification 530 remains in full force.

C. **Revision to CoSA Specification Item 540 Temporary Erosion, Sedimentation and Water Pollution Prevention and Control**

540.1 DESCRIPTION: ADD the following:

For additional Stormwater Pollution Prevention Requirements, reference the attached SW3P Notice to Permit Holder regarding updates to the Construction Stormwater Ordinance (Ord. 94002) effective January 1, 2017 attached to the end of the Special Provisions to Technical Specifications.

540.4.A CONSTRUCTION: DELETE this section in its entirety and **REPLACE** with the following:

A. Contractor Responsibilities

1. *SW3P. Contractor shall provide Storm Water Pollution Prevention Plan (SW3P) designed in accordance with the specific or general storm water requirements. SW3P shall be sealed by a professional engineer licensed in the state of Texas. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site. The Contractor shall effectively prevent and control erosion and sedimentation on the site at the earliest practicable time as outlined in the approved schedule. Control measures, where applicable, will be implemented prior to the commencement of each construction operation or immediately after the area has been disturbed.*

All other language in this specification 540 remains in full force.

Special Provisions to Technical Specifications

D. Revision to Standard Specification Item 804 Excavation, Trenching and Backfill

804.10 PAYMENT: ADD the following to the end of Paragraph 804.10:

Payment for hydroexcavation or hand digging when specified by the Engineer in the Plans and/or Contract Documents will be paid for at the unit price bid per Lump Sum for “Hydroexcavation or hand digging within 2 feet of gas main”. This price shall be full compensation for furnishing all labor, materials, supplies, equipment, and incidentals necessary to complete the work as specified.

All other language in this specification 804 remains in full force.

E. Revision to Standard Specification Item 848 Sanitary Sewers

848.5 MEASUREMENT: ADD the following to the end of Paragraph 848.5:

There will be no measurement for the preparation of Storm Water Pollution Prevention Plans (SW3P) or installation of associated SW3P controls. SW3P and associated controls shall be considered subsidiary to other pay items.

848.6 PAYMENT: ADD the following to the end of section:

5. *There will be no measurement or payment for preparation of Storm Water Pollution Prevention Plans (SW3P) and installation of associated SW3P controls. SW3P and associated controls shall be considered subsidiary to other pay items.*

All other language in this specification 848 remains in full force.

F. Revision to Standard Specification Item 550 Trench Excavation Safety Protection

550.2 CONSTRUCTION: ADD the following to the end of the section:

Contractor shall submit a Trench Excavation System Plan, designed and sealed by a professional engineer licensed in the State of Texas (Contractor’s Engineer), for review by the Engineer and SAWS as product data. The Trench Excavation System Plan shall comply with the Occupational Safety and Health Administration (OSHA) Part 1926 – Safety and Health Regulations for Construction, Subpart P – Excavations section 652 – Requirements for protective systems. This item shall be provided as a submittal to the Engineer and SAWS prior to mobilizing to the project site(s).

Special Provisions to Technical Specifications

550.3 MEASUREMENT: ADD the following to the end of the section:

The Trench Excavation Safety Protection measurement shall include the Trench Excavation System Plan, designed and sealed by a professional engineer licensed in the State of Texas (Contractor's Engineer). Contractor shall provide as a product data submittal to the Engineer and SAWS.

550.4 PAYMENT: ADD the following to the end of the section:

The Trench Excavation System Plan, designed and sealed by a professional engineer licensed in the State of Texas (Contractor's Engineer), shall be subsidiary to the Trench Excavation Safety Protection pay item. There shall be no additional payment for the successful completion of this work.

All other language in this specification 550 remains in full force.

G. Revision to Standard Specification Item No. 864-S1 Bypass Pumping (Small Diameter Sanitary Sewers)

864.5 CONSTRUCTION: ADD the following:

13. *Contractor is responsible for determining if suction or discharge manhole ring and cover has sufficient dimensions to accommodate bypass piping. Contractor shall remove ring and cover or cone as necessary to accommodate bypass piping. Upon completion of bypass operations, Contractor shall replace existing manhole components to their original location and condition.*

864.7 MEASUREMENT AND PAYMENT: DELETE this paragraph in its entirety and **REPLACE** with the following:

Measurement for the work specified herein will be by lump sum for "Bypass Pumping (Small Diameter Sanitary Sewers). Payment of the lump sum price for Bypass Pumping shall in accordance with the following. Any effort required for multiple set-ups and operations shall be included in the unit price bid. Such payment shall also include small diameter bypass pumping setups or pump and haul located at each Project Location as indicated in the plans.

1. *When initial set-up and operation of the bypass pumping system begins (including a successful test), 20% of the "Lump Sum" cost will be paid as applicable to stationary bypass pumping to include flow diversion if used.*
2. *60% of the "Lump Sum" cost will be paid over equal monthly payments (estimated from the BPP or other documentation approved by the Inspector) during the course of the bypass pumping operation as applicable to stationary bypass pumping to include flow diversion if used.*
3. *20% of the remaining "Lump Sum" cost will be paid upon an acceptable*

Special Provisions to Technical Specifications

removal and/or disassembly of all components of the BPP, including site cleanup as applicable to stationary bypass pumping to include flow diversion if used.

4. *For multi-bypass pumping setups, payment will be proportional to the overall amount of the established bid line item.*
5. *Any damages, repairs, etc., to private or public property will not be considered for any additional payment.*
6. *Measurement of the work for pipe plugs and transmitter shall be incidental to the work and will not have a separate pay item.*
7. *Removal of manhole ring and covers or manhole cones to accommodate bypass piping suction or discharge shall not be measured separately for payment and shall be considered subsidiary to this item.*

All other language in this specification 864-S1 remains in full force.

H. Revision to Standard Specification Item No. 866 Sewer Main Television Inspection

866.1 DESCRIPTION: DELETE this section in its entirety and **REPLACE** with the following:

The Contractor shall furnish all labor, materials, equipment, and incidentals to provide the closed-circuit televising. All inspections shall be in accordance with NASSCO PACP requirements and a NASSCO PACP database shall be submitted. All digital video files shall be color, closed-circuit TV in MPEG-1 format. The video shall include an inclinometer, visible on the video being viewed, noting the slope of the main being televised. The contractor shall provide all inspection data of mains and manholes written to a single storage device.

General Clarification: All references to DVD should be replaced with a single data storage device.

866.2 GENERAL: DELETE this section in its entirety and **REPLACE** with the following:

Before construction of the sanitary sewer main, if required, the main shall be televised to locate laterals, observe existing conditions and immediately upon cleaning or clearing existing main. The Contractor shall furnish all labor, equipment, appliances, and materials necessary for cleaning the sewer system including the removal of all debris, solids, sand, grease, grit, etc. from the sewer and manholes to facilitate television inspection. Televising shall be observed by the Inspector or Engineer and contractor as the camera is run through the system and shall be in accordance with NASSCO PACP guidelines. No additional compensation shall be provided for cleaning, clearing, or re-televising.

Special Provisions to Technical Specifications

After construction of the sanitary sewer main and prior to placement of the final course of asphalt or other final surface, the newly constructed sanitary sewer shall be televised immediately upon cleaning. Televising shall be observed by the Inspector or Engineer, and contractor as the camera is run through the system. Any abnormalities such as, but not limited to, misaligned joints, cracked/defected pipe, rolled gaskets, shall be repaired by the Contractor solely at his expense. Sections requiring repair shall be re-televised to verify condition of repair. No additional compensation shall be provided for all needed repairs, re-cleaning, or re-televising efforts.

8663 EXECUTION: DELETE this section in its entirety and **REPLACE** with the following:

The television unit shall also have the capability of displaying in color, on videos, pipe inspection observations such as pipe defects, sags, points of root intrusion, offset joints, service connection locations, and any other relevant physical attributes. Each video shall be permanently labeled at the beginning of the video with the following:

1. *Project name / SAWS Job # / Work Order #;*
2. *Date of television inspection;*
3. *Manhole UNITIDs (as labeled on plans) and size of sanitary sewer;*
4. *Street/easement location;*
5. *Name of Contractor;*

Each video shall be submitted with the following information:

1. *Project name / SAWS Job # / Work Order #;*
2. *Date of television inspection;*
3. *Manhole UNITIDs (as labeled on plans and size of sanitary sewer;*
4. *Street/easement location;*
5. *Name of Contractor;*
6. *Date video submitted;*
7. *Data storage device number;*
8. *SAWS Inspector Name.*

All other language in this specification 866 remains in full force.

I. Revision to Standard Specification Item No. 1114 (Pre-Construction Video)

1114.3 EXECUTION: DELETE this section in its entirety and **REPLACE** with the following:

Prior to beginning the project, the contractor shall submit two copies of the

Special Provisions to Technical Specifications

completed DVD for the entire project prior to submission of request for mobilization for review and approval. Failure to submit DVD will result in denial of any request for payment under the Mobilization line item or Preparation of Right-of-Way

All other language in this specification 1114 remains in full force.

J. Revision to TxDOT Standard Specification Item No. 168 (Vegetative Watering)

4. MEASUREMENT: DELETE this section in its entirety and **REPLACE** with the following:

This Item will be measured by the Lump Sum.

5. PAYMENT: DELETE this section in its entirety and **REPLACE** with the following:

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the lump sum price bid for "Vegetative Watering." This price is full compensation for furnishing and operating watering equipment and measuring devices and for furnishing and applying water, including hauling, equipment, labor, and incidentals.

All other language in this specification 168 remains in full force.

- END -

SECTION 02300

CROSSINGS BY MICROTUNNELING OR GUIDED BORING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. CONTRACTOR shall provide all labor, materials, equipment, supervision and incidentals required to furnish, install, and test casing pipes as shown on the Contract Drawings or specified herein.
- B. The Drawings indicate the smallest diameter casing pipe that is acceptable for each installation. The CONTRACTOR may elect to use a larger diameter casing pipe at his discretion and at no additional cost to OWNER subject to approval by the ENGINEER.
- C. Crossings shall be made at the following location:
 - 1. New 12” sanitary sewer main near Bitters Road and US Hwy 281 N (30” minimum diameter casing pipe).
- D. Coordination: CONTRACTOR shall carefully coordinate installation of casing pipes and carrier pipes with any other construction activities taking place at each crossing.
- E. Related Sections:
 - 1. Section 02310 – Jacking and Receiving Pits
 - 2. Section 02311– Tunnel Grout
- F. Definitions
 - 1. The following definitions are provided to clarify the trenchless methods described in this Section:
 - a. Microtunneling: Trenchless construction method used to install a casing or carrier pipe by utilizing a remotely controlled small diameter rotary cutting head providing continuous face support and requiring limited manned entry.
 - b. Guided Boring: Trenchless construction method used to install a steel casing pipe by drilling a pilot hole and then pushing the casing into place by boring the ground through the casing.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. ASTM A 53, Specification for Pipe, Steel, Black and Hot-dipped, Zinc-coated, Welded and Seamless.
- B. ASTM A 106, Specification for Seamless Carbon Steel Pipe for High-Temperature Service.

- C. ASTM A 139, Specification for Electric-Fusion (Arc)-Welded Steel Pipe (NPS 4 and Over).
- D. ASTM A 153, Specification for Zinc-Coating (Hot Dip) on Iron and Steel Hardware.
- E. ASTM A 307, Specification for Low-Carbon Steel Externally and Internally Threaded Standard Fasteners.
- F. ASTM 500, Specification for Cold-Formed Welded Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- G. ASTM A 569, Specification for Hot-Rolled Carbon Steel Sheets and Strip, Commercial Quality.
- H. ASTM S 252, Welded and Seamless Steel Pipe Piles.
- I. AWS D1.1, Structural Welding Code.
- J. Local and state codes and ordinances.
- K. OSHA.
- L. SAWS Standard Specifications for Construction
- M. TxDOT Standard Specifications for Highway Construction

1.3 SUBMITTALS

- A. Shop Drawings: Within 10 days of the Notice to Proceed Date, the CONTRACTOR shall submit shop drawings for Approval by the OWNER with detailed drawings and descriptions showing methods and equipment for the installation of the casing pipes and carrier pipes including means and methods for maintaining grade tolerances, as appropriate for the installation method. Drawings and calculations shall be signed and sealed by a registered Professional Engineer in the State of Texas and shall be submitted to ENGINEER for record purposes to ensure that the requirements of the Drawings and Specifications are complied with in full.
- B. Qualifications Data: Submit qualifications data as specified in Paragraph 1.4.A. Qualifications information on successful projects will include as a minimum:
 1. Name and telephone of owners or engineers responsible for projects.
 2. Approximate contract cost for projects.
 3. Description of project including method of installation.
- C. Technical data, test reports, work schedules and any other information indicating compliance with these specifications.

- D. Certificates: Certificate of Conformance in accordance with Paragraph 21.1 of ASTM A139.
- E. Submit an approved highway traffic control plan in accordance TxDOT requirements.
- F. Submit a Safety Plan for all tunnel operations.
- G. Layout and details for Geotechnical and Instrumentation Monitoring Plan for monitoring structures, roadway, and existing utilities.
- H. Submit a frac-out plan for addressing preventative and remedial measures for crossing in low-cover zones including any proposed ground improvement, operating pressures, surface monitoring, field-observations, and clean-up procedures in the event of a frac-out.

1.4 QUALITY ASSURANCE

- A. Installer's Qualifications and Experience:
 - 1. Installer shall be a specialist in the construction of casing pipes by microtunneling or guided boring and shall have at least 5 cumulative years of experience in microtunneling or at least 5 cumulative years of experience in guided boring. Installer shall have satisfactorily constructed completely in his own name, during the past 5 years, not less than three similar installations that are comparable in diameter and length to that shown and specified herein using the proposed installation method required for each location.
 - 2. Use only personnel thoroughly trained and experienced in the skills required. All field supervisors and machine operators shall have at least 12 months of experience in the operations of the equipment being used.
 - 3. Welds shall be made only by welders, tackers and welding operators who have been previously qualified by tests as prescribed in American Welding Society, AWS D.1.1 to perform the type of work required. Show proof of certification when requested by the OWNER'S Project Representative.
- B. Requirements of Regulatory Agencies:
 - 1. The CONTRACTOR shall obtain and pay for all additional permits, provide insurance, bonds, and guarantees, and all else required by the governing authorities.
 - 2. The CONTRACTOR'S responsibility under this paragraph may include, but is not limited to the following:
 - a. Constructing and removing temporary facilities or structures.
 - b. Providing details of construction methods.
 - c. Providing detailed construction schedules.
 - d. Reimbursing the applicable governing authority for all expenses incurred in connection with the work.
 - e. Traffic maintenance.
 - f. Coordination of scheduling.
 - g. Clean up and restoration.

- C. Tolerances: The casing pipes shall be installed on the lines and grades shown on the Contract Drawings and within tolerances required to allow the carrier pipe to be installed in accordance with the lines and grades shown on the Contract Drawings and as specified herein.

1.5 DESIGN CRITERIA

A. General Criteria:

1. The thrust block shall be constructed perpendicular to the proposed pipe alignment and shall be designed to withstand the maximum jacking pressure to be used, with a safety factor of at least 2.5. The Contractor shall have the sole responsibility for maintenance and protection of existing utilities, structures, and facilities within the zone of construction.
2. The Contractor shall have the sole responsibility for sizing the shafts within the easements and limits of construction shown on the Contract Drawings. The size of the excavations shall be adequate to construct all structures required and to gain access to tunneling operations for all materials, equipment, and personnel.
3. The Contractor shall carefully monitor machine penetration rate, face pressures (when applicable), and line-and- grade of the drive.
4. The Contractor shall carefully control slurry pressures applied at the tunnel face or around the casing to prevent fracturing of the ground and discharge of slurry to the ground surface.
5. The Contractor shall allow the Engineer and Owner's representative access to the shafts, and to use the shafts to access tunnel operations.

B. Microtunnel Criteria:

1. Pressurized, closed face remotely operated microtunneling equipment shall be used for all microtunneling work described. The MTBM shall have the capability to provide a positive, stabilizing pressure at the tunnel face.
2. The MTBM shall be equipped with an automated slurry spoil transportation system capable of coordinating the material excavated with the rate of pipe installation. This slurry system shall have the ability to back-flush the slurry lines to avoid clogging the system.
3. Microtunneling and associated equipment selected by the Contractor shall be compatible with the geological conditions described in the geotechnical data. Geotechnical report will be posted on SAWS website for download (for reference only).
4. Face pressure exerted at the heading by the microtunneling machine shall be maintained as required to balance ground and groundwater pressures present, and prevent loss of ground, groundwater inflows, and settlement or heave of the ground surface. Control ground surface settlement or heave above the centerline of the pipeline. The Contractor shall repair any damage resulting from surface settlement or heave caused by microtunneling or jacking and receiving pit excavation and construction at no additional cost the Owner.

C. Guided Bore Criteria:

1. Guided borings shall be suitable for installation in the ground conditions described in the Geotechnical Report and the diameter and distances shown in the Contract Drawings.
2. Guided borings should be capable of installing the casing to and carrier pipe to the line and grade requirements stated herein.
3. Pilot tube guidance is required and selection of cutter head should match the ground conditions described in the Geotechnical Report without significant deflection or error during installation. This included soft rock conditions and gravel with the possibility of limestone and chert cobbles.
4. The contractor shall repair any damage resulting from surface settlement or heave caused by guided boring operations or jacking and receiving pit excavation and construction at no additional cost to owner.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Exercise special care during delivery not to damage casing pipes and carrier pipes.
2. Damaged materials will be rejected by the OWNER and replaced by the CONTRACTOR at his expense.
3. Deliver materials to such locations so as to avoid excessive handling.

B. Storage:

1. Store casing pipe, and conduits on approved blocking for protection from corrosion until incorporation into the Work in accordance with manufacturer's recommendation.
2. The OWNER shall be permitted access to inspect the materials in storage areas.

C. Handling:

1. Handle materials in a manner so as to avoid damage.
2. Materials damaged during handling shall be repaired or replaced as ordered by the OWNER.

1.7 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive OWNER of other rights or remedies OWNER may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by CONTRACTOR under the Contract Documents. The obligations of CONTRACTOR under the Contract Documents shall not be limited in any way by the provisions of the specified warranty.
- B. Special Warranty on Materials and Equipment: Provide manufacturer's written warranty, running to the benefit of OWNER, agreeing to correct, or at option of OWNER, remove or replace materials or equipment specified in this Section found to be defective during a period of 2 years after the date of Substantial Completion.

1.8 SITE CONDITIONS

- A. Existing Site Information: Geotechnical investigation information is available, for reference only.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel Casing Pipe:
 - 1. Casing pipe shall be steel pipe meeting the requirements of ASTM A139, Grade B, leakproof construction. Pipe shall be seamless or have not more than one longitudinal weld.
 - 2. Nominal diameter shall be as shown on the Contract Drawings unless approved by the ENGINEER otherwise. Actual thickness shall be determined by the casing installer, based on an evaluation of the soil loading and forces to be exerted on the casing when jacking, but in no case shall be less than 0.375 inches. Any buckling of the casing due to loading and jacking forces shall be repaired at no additional cost to OWNER.
 - 3. Steel pipe shall have a minimum yield strength of 35,000 psi shall also meet the chemical requirements of ASTM A36.
 - 4. If the casing pipe is furnished in sections and the casing pipe requires field welding, then casing pipe shall be furnished with plain ends, mill beveled for field butt-welding. Field welded joints shall be performed by AWS D.1.1 certified welders and be full penetration single-vee groove, butt type welds around the entire circumference of the pipe. All welding shall receive non-destructive testing. Copies of test reports shall be submitted the OWNER.

- B. Cement Grout: Provide grout in accordance with Section 02311– Tunnel Grout.

2.2 EQUIPMENT

- 1. General The main jacks shall be mounted in a jacking frame and located in the jacking shaft. The excavation shall be moved forward by the jacks advancing a successive string of connected pipes toward a receiving shaft.
- 2. A pipe lubrication system shall be used to lower the friction developed on the surface of the pipe during jacking operation. A lubricant, typically bentonite or polymers, shall be injected near the excavation face or through lubrication ports. This lubricant is subject to approval by the ENGINEER
- 3. The pipe lubrication system pressure shall be continuously monitored, recorded, and controlled to prevent pipe buckling and/or ground heave.
- 4. Thrust block shall be perpendicular to the proposed pipe alignment. The thrust block shall be capable of supporting the maximum jacking pressure developed by the main jacking system.
- 5. Operate the jacks so as not to exceed 80 percent of their rated capacity. At no time shall jacks be operated so as to exceed the axial capacity of the jacked pipe, including

all safety factors. Provide additional jacking capacity, such as intermediate jacking stations, if the jacking requirements shall otherwise exceed 80 percent.

6. When intermediate jacking stations are utilized, the maximum jacking force shall not exceed the maximum allowable jacking load of the pipe

A. Microtunneling Equipment:

1. Micro Tunnel Boring Machine (MTBM): The MTBM shall be a closed full-face machine designed and built or rebuilt for the ground conditions on this project by a recognized MTBM manufacturer with at least 5 years of experience in the design and manufacture of MTBMs of this type. The manufacturer must still be in the business of designing and manufacturing MTBMs. All of the various components and systems, which make up the MTBM shall be new or reconditioned so that the machine is ready to operate upon installation at the site. It shall be able, with excess capacity, to handle the range of geological conditions indicated in the Geotechnical Report and shall satisfy the following requirements:
 - a. The machine shall be capable of fully supporting the face during both excavation and shutdown periods, and shall have the capability of exerting a controllable, measurable, continuous, stabilizing pressure at the face as required to prevent loss of ground. The system shall be capable of adjustments required to balance the earth pressures at the tunnel face to an accuracy of one foot of equivalent hydrostatic pressure. The machine shall utilize a synchronized slurry transportation system with machine advance rate to avoid over excavation or loss of ground. The microtunneling system shall be capable of back flushing to clear debris that may be encountered.
 - b. Provide a machine with an enclosed chamber for containing the slurry under pressure. A pressure gauge should be provided so that operator can monitor the chamber pressure. The system shall be capable of making the adjustments required to counterbalance the earth pressures as needed to prevent loss of ground.
 - c. The machine shall be remotely operated, laser guided, and monitored continuously by the operator. A display showing the position of the machine in relation to design line-and-grade shall be provided at the operation console to allow the operator to monitor face pressure, roll, inclination, laser position, steering attitude, slurry face pressure, rate of advance, installed length, thrust force and cutterhead torque. The machine shall have a data logger that records all the above at a minimum of 10 minutes intervals to a portable digital storage device in a format that can be imported into Microsoft Excel. This portable digital storage device shall be submitted to the Owner on a daily basis and shall be the property of the Owner.
 - d. The machine shall have a laser guidance system with a light sensitive or electronic target appropriate for the drive lengths required and capable of achieving the line-and-grade control requirements for the project.
 - e. The machine shall have an articulated shield that is steerable in both vertical and horizontal directions to maintain line-and-grade within the specified tolerances. The cutterhead shall have a reversible drive system so that it can rotate in either direction to minimize rotation or roll of the pipe during installation.

- f. The machine shall be capable of advancing through the geological conditions described in the Geotechnical Report. The Contractor shall submit a letter from the MTBM manufacturer or rebuilding certifying that the equipment being supplied for the Project is capable of excavating the ground as described in the Geotechnical Report.
 - g. Slurry used to support the microtunnel face and to remove excavated muck may need to be produced using bentonite or polymer additives. It is the Contractor's responsibility to tailor the slurry to the encountered geologic conditions.
 - h. Provide a slurry separation plant that is appropriate for the ground being excavated, and compatible with the anticipated excavation rate, effective in removing the spoil from the slurry, and is acceptable in terms of the available construction staging areas.
 - i. The machine shall be equipped for continuous gas monitoring and shall have a shut-off switch.
 - j. A pipe lubrication injection system shall be provided to inject pipe lubricants as required to minimize jacking force.
 - k. The tail of machine shall have gaskets and seals to prevent material from running into the tunnel at the contact between the tail skin and the pipe.
 - l. The maximum allowable over-cut shall not be greater than 1 inch larger in radius than the outside of the jacked pipe.
2. Automated Spoils Transportation:
- a. Slurry System: The system shall be capable of measuring earth and groundwater pressure and making the adjustments required to counter-balance the earth and groundwater pressure to prevent loss of slurry or uncontrolled ground and groundwater inflow and shall satisfy the following requirements:
 - (1) The slurry pressure at the excavation face shall be controlled by use of slurry pumps.
 - (2) A slurry bypass method shall be included to allow for a change in direction of flow to be made and /or isolated.
 - (3) Provide a separation process, properly sized for the tunnel being constructed, the ground type being excavated, and the workspace available at each area. Separate the spoil from the slurry so that slurry shall be returned to the cutting face for reuse.
 - (4) Monitor the composition of the slurry to maintain the slurry density and viscosity limits as accepted in the submittals.

B. Guided Boring Equipment:

- 1. Manufacturer of the guiding boring system shall have at least 5 years of experience in the design and manufacture of such systems and must still be in the business of manufacturing such devices in the even that site representatives, parts, or other equipment are required. All of the various components and systems, which make up the guided boring system shall be new or reconditioned so that the machine is ready to operate upon installation at the site.

2. Guided boring systems shall be capable of installing a pilot tube within the grade and line tolerances specified herein up to the distance shown on the contract drawings. The steel casing must be jacked through the pilot tube and can be installed utilizing a specialized cutter heads at the face of the casing or three-pass system.
3. The guidance system shall consist of a theodolite, laser, and target system that operates in real time during pilot tube operations. It shall be capable of accuracies up to ¼ inch over 400 feet.

PART 3 - EXECUTION

3.1 GENERAL

- A. Lines and Grades: The CONTRACTOR is responsible for maintaining proper line and grade at each crossing.
 1. The CONTRACTOR shall install the center of the casing to within 3 inches of the planned location and such that it does not interfere with flowlines established on the Contract Drawings.
 2. The CONTRACTOR shall periodically check his line and grade to assure conformance with line and grade shown on the Contract Drawings and within the tolerance of ± 3 inches.
 3. Extra work required because of the CONTRACTOR'S failure to maintain the proper line and grade shown on the Contract Drawings, shall be performed by the CONTRACTOR, at no additional cost to the OWNER.
- B. Protection: Guardrail, fences, signs, lights, barricades, barrels, and all other protective items necessary shall be provided in accordance with the requirements of all applicable permits, laws, regulations, and ordinances, and as necessary to prevent damage or injury to private or public property or to workmen or the general public.
- C. Adequately support and protect utilities and facilities that are encountered in or may be affected by the Work.
- D. All excavations shall be sheeted, shored and braced as required to prevent subsurface subsidence in accordance with Section 02310 – Jacking and Receiving Pits.
- E. Construct all pits prior to beginning tunnel (trenchless) excavation.
- F. Boring pits shall be kept dewatered, and pumps shall be attended on a 24-hour basis, if conditions require. Close observation shall be maintained to detect any settlement or displacement of facilities during dewatering operations. Dewater into a sediment trap and comply with applicable environmental protection criteria specified elsewhere in these Contract Documents.
- G. Maintain the air quality in the pipe, when access is required, in a condition suitable for the health of workmen at all times.

3.2 PREPARATION

- A. Work pits at each end of the crossings shall be sufficiently large to permit satisfactory installation of the casing pipe. All excavation, backfill, sheeting, shoring, bracing, and dewatering shall comply with the applicable requirements of the applicable authorities and local, state, and federal regulations and shall be designed in accordance with Section 02310 – Jacking and Receiving Pits.
- B. CONTRACTOR shall dispose of excess excavated material or drilling mud/cuttings in an approved offsite disposal location.

3.3 INSTALLATION

- A. General Installation Requirements
 1. Pipe installation shall be completed in accordance with accepted shop drawings and accepted submittals.
 2. Provide a suitable jacking frame and thrust block to carry out the work. Provide intermediate jacking stations if required to complete the required drives. Intermediate jacking stations shall be provided when the total anticipated jacking force needed to complete the drive exceeds the capacity of the main jacks or the maximum allowable jacking force on the pipe.
 3. Special care shall be taken when setting the pipe guide rails prior to starting the work in the jacking pit to ensure correctness of the alignment, grade, and stability. Survey the location and orientation of the guide rails to ensure they are on the proper line-and-grade and verify that they are properly supported.
 4. Jacking pipe sections shall be handled and transported from the storage area to the jacking pit properly in accordance with the manufacturer's recommendations to avoid damage. Set the jacking pipe sections properly, braced and supported by guide rails. Join the two sections together following the manufacturer's connection procedures or as indicated in accepted submittals.
 5. The axial forces from the thrust jacks shall be distributed to the pipe uniformly through a properly designed thrust ring and cushion materials, as recommended by the pipe manufacturer, to prevent damage to the ends of the pipe. Jacking forces shall be applied uniformly to the pipe wall. The jacking system shall be capable of continuously monitoring the jacking pressure and advance rate.
 6. Pipes shall be jacked into position following the design line-and-grade of the pipeline without damaging the pipe. In the event a section of the pipe is damaged during the jacking operation, the pipe shall be jacked through to the receiving shaft and removed. Other methods of repairing the damaged pipe may be used, subject to the acceptance by the Engineer.
 7. Provide a lubrication system and inject lubricants through injection ports in the jacking pipe as necessary, to minimize friction. Lubricants shall be injected continuously as the pipe is advanced. The volume injected shall not be less than that required to fill the annular void space outside the pipe.

8. If voids develop around the casing pipe as it is bored, pump cement grout to fill all such voids, or fill by other means acceptable to the OWNER. Fill all voids as specified hereinafter as soon as possible after completion of boring operation. Grouting should be done in accordance with Section 02311 – Tunnel Grout
 9. Monitor line-and-grade continuously during operations. Record deviation with respect to design line-and-grade at least once per foot and submit records to the Engineer as requested. Control line-and-grade of the pipe to within the specified tolerances.
- B. Installation of Steel Casing Pipe by Microtunneling:
1. Pressure applied at the tunnel face during microtunneling shall be maintained at all times between the measured earth pressure and 50 percent of the estimated earth pressure. Pressure applied at the tunnel face to balance the groundwater shall be maintained at a level slightly in excess of normal hydrostatic pressure and shall be monitored continuously.
 2. The microtunneling machine shall be operated so as to minimize both surface heave and loss of ground during microtunneling. Restrict the excavation of the materials to only those materials that are physically displaced by the shield itself in order to prevent loss of ground and settlement or possible damage to overlying structures. Control the advance rate and monitor the volume of material excavated and adjusted advance rate, as required to avoid loss of ground, over excavation and surface heave.
 3. The microtunneling machine shall be steered to maintain line-and-grade within the tolerance specified. This shall be achieved by continuously monitoring line-and-grade, machine inclination, roll, and steering attitude during the operation.
 4. Chamber pressure, torque, rate of advance, thrust force, slurry pressure, distance along the drive, deviation from line-and-grade, roll, and steering altitudes shall be monitored and recorded for each pipe section installed.
 5. Use slurry spoil transportation system for all microtunneling. Monitor slurry pressure and adjust as required to adequately balance earth pressures.
 6. A separation plant shall be provided for microtunneling operations to remove the excavated soil from the slurry for disposal. Use settlement tanks, shakers, vibrating screens, hydro-cyclones and centrifuges as required for effective spoil removal.
 7. Properly transport and dispose of all excavated materials away from the construction sites in accordance with all applicable City, County, State, and Federal regulations. Slurry from microtunneling operations shall be pumped into tanker trucks and properly disposed of at acceptable facilities in accordance with current City, County, State, and Federal regulations for disposal of these materials.
- C. Installation of Steel Casing Pipe by Guided Boring:
1. Utilize an auger rotating inside the pipe to remove the soil.
 2. Borings utilizing this method of installation should be guided by a pilot tube such that proper line and grade is maintained during installation.
 3. The use of specialized cutting heads or three-pass systems are acceptable and may be required for the given ground conditions.
 3. Install suitable equipment on the front of the casing pipe that will positively prevent the auger and cutting head creating unsupported excavation ahead of the pipe.

4. The equipment used to bore and remove the earth shall be removable from within the casing pipe in the event an obstruction is encountered.
 5. If voids develop around the casing pipe as it is bored, pump cement grout to fill all such voids, or fill by others means acceptable to the OWNER. Fill all voids as specified hereinafter as soon as possible after completion of boring operation. Grouting should be done in accordance with Section 02311 – Tunnel Grout
- D. Annulus and Contact Grouting:
1. All annulus and contact grouting shall be performed in accordance with Section 02311 – Tunnel Grout.
- E. Obstructions: During casing pipe installation, if an obstruction is encountered which stops the forward action of the casing pipe, and it becomes evident that it is impossible to advance the pipe, the CONTRACTOR must stop work and propose a method for removing the obstruction or providing an alternative crossing location at the approval of the OWNER.

3.4 INSTRUMENTATION AND MONITORING

- A. Coordinate Instrumentation and Monitoring system for tunnel with bore pits as described in Section 02310 – Jacking and Receiving Pits.
- B. CONTRACTOR shall establish a monitoring system to detect movement of utilities within 20 feet and roadway or structures within 50 feet of construction operations.
- C. All movement beyond threshold values established by the Contractor in the approved Instrumentation and Monitoring Plan shall be reported immediately to the ENGINEER and OWNER. The CONTRACTOR shall restore all areas where movement or associated damage has occurred by methods approved by the OWNER at no expense to the OWNER.



++ END OF SECTION ++

SEQ No	DESCRIPTION	SHEET NO
1	Cover, Vicinity Map	
2	Index of Sheets and SAWS General Construction Notes	G-02
3	General Notes	G-03
4	Bypass Pumping & Traffic Control General Notes	G-04
5	Symbols, Abbreviations & Quantity Summary	G-05
6	Overall Project Layout Segment 1015944 (Bitters/US 281)	G-06
7	Segment 1015944, Survey Control Sheet	G-07
8	Segment 1015944 Along San Pedro Ave (US 281) Plan and Profile Sta 10+00 to Sta 14+00	C-01
9	Segment 1015944 San Pedro Ave (US 281) Crossing Plan and Profile Sta 10+00 to Sta 11+00 and Enlarged Plan	C-02
10	Segment 1015944 San Pedro Ave (US 281) Crossing Plan and Profile Sta 11+00 to Sta 15+40	C-03
11	Segment 1015944 San Pedro Ave (US 281) Water Main Adjustment Temporary and Final Water Main Plan	C-04
12	Segment 1015944 San Pedro Avenue (US 281) Crossing Tree Protection Plan	TP-01
13	Bypass Pumping Layout Sheet Segment 1015944 US 281 South and Bitters Rd	BP-01
14	Traffic Control Plan 1 of 2 Segment 1015944 US 281 South and Bitters Road	TCP-01
15	Traffic Control Plan 2 of 2 Segment 1015944 US 281 South and Bitters Road	TCP-02
16	Segment 1015944 San Pedro Avenue (US 281) Crossing Permanent Paving and Striping Restoration (West Side Work Area)	C-05
17	Segment 1015944 San Pedro Avenue (US 281) Crossing Permanent Paving and Striping Restoration (East Side Work Area)	C-06
18	Segment 1015944 San Pedro Avenue (US 281) Crossing Temporary Paving and Striping Plan (East Side Work Area)	C-07
19	Details Temporary Erosion Sediment and Water Pollution Control Measures Standards 1	DET-01
20	Details Temporary Erosion Sediment and Water Pollution Control Measures Standards 2	DET-02
21	Details Tree Protection Details - Tree preservation Sheet 1 of 1	DET-03
22	Details Pipe Encasement/Bore Pit Details	DET-04
23	Barricade and Constuction General Notes And Requirements	BC(1)-14
24	Barricade and Constuction Project Limit	BC(2)-14
25	Barricade and Constuction Work Zone Speed Limit	BC(3)-14
26	Barricade and Constuction Temporary Sign Notes	BC(4)-14
27	Barricade and Constuction Typical Sign Support	BC(5)-14
28	Barricade and Constuction Portable Changeable Message Sign (PCMS)	BC(6)-14
29	Barricade and Constuction Arrow Panel, Reflectors, Warning Lights and Attenuators	BC(7)-14
30	Barricade and Constuction Channelizing Devices	BC(8)-14
31	Barricade and Constuction Channelizing Devices	BC(9)-14
32	Barricade and Constuction Channelizing Devices	BC(10)-14
33	Barricade and Constuction Pavement Markings	BC(11)-14
34	Barricade and Constuction Pavement Marking Patterns	BC(12)-14
35	Miscellaneous Curb and Sidewalk Details	Misc-1
36	Manhole and Trenching Details	Misc-2
37	Concrete Driveway Details	Misc-3

SAWS GENERAL CONSTRUCTION NOTES
GENERAL SECTION:

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
 - CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
 - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
 - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."
 - CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"(UECM).
- THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, http://www.saws.org/business_center/specs. UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS.
- THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500, AND PROVIDE NOTIFICATION PROCEDURES THE CONTRACTOR WILL USE TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 72 HOURS PRIOR TO EXCAVATION.
- LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:

SAN ANTONIO WATER SYSTEM:
SAWS UTILITY LOCATES: <http://www.saws.org/Service/Locates>

 COSA DRAINAGE 210-206-8433
 COSA TRAFFIC SIGNAL OPERATIONS 210-207-7720
 TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGES DONE BY THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.
- HOLIDAY WORK: CONTRACTOR WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO "constworkreq@saws.org". WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO "constworkreq@saws.org". ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- "PRE CON SITE VIDEO": BEFORE THE START OF ANY CONSTRUCTION. THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS (NSPI).
- "POWER POLE BRACING": CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET, SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO RESPECTIVE SEWER INSTALLATION WORK (NSPI). IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.

- "CONSTRUCTION SEQUENCING": IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SCHEDULE SEQUENCING FOR REMOVAL AND INSTALLATION OF EXISTING AND PROPOSED SAWS UTILITIES IN CONJUNCTION WITH GENERAL PROJECT CONSTRUCTION. SEQUENCE OF CONSTRUCTION ACTIVITIES SHALL BE CONSIDERED IN ORDER TO MINIMIZE THE EXTENT AND DURATION OF DISTURBANCES.

WATER SECTION:

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS INSPECTION AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY. SAWS PRODUCTION CONTROL CENTER 210-233-2016
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER ITEM No. 3000, "HANDLING ASBESTOS CEMENT PIPE".
- "VALVE REMOVAL": WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)

SEWER SECTION:

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
 - IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT 210-704-SAWS (210-704-7297). PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OF FLOW.
 - ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
 - CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
 - CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
 - CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
 - MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

- THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, IN ACCORDANCE WITH SAWS SPECIAL SPECIFICATION ITEM No. 864-S1, "BYPASS PUMPING SMALL DIAMETER SANITARY SEWERS" AND ITEM No. 864-S2, "BYPASS PUMPING LARGE DIAMETER SANITARY SEWERS". PAYMENT FOR SUCH WORK WILL BE MADE UNDER THE BID ITEM "SANITARY SEWER (BYPASS PUMPING)" (LUMP SUM) AS PER SAWS SPECIAL SPECIFICATION.
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500 AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
- "ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY": IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECTS IMPROVEMENTS (NSPI).
- "SMART MANHOLE COVERS": THE CONTRACTOR SHALL NOTIFY JUAN C. RAMIREZ AT 210-233-3558 AND SAWS EOC AT 210-704-SAWS (210-233-7297) A MINIMUM OF 72 HOURS, NOT COUNTING WEEKENDS OR SAWS HOLIDAYS, BEFORE WORKING ON THE PIPE OR MANHOLE, IN ORDER TO HAVE SAWS REMOVE THE SMART COVER. ANY DAMAGE DONE TO THE SMART COVER WILL BE CHARGED TO THE CONTRACTOR THROUGH A CHANGE ORDER.



FINAL DESIGN



SAN ANTONIO WATER SYSTEM



PACKAGE 8 REPLACEMENT BITTERS SITE BORE

NO.	DATE	REVISION	BY
△	10/25/19	ADDENDUM NO.3	JAM

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 DATE: OCTOBER 2019
 PROJECT NO.: 02196053.0000
 DESIGNED BY: M. K.
 DRAWN BY: J. MEEKER
 CHECKED BY: J. RECK

SHEET TITLE

INDEX OF SHEETS AND SAWS GENERAL CONSTRUCTION NOTES

SCALE: NONE
 SHEET **G-02**
 2 OF 37

1
2
3
4
5
6

E
D
C
B
A

CIVIL SYMBOLS

EXISTING

- FIRE HYDRANT
- BOLLARD
- ROAD GUARD POST
- MANHOLE
- SEWER MANHOLE
- TELEPHONE JUNCTION BOX
- E.G.B. ELECTRICAL GROUND BOX
- COMM BOX
- GAS LINE
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE
- WATER LINE
- STORM DRAIN
- SANITARY SEWER
- UNDERGROUND TELEPHONE
- CONTOUR
- CHAIN LINK FENCE
- WIRE FENCE
- SIGN
- TREES OR DENSE VEGETATION
- TREE
- RIGHT-OF-WAY OR PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- ASPHALT ACCESS ROAD
- CONCRETE
- EXISTING EXPOSED PIPELINE
- POWER POLE W/ LIGHT
- SERVICE / POWER POLE
- TELEPHONE POLE
- DITCH LINE
- SUE TEST HOLE LOCATION

PROPOSED

- PROPOSED PIPE LINE
- STEEL CASING (PLAN VIEW)
- STEEL CASING (PROFILE VIEW)
- TRAVERSE TURN POINT / CONTROL POINT
- NEW PAVEMENT MILLING AND OVERLAY LIMITS
- PAVEMENT REPAIR LIMITS FOR TRENCHING
- DEMOLITION/ABANDONMENT
- SILT FENCE
- EROSION LOG
- LIMITS OF CONSTRUCTION
- B-X SOIL BORING
- SAWS CO STATION (TYP)
- SAWS CO (TYP)
- SANITARY CLEANOUT

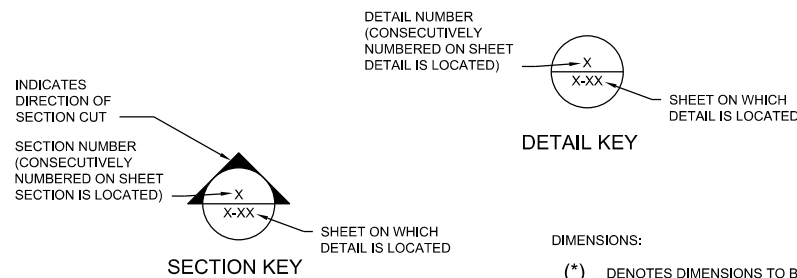
SHEET CATEGORY

- G - GENERAL
- C - CIVIL
- BP - BYPASS
- TCP - TRAFFIC CONTROL PLAN

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	MH	MANHOLE
ARV	AIR RELEASE VALVE	MAX.	MAXIMUM
&	AND	MECH	MECHANICAL
APPROX	APPROXIMATE	MJ	MECHANICAL JOINT
@	AT	MIN.	MINIMUM
AWWA	AMERICAN WATER WORKS ASSOCIATION	MG	MILLION GALLON
AS	AUTOMATIC SWITCHOVER	N	NORTH
ASPH	ASPHALT	NO. OR #	NUMBER
BP	BOOSTER PUMP	NPT	NATIONAL PIPE THREAD
BM	BENCH MARK	NPW	NON POTABLE WATER
BF	BLIND FLANGE	NSPI	NOT A SEPARATE PAY ITEM
BFV	BUTTERFLY VALVE	NTS	NOT TO SCALE
BFP	BACKFLOW PREVENTER	OC	ON CENTER
BLDG	BUILDING	OD	OUTSIDE DIAMETER
BV	BALL VALVE	OF	OVERFLOW
BWF	BARBED WIRE FENCE	OE	OVERHEAD ELECTRIC
COSA	CITY OF SAN ANTONIO	PVMT	PAVEMENT
CO	CLEAN OUT	+/-	PLUS OR MINUS
COV	CONE VALVE	PT, OR PNT	POINT
CAV	COMBINATION AIR VALVE	PC	POINT OF CURVATURE
CML	CEMENT MORTAR LINED	PI	POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	PT	POINT OF TANGENCY
CL	CENTERLINE	PVI	POINT OF VERTICAL INTERSECTION
CONC.	CONCRETE	PSI	POUNDS PER SQUARE INCH
CCP	CONCRETE CYLINDER PIPE	PCCP	PRECAST CONCRETE CYLINDER PIPE
CPLG	COUPLING	PG	CONCRETE PAVEMENT PRESSURE GAUGE
CJ	CONSTRUCTION JOINT	PSF	POUND PER SQUARE FOOT
C	CURVE	PL OR R	PROPERTY LINE
CONST.	CONSTRUCTION	PRC	POINT OF REVERSE CURVATURE
CLF	CHAIN LINK FENCE	PLMK	PIPELINE MARKER
CV	CHECK VALVE	POLY	POLYMER
CI	CORROSION INHIBITOR	PROP	PROPOSED
CNP	CONTROL CONSTRUCTION POINT	PVC	POLYVINYL CHLORIDE
CP	CONTROL PANEL	PW	POTABLE WATER
CSC	CONCRETE STEEL CYLINDER	PRV	PRESSURE REDUCING VALVE
CTI	CONCEPT THERAPY INSTITUTE		
D	DRAIN	R	RADIUS
DV	DENSE VEGETATION	RED OR RED'R	REDUCER
DIA.	DIAMETER	RED'G	REDUCING
DIM	DIMENSION	REINF	REINFORCE
DWGS	DRAWINGS	RCCP	REINFORCED CONCRETE CYLINDER PIPE
DI OR DIP	DUCTILE IRON PIPE	REQD	REQUIRED
DGW	DISINFECTED GROUNDWATER	RJ	RESTRAINED JOINT
DCO	DOUBLE CLEAN OUT	ROW	RIGHT-OF-WAY
E	EAST	RT	RIGHT
EXIST./EX.	EXISTING	SA	SAMPLE
EA.	EACH	SAWS	SAN ANTONIO WATER SYSTEM
E.W.	EACH WAY	S	SOUTH
E.F.	EACH FACE	SHT	SHEET
E.G.B.	ELECTRICAL GROUND BOX	SD	STORM DRAIN
ELEC.	ELECTRIC	SF	SILT FENCE
EL. OR ELEV.	ELEVATION	SLG	SLUDGE
EP	EDGE OF PAVEMENT	SPEC.	SPECIFICATION
ESMT OR ESMT.	EASEMENT	SS, SST	STAINLESS STEEL
FF	FINISHED FLOOR	STD	STANDARD
FL	FLOOR LEVEL	STA.	STATION
FLG	FLANGE	STL	STEEL
FCA	FLANGED COUPLING ADAPTER	SP	STOCK PILE
FLEX	FLEXIBLE	SSK	SECONDARY SKIMMINGS
FH	FIRE HYDRANT	SW	SURFACE WATER
FT	FOOT OR FEET	SWBD	SWITCHBOARD
GV	GATE VALVE	TBM	TEMPORARY BENCHMARK
GW	GROUNDWATER	TEL	TELEPHONE
HMAC	HOT MIX ASPHALTIC CONCRETE.	TEMP.	TEMPORARY OR TEMPERATURE
ID	INSIDE DIAMETER	TOU	TOP OF UTILITY
INV	INVERT	TR	TRUNNION
IE	INVERT ELEVATION	TYP.	TYPICAL
JT	JOINT	UG	UNDERGROUND
KG	THOUSAND GALLON	UW	UTILITY WATER
LOC	LIMIT OF CONSTRUCTION	VERT.	VERTICAL
LT	LEFT	WL	WATER LINE
L	LENGTH	WIF	WROUGHT IRON FENCE
LF	LINEAR FEET	WTR	WATER
		W	WEST
		WV	WATER VALVE

MISCELLANEOUS SYMBOLS



SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QTY
100	MOBILIZATION (10% MAX)	LS	1
101	PREP ROW (5% MAX)	LS	1
103.1	REMOVE CONCRETE CURB	LF	367
TXDOT 104	REMOVE CONCRETE DRIVEWAY	SY	111
TXDOT 160	TOPSOIL	CY	105
TXDOT 162	BLOCK SODDING	SY	850
TXDOT 168	VEGETATIVE WATERING	LS	1
238	RUBBERIZED EMULSION AGGREGATE SLURRY WITH POLYMER (REAS)	SY	1852
TXDOT 401	FLOWABLE BACKFILL	CY	254
500.1	CONCRETE CURB & GUTTER	LF	367
503.4	ASPHALTIC CONCRETE DRIVEWAY	SY	2314
SS 518.2	TREE PROTECTION - LEVEL IIB	EA	2
SS 518.3	TREE REMOVAL AND REPLACEMENT (8" CREPE MYRTLE)	EA	1
TXDOT 530	CONCRETE DRIVEWAYS	SY	111
530.7	BARRICADES, SIGNS, AND TRAFFIC HANDLING	LS	1
535.1	4 INCH WIDE YELLOW LINE	LF	3225
535.2	4 INCH WIDE WHITE LINE	LF	300
540.7	TEMPORARY CONSTRUCTION PERIMETER FENCE (INSTALL/REMOVE)	LF	900
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	286
551	TEMPORARY SPECIAL SHORING	SF	5460
SS 804.1	HYDROEXCAVATION OR HAND DIGGING WITHIN 2 FEET OF GAS MAIN	LS	1
818	8" PVC C900 WATERLINE (ALL DEPTHS); FULLY RESTRAINED	LF	60
828	8" GATE VALVE	EA	1
836	PIPE FITTINGS (ALL SIZES AND TYPES)	TN	0.3
840	8" WATER TIE-IN	EA	2
841	HYDROSTATIC TESTING	EA	1
844	2" BLOW-OFF TEMPORARY	EA	1
848	8" ASTM D3034 SDR 26 PVC SAN. SEWER LINE (6'-10')	LF	50
848	12" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (10'-14')	LF	23
848	12" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (0'-6')	LF	37
848	15" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (14'-18')	LF	124
852	STANDARD PRECAST 4' DIAMETER MANHOLE (0'-6')	EA	2
852	STANDARD EXTRA DEPTH MANHOLES (>6')	VF	38
852	STD DROP MANHOLE 4' DIAMETER (0'-6')	EA	3
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	1
856	12" CARRIER PIPE- PVC SDR 26 ASTM D2241 (RESTRAINED)	LF	502
856	30" CASING	LF	502
864-S1	BYPASS PUMPING (SMALL DIAMETER SANITARY SEWERS)	LS	1
866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	736
SS 1000	8" TEMPORARY WATER MAIN (INSTALL AND REMOVE) INCLUDING ALL FITTINGS, TIE-INS, DISINFECTION AND APPURTENANCES	LF	80
SS 2300	CROSSINGS BY MICROTUNNELLING- 30" DIAMETER	LF	502
3000	REMOVAL, TRANSPORTATION AND DISPOSAL OF AC PIPE	LF	55
SS 7185	ABANDONMENT AND GROUTING OF SANITARY SEWER MAIN (12" DIA)	LF	552



FINAL DESIGN



10-25-19

SAN ANTONIO WATER SYSTEM



PACKAGE 8 REPLACEMENT BITTERS SITE BORE

NO.	DATE	REVISION	BY
1	10/25/19	ADDENDUM NO.3	JAM

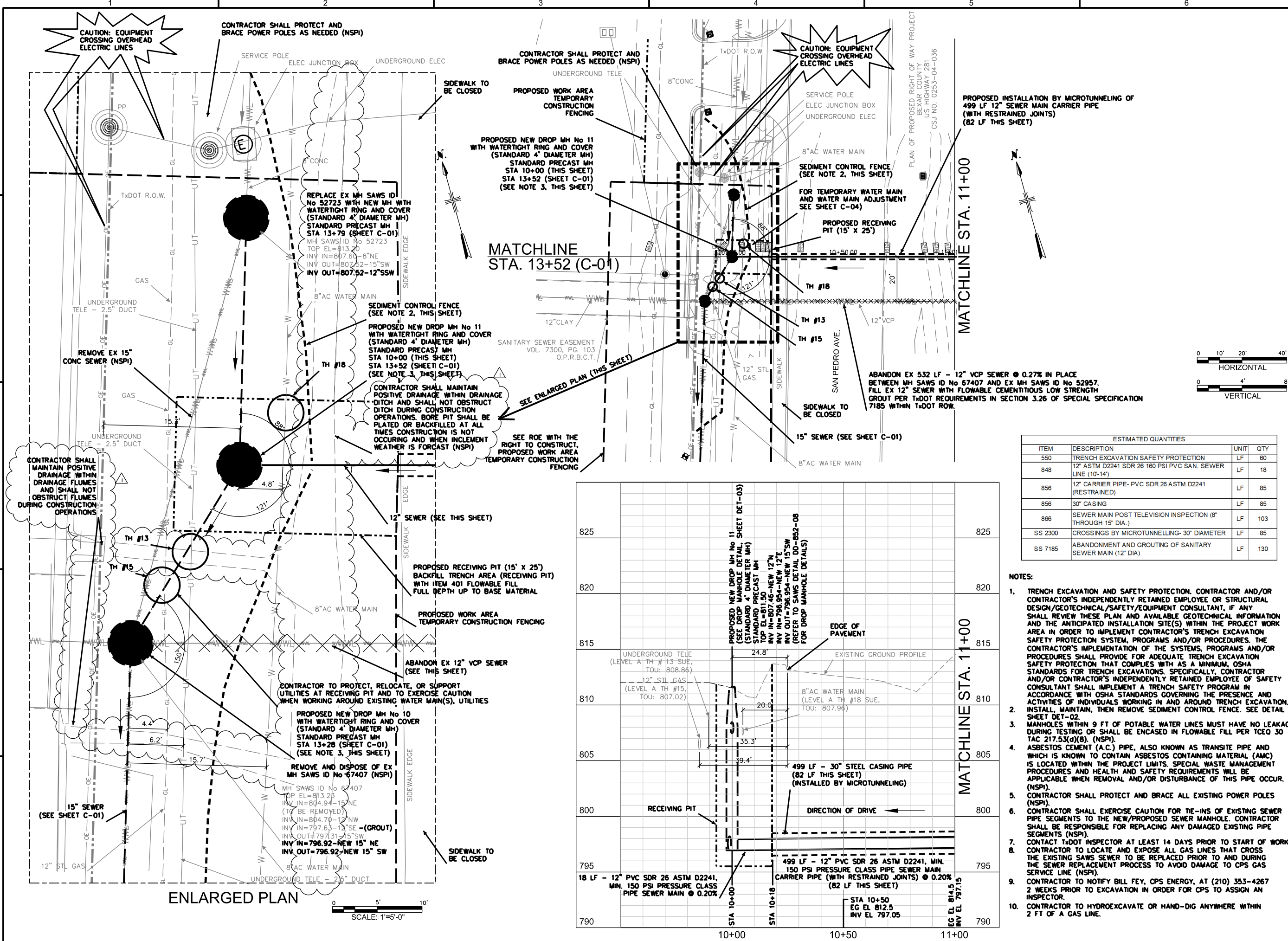
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 DATE: OCTOBER 2019
 PROJECT NO.: 02196053.0000
 DESIGNED BY: M. K.
 DRAWN BY: J. MEEKER
 CHECKED BY: J. RECK

SHEET TITLE

SYMBOLS, ABBREVIATIONS & QUANTITY SUMMARY

SCALE: NONE

SHEET **G-05**
 5 OF 37



10-25-19

SAN ANTONIO WATER SYSTEM

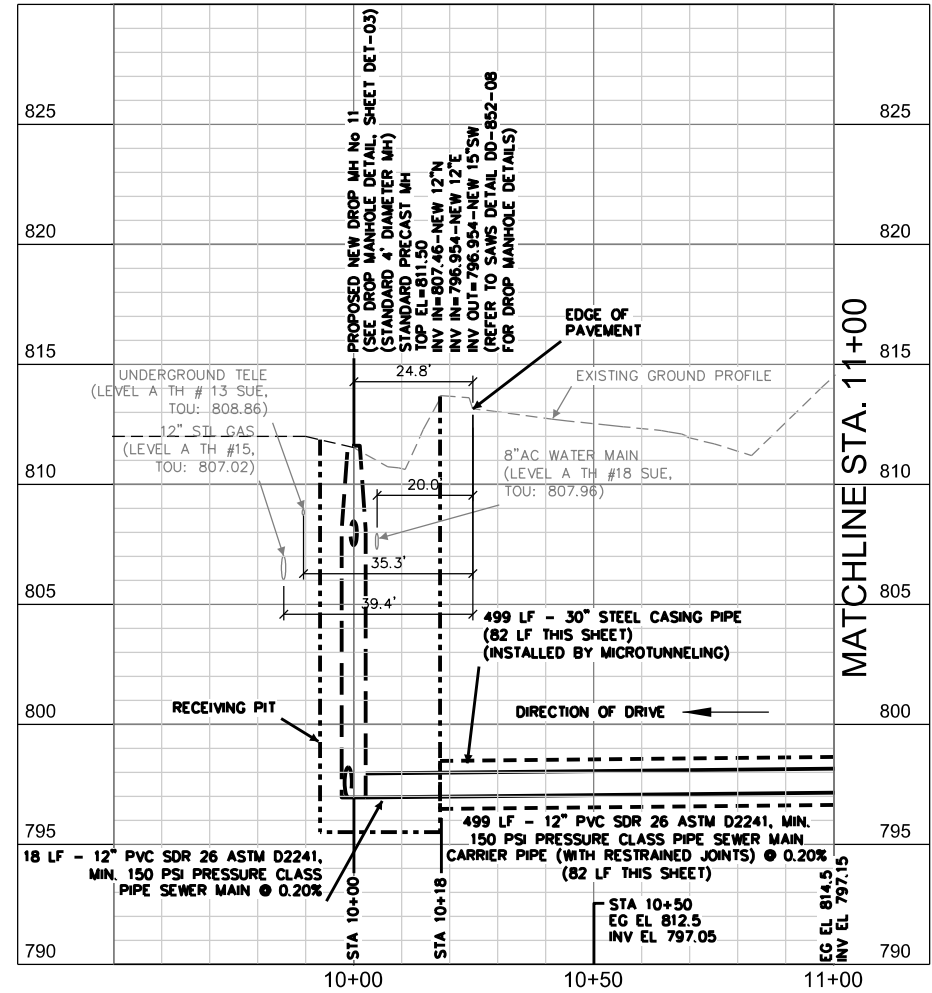


PACKAGE 8 REPLACEMENT BITTERS SITE BORE

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QTY
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	60
848	12" ASTM D2241 SDR 26 160 PSI PVC SAN. SEWER LINE (10'-14')	LF	18
856	12" CARRIER PIPE- PVC SDR 26 ASTM D2241 (RESTRAINED)	LF	85
856	30" CASING	LF	85
866	SEWER MAIN POST TELEVISION INSPECTION (8" THROUGH 15" DIA.)	LF	103
SS 2300	CROSSINGS BY MICROTUNNELING- 30" DIAMETER	LF	85
SS 7185	ABANDONMENT AND GROUTING OF SANITARY SEWER MAIN (12" DIA)	LF	130

NOTES:

- TRENCH EXCAVATION AND SAFETY PROTECTION. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY SHALL REVIEW THESE PLAN AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEM, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION. INSTALL, MAINTAIN, THEN REMOVE SEDIMENT CONTROL FENCE. SEE DETAIL SHEET DET-02.
- MANHOLES WITHIN 9 FT OF POTABLE WATER LINES MUST HAVE NO LEAKAGE DURING TESTING OR SHALL BE ENCASED IN FLOWABLE FILL PER TCEO 30 TAC 217.53(4)(8). (NSPI).
- ASBESTOS CEMENT (A.C.) PIPE, ALSO KNOWN AS TRANSITE PIPE AND WHICH IS KNOWN TO CONTAIN ASBESTOS CONTAINING MATERIAL (AMC) IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCUR. (NSPI).
- CONTRACTOR SHALL PROTECT AND BRACE ALL EXISTING POWER POLES (NSPI).
- CONTRACTOR SHALL EXERCISE CAUTION FOR THE-INS OF EXISTING SEWER PIPE SEGMENTS TO THE NEW/PROPOSED SEWER MANHOLE. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED EXISTING PIPE SEGMENTS (NSPI).
- CONTACT TxDOT INSPECTOR AT LEAST 14 DAYS PRIOR TO START OF WORK. CONTRACTOR TO LOCATE AND EXPOSE ALL GAS LINES THAT CROSS THE EXISTING SANW SEWER TO BE REPLACED PRIOR TO AND DURING THE SEWER REPLACEMENT PROCESS TO AVOID DAMAGE TO CPS GAS SERVICE LINE (NSPI).
- CONTRACTOR TO NOTIFY BILL FEY, CPS ENERGY, AT (210) 353-4267 2 WEEKS PRIOR TO EXCAVATION IN ORDER FOR CPS TO ASSIGN AN INSPECTOR.
- CONTRACTOR TO HYDROEXCAVATE OR HAND-DIG ANYWHERE WITHIN 2 FT OF A GAS LINE.



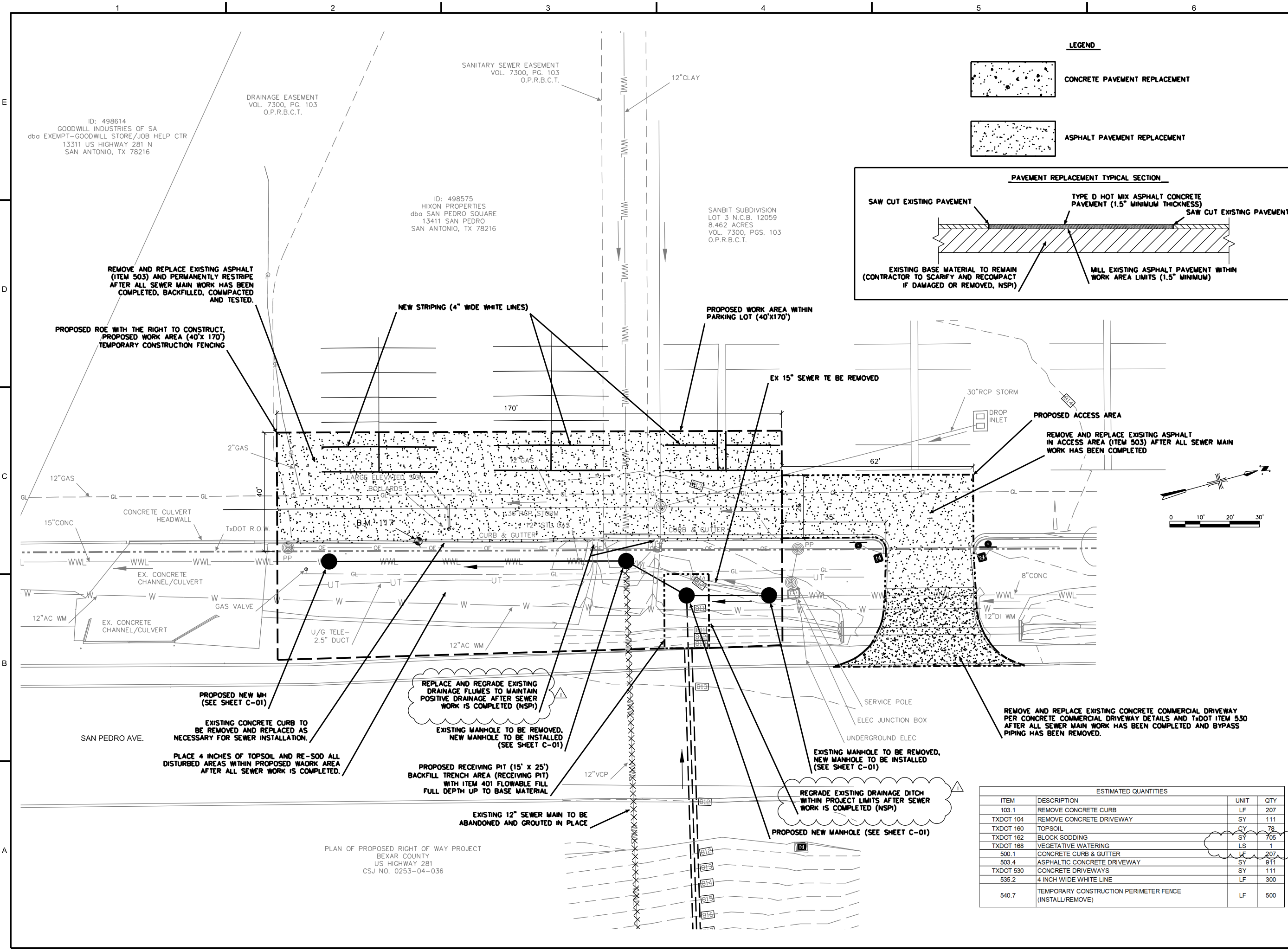
ENLARGED PLAN

SCALE: 1"=5'-0"

SEGMENT 1015944
SAN PEDRO AVE
(US 281) CROSSING
PLAN AND PROFILE
STA. 10+00 TO STA. 11+00
AND ENLARGED PLAN

SCALE: AS SHOWN

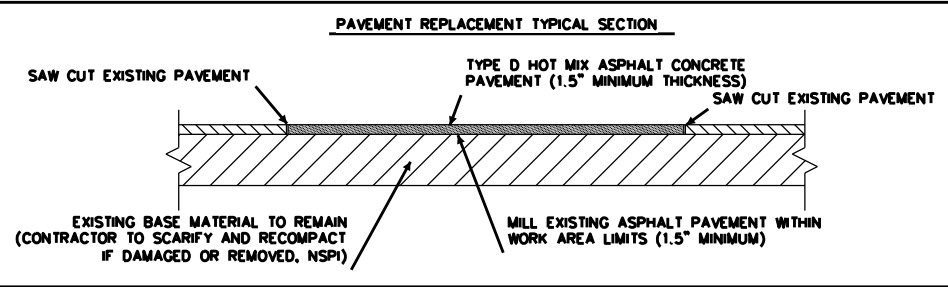
SHEET C-02



LEGEND

CONCRETE PAVEMENT REPLACEMENT

ASPHALT PAVEMENT REPLACEMENT



FINAL DESIGN



10-25-19

SAN ANTONIO WATER SYSTEM



PACKAGE 8 REPLACEMENT BITTERS SITE BORE

NO.	DATE	REVISION	BY
Δ	10/25/19	ADDENDUM NO.3	JAM

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 DESIGNED BY: M. K.
 DRAWN BY: J. MEEKER
 CHECKED BY: J. RECK

SHEET TITLE

SEGMENT 1015944
 SAN PEDRO AVENUE
 (US 281) CROSSING
 PERMANENT PAVING AND
 STRIPING RESTORATION
 (WEST SIDE WORK AREA)

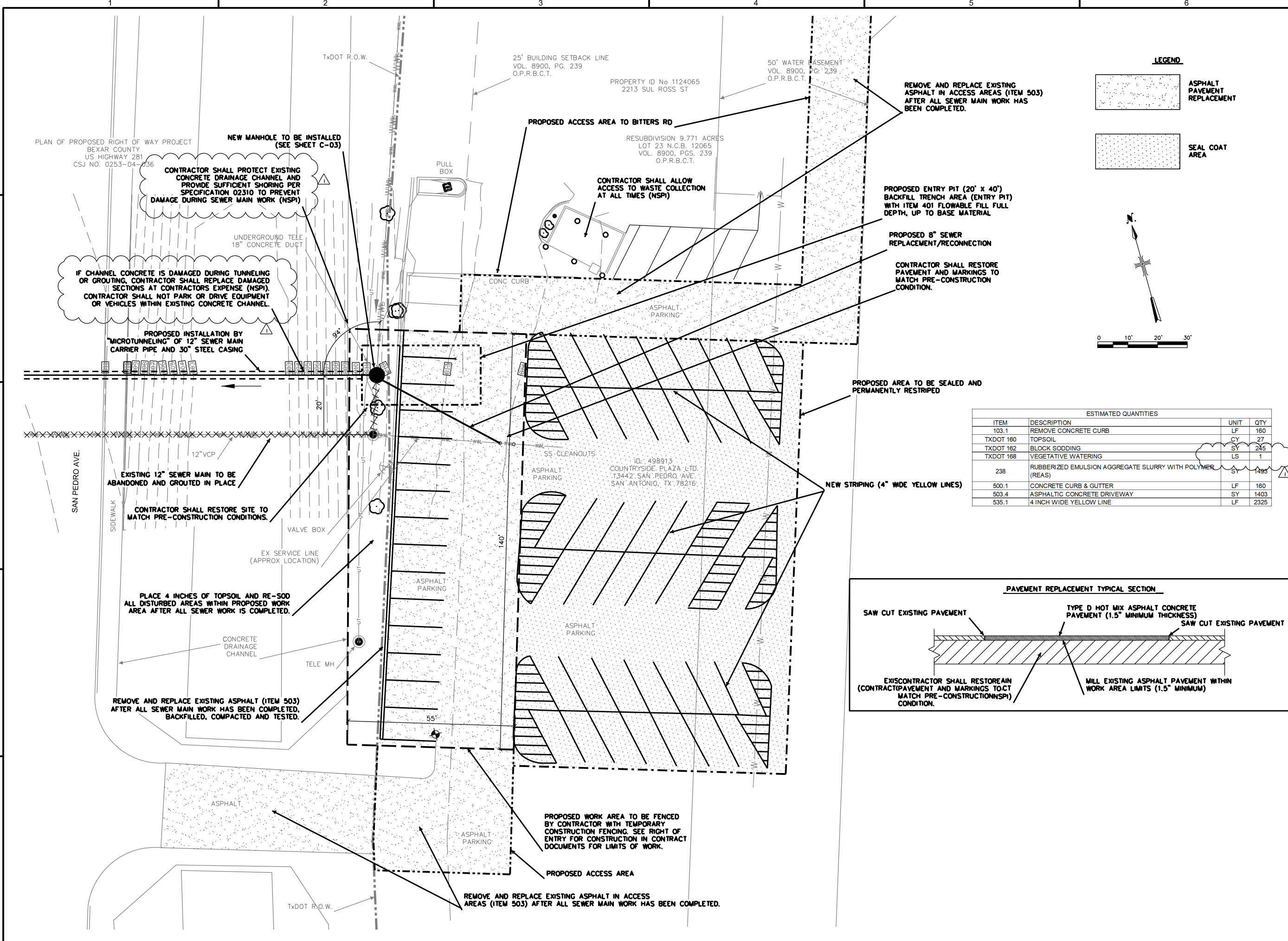
SCALE: 1" = 30'

SHEET **C-05**
 16 OF 37

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	QTY
103.1	REMOVE CONCRETE CURB	LF	207
TXDOT 104	REMOVE CONCRETE DRIVEWAY	SY	111
TXDOT 160	TOPSOIL	CY	78
TXDOT 162	BLOCK SODDING	SY	705
TXDOT 168	VEGETATIVE WATERING	LS	1
500.1	CONCRETE CURB & GUTTER	LF	207
503.4	ASPHALTIC CONCRETE DRIVEWAY	SY	911
TXDOT 530	CONCRETE DRIVEWAYS	SY	111
535.2	4 INCH WIDE WHITE LINE	LF	300
540.7	TEMPORARY CONSTRUCTION PERIMETER FENCE (INSTALL/REMOVE)	LF	500

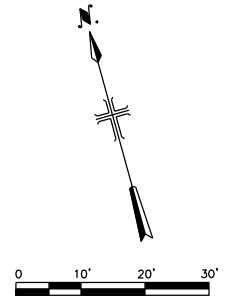
PLAN OF PROPOSED RIGHT OF WAY PROJECT
 BEXAR COUNTY
 US HIGHWAY 281
 CSJ NO. 0253-04-036



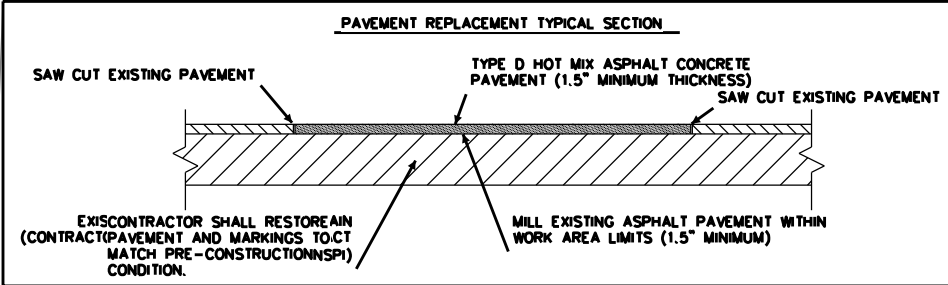
LEGEND

ASPHALT PAVEMENT REPLACEMENT

SEAL COAT AREA



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QTY
103.1	REMOVE CONCRETE CURB	LF	160
TXDOT 160	TOPSOIL	CY	27
TXDOT 162	BLOCK SODDING	SY	235
TXDOT 168	VEGETATIVE WATERING	LS	1
238	RUBBERIZED EMULSION AGGREGATE SLURRY WITH POLYMER (REAS)	SY	1493
500.1	CONCRETE CURB & GUTTER	LF	160
503.4	ASPHALTIC CONCRETE DRIVEWAY	SY	1403
535.1	4 INCH WIDE YELLOW LINE	LF	2325



FINAL DESIGN



SAN ANTONIO WATER SYSTEM



PACKAGE 8 REPLACEMENT BITTERS SITE BORE

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DRAWN BY: J. MEEKER
CHECKED BY: J. RECK

SHEET TITLE
SEGMENT 1015944
SAN PEDRO AVENUE
(US 281) CROSSING
PERMANENT PAVING AND
STRIPING RESTORATION
(EAST SIDE WORK AREA)

SCALE: 1" = 30'
SHEET **C-06**
17 OF 37

RIGHT OF ENTRY AGREEMENT

STATE OF TEXAS §
 § KNOW ALL MEN BY THESE PRESENTS
COUNTY OF BEXAR §

THIS RIGHT OF ENTRY AGREEMENT (this "Agreement") is entered into this 30th day of September, 2019 by and between the **SAN ANTONIO WATER SYSTEM** ("Grantee") and **HIXON PROPERTIES INCORPORATED** (referred to as "OWNER", whether one or more).

Property: 13411 San Pedro Avenue, San Antonio, Bexar County, Texas, as depicted in Exhibit "A" attached hereto (the "Property").

Legal Description: New City Block (NCB) 12059 LOT S IRR 789.95 OF 3 EXC 3A & 3B {SANTIKOS/BITTERS ANNEXATN}

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

During the ROE Period (as defined below) Grantee and its contractors and subcontractors shall be permitted to enter upon those portions of the Property labeled as "Work Area" and/or "Access Area" on Exhibit "B" attached hereto and incorporated herein, which such entry shall be exclusively for purposes of (i) ingress and egress to and from Grantee's sewer pipeline, (ii) bypass pumping of such sewer line, (iii) open cut operations, (iv) open cutting of driveway (with subsequent replacement by same), (v) construction, and (vi) storage and staging of materials and/or equipment for installation of sewer lines, facilities, and appurtenances thereto, in each case as such activities reasonably relate to the Project (as defined below). Grantee shall not unreasonably interfere with any existing operations on the Property, and OWNER shall not unreasonably interfere with Grantee's operations permitted under this Agreement. Furthermore, Grantee shall reasonably repair any physical damage to the Property resulting from such ingress, egress, and operations so as to cause the Property to be in substantially the same condition as of the date hereof. Grantee and its contractors and assigns shall also have the right to enter upon the Property for pre-construction, non-invasive site visits.

As used herein, the following terms shall have the respective meanings set forth below:

1. "ROE Period" shall mean the period starting on Grantee's (or its contractor's or subcontractor's) first entry upon the Property for the purpose of conducting any work or delivering any equipment or materials and ending on the earlier of (x) the date that is one hundred fifty (150) days thereafter or (y) August 15, 2020.
2. "Project" shall mean Grantee's (i) installation of a sewer pipeline under US Hwy 281 North (and the adjacent access roads) in the public right of way adjacent to the eastern property line of the Property (the "Adjacent ROW"), one end of which pipeline will terminate in the bore pit shown on Exhibit "B" attached hereto, (ii) installation of

approximately 100 linear feet of 15" sewer pipe in the Adjacent ROW, and (iii) installation of temporary bypass sewer pipelines necessary in connection with the installation of the lines described in clauses (i) and (ii) above (as illustrated on Exhibit "B"), such bypass pipelines to be removed upon or before completion of the Project.

The following terms and conditions shall apply:

1. Prior to first entering upon the Property for the purpose of conducting any work or delivering any equipment or materials, Grantee shall (i) provide proof of general contractor's insurance, as required by the remaining provisions of this Agreement, and (ii) give OWNER written notice thereof at least ten (10) days prior thereto.
2. The temporary bypass line to be located in the 15' sanitary sewer easement (Vol. 7300, Page 103) as shown on Exhibit "B" attached hereto shall be placed above-ground and shall be removed within fourteen (14) days after the initial placement of any portion thereof, after which such line shall be permanently removed and not re-installed. During the time that such bypass line is in place, Grantee shall install and maintain temporary ramps sufficient to allow for vehicular traffic over same in the locations shown on Exhibit "B". Grantee shall give OWNER written notice that such temporary bypass line will be installed at least ten (10) days prior thereto.
3. The temporary bypass line to be installed in the Adjacent ROW shall be installed below grade under the driveway located in the Access Area so as to allow unrestricted continuous vehicular access to and from the Property through such driveway. In installing, maintaining and/or removing such line, (i) Grantee shall cause all cuts and excavations of such driveway to be made in the asphalt portions only (and not the concrete portions), and (ii) all work shall be performed during the period of 10:00 p.m. – 6:00 a.m. so as not to restrict vehicular access to and/or from the Property through such driveway outside of such time period. Grantee shall give OWNER written notice of any work impacting such driveway or the use thereof at least ten (10) days prior thereto.
4. Grantee shall repair all asphalt cuts and excavations per the standards set forth on Exhibit "C" attached hereto.

Grantee shall maintain the Work Area in a clean and presentable manner, shall promptly clean any other portions of the Property and/or the Access Area made dirty by the activities of Grantee, and shall promptly remove from the Property, the Access Area and the Work Area all trash, excess excavated materials and other waste created by or in connection with the Project or otherwise in connection with Grantee's activities. Except as expressly provided herein, Grantee may not modify, alter or damage any of the improvements on the Property, the Access Area or the Work Area or make any penetrations of the existing asphalt, concrete or other hard surfaces nor affix any ropes, banners, cables, etc. to the light poles, parking equipment, buildings or other improvements located on the Property, the Access Area or the Work Area.

Grantee shall provide and adequately maintain any barricades, fences, signs, lighting and other suitable devices as may be necessary or appropriate for employee and public safety with

respect to the activities to be conducted in connection with the Project. Grantee shall exercise all normal and reasonable safety precautions. Grantee shall be solely responsible for insuring that only Grantee and its contractors have access to its work sites in the Work Area. Grantee expressly understands and agrees that Grantee shall bear sole responsibility for (i) the security and safety of Grantee's employees, agents, representatives, vendors, contractors, subcontractors, and all other persons whomsoever who come on or about the Property, the Access Area and the Work Area in connection with the Project, (ii) for the security of all equipment and other property brought onto or about the Property, the Access Area or the Work Area by or on behalf of Grantee or any other person or entity in connection with the Project, and (iii) securing the Work Area and equipment used in or related to the Project to prevent the unauthorized access thereto by third parties. Owner will not be obligated to provide security personnel, security lighting, or any other form of security.

Grantee accepts the condition of the Property, the Access Area and the Work Area as of the date hereof, "as is", "where is", with all currently existing faults and defects. Grantee is solely responsible for obtaining any necessary licenses and permits for the work permitted under this Agreement, including transportation and disposal of materials.

Grantee is a self-insured municipal entity. Grantee shall require its general contractor (and Grantee's contract with its general contractor shall require such general contractor to cause each of its subcontractors) to carry and maintain during the ROE Period (i) commercial general liability insurance, with contractual liability endorsement, on an occurrence basis, with a minimum single limit of \$1,000,000, and \$2,000,000 in the aggregate, (ii) commercial/business automobile liability insurance with minimum policy limits of not less than \$1,000,000 per occurrence and (iii) workers' compensation insurance in the Texas statutory limits . The commercial general liability and commercial/business automobile liability policies will be endorsed to name OWNER as additional insured. Grantee will deliver to OWNER a certificate of such insurance from the general contractor in compliance with the above requirements prior to first entering upon the Property for the purpose of conducting any work or delivering any equipment or materials.

Grantee agrees and acknowledges that, as between OWNER and Grantee (and without relieving Grantee's general contractor and subcontractors of their obligations to Grantee and/or OWNER), Grantee shall be responsible for any property damage, personal injury or death of any person or persons arising out of negligent acts or omissions by or on behalf of Grantee, its general contractor, subcontractors and/or vendors and related to the Project, as well as claims or liens by any contractor, subcontractor or vendor providing goods or services.

This Agreement may be executed in one or more counterparts, each of which upon delivery shall be deemed an original, and all of which together shall constitute one and the same instrument. Facsimile and other electronically transmitted signatures may be relied upon by each of the parties hereto as though they were original signatures.

This Agreement shall be construed and enforced in accordance with the laws of the State of Texas.

{Signatures start on next page}

OWNER:
HIXON PROPERTIES, INCORPORATED
a Texas corporation

By: 

Printed Name: Tobin E. Olson

Title: Vice President and General Counsel

Phone: (210) 225-3053

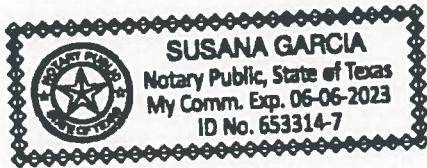
STATE OF TEXAS §
 §
COUNTY OF BEXAR §

This instrument was acknowledged before me on this 30th day of September, 2019, by **Tobin E. Olson**, Vice President and General Counsel of **HIXON PROPERTIES, INCORPORATED**, on behalf of said Texas corporation.

[Seal]



Notary Public, State of Texas



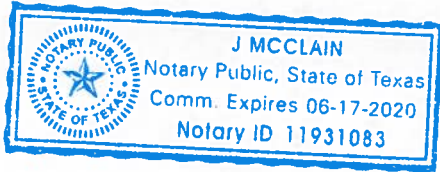
**GRANTEE:
CITY OF SAN ANTONIO, ACTING BY AND
THROUGH ITS SAN ANTONIO WATER
SYSTEM**

By: *Nancy Belinsky*
Printed Name: Nancy Belinsky
Title: Vice President and General Counsel

STATE OF TEXAS §
 §
COUNTY OF BEXAR §

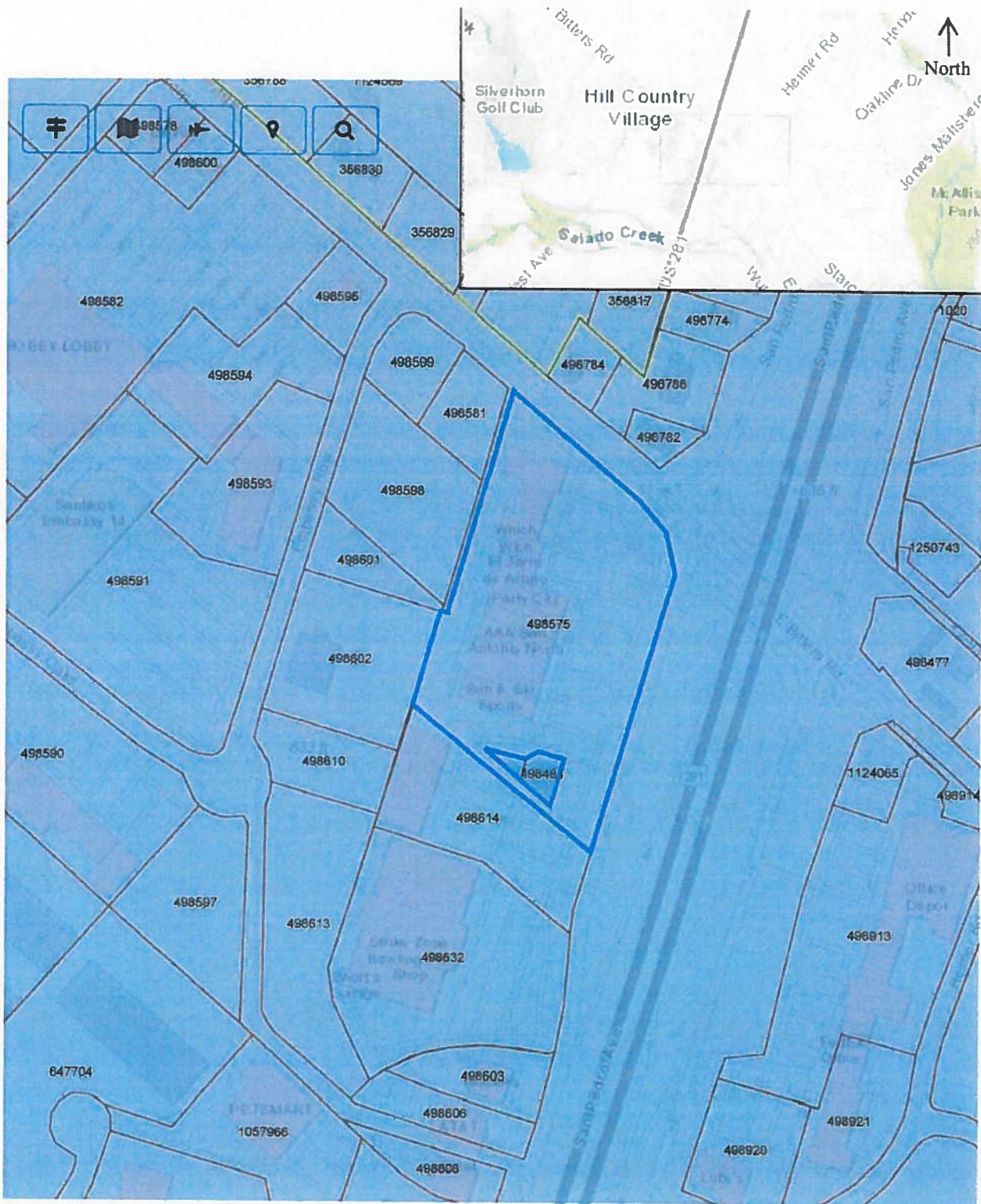
This instrument was acknowledged before me on this 17 day of October, 2019, by Nancy Belinsky, Vice President and General Counsel of the San Antonio Water System, a municipal utility of the City of San Antonio, on behalf of said municipal utility.

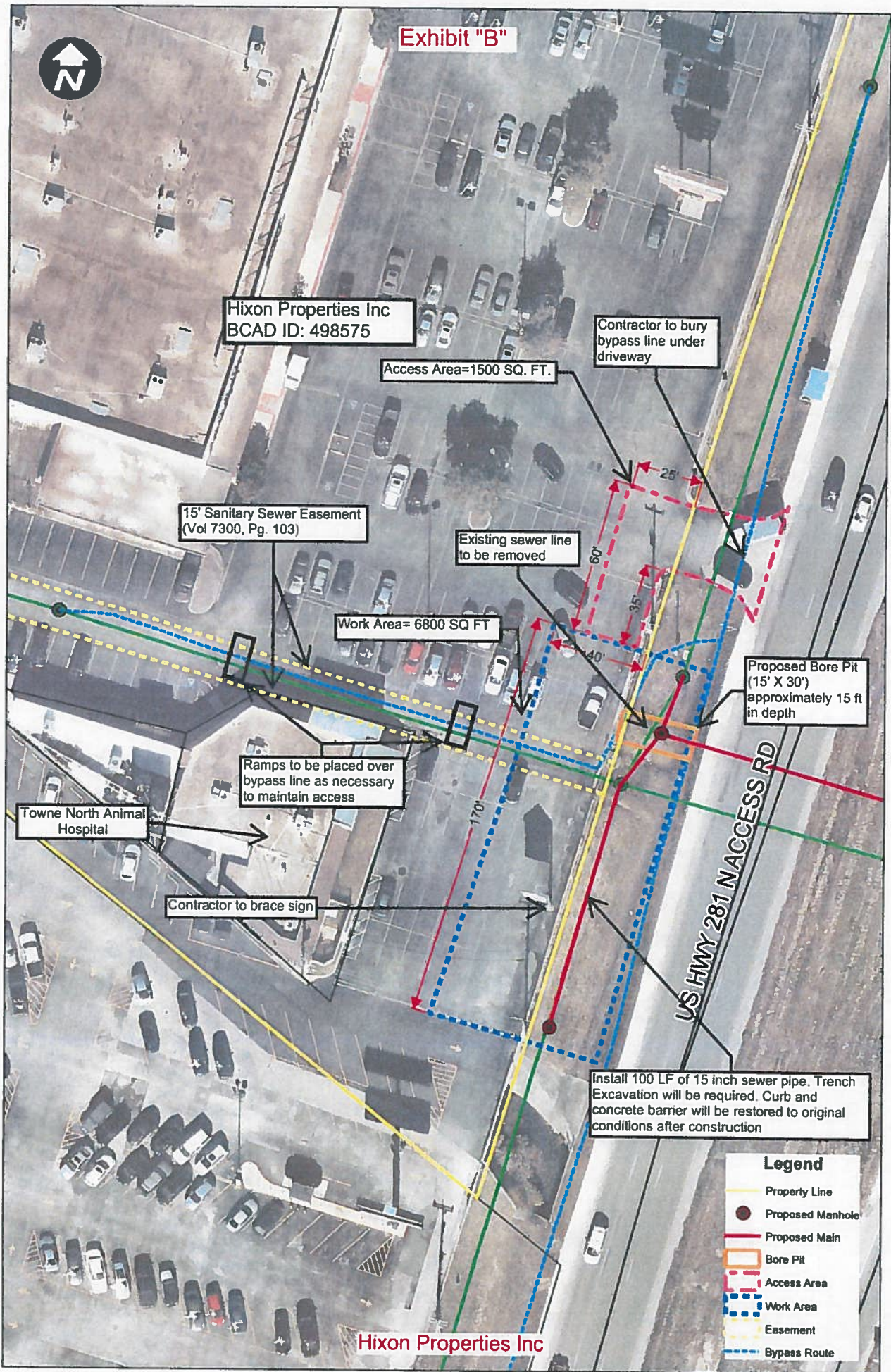
[Seal]



J McClain
Notary Public, State of Texas

Exhibit "A"





RIGHT OF ENTRY AGREEMENT

STATE OF TEXAS §
 § KNOW ALL BY THESE PRESENTS
COUNTY OF BEXAR §

THIS RIGHT OF ENTRY AGREEMENT (this "Agreement") is entered into this 4 day of October, 2019, by and between the **CITY OF SAN ANTONIO**, acting by and through its **SAN ANTONIO WATER SYSTEM** ("Grantee") and **COUNTRYSIDE PLAZA, LTD.** (referred to as "OWNER", whether one or more).

Property: 13402 - 13486 San Pedro Avenue, San Antonio, Bexar County, Texas, as depicted in Exhibit "A" attached hereto (the "Property").

Legal Description:

Tract I: (Countryside Plaza)

A 7.497 Acre Tract, 5.635 Acres out of the North portion of Lot 23, Countryside Plaza Subdivision more particularly described in being the same property described on survey dated June 9, 1995, updated by MBC Engineers, Job number 27366-1375.

Tract II: (Countryside Plaza)

Lot 34, New City Block 12065, Countryside Plaza Subdivision, in the City of San Antonio, Bexar County, Texas, according to plat thereof recorded in Volume 9515, Page 135, Deed and Plat records of Bexar County, Texas, being the same property described on survey dated June 9, 1995, updated June 7, 2005 by MBC Engineers, job number 27366-1375.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

Commencing upon the earlier of (i) Grantee's first date of construction on the Property, as evidenced by notice to OWNER that commencement has occurred, or (ii) February 28, 2020, and continuing until the earlier of (a) the completion of the Work (as defined below) and repair and restoration obligations of Grantee set forth herein, or (b) one hundred fifty (150) days from such commencement (such period of time being referred to as the "Term"), Grantee and its employees, general contractor and subcontractors shall have the right, subject to the terms and provisions of this Agreement, to enter upon the portions of the Property labeled as "Access Area" shown on Exhibit "B" attached hereto and incorporated herein solely for purposes of ingress and egress to and from Grantee's sewer pipeline, and to enter upon the portions of the Property labeled as "Work Area" shown on Exhibit "B" attached hereto and incorporated herein solely for purposes of (i) bypass pumping, (ii) open cut operations, and (iii) installation of temporary manholes (collectively, the "Work"). In connection with the Work, Grantee shall

have the further right to install a temporary pipeline across the curb front driveway in the Highway 281 street right of way, provided that such driveway will continue to remain accessible to OWNER and its tenants and invitees at all times during the Term. Grantee will place rolled asphaltic base over the driveway cut and will maintain the driveway in good and useable condition during the Term. Following completion of the Work, Grantee will repair and restore the driveway to substantially the same or better condition existing as of the date of this Agreement. Grantee and its employees, general contractor and subcontractors shall (a) comply with all applicable laws, rules and regulations of applicable governmental authorities during their entry and operations on the Property, and (b) park vehicles and place equipment only within the Work Area, and no other portion of the Property. Grantee and its employees, general contractor and subcontractors shall not unreasonably interfere with any existing operations on the Property, and OWNER shall not unreasonably interfere with Grantee's operations permitted under this Agreement. Furthermore, Grantee shall repair in a good and workmanlike manner any physical damage to the Property, including, without limitation, the repair of any damaged asphalt and the replacement of any damaged landscaping, resulting from such ingress, egress, Work and other operations so as to cause the Property to be in substantially the same condition existing as of the date of this Agreement. Grantee further agrees that upon completion of the Work, Grantee shall reseal and restripe the entire portion of the parking lot situated within the Work Area and Seal and Restripe Area (as shown on Exhibit "B") and any other area of the Property that is damaged or modified by Grantee or its general contractor or subcontractors, so that all such parking areas are returned to substantially the same condition existing as of the date of this Agreement. Grantee and its employees, general contractor and subcontractors shall also have the right to enter upon the Property for pre-construction, non-invasive site visits, subject to the terms of this Agreement.

Grantee agrees that prior to undertaking any Work, Grantee will, at its sole cost, install a temporary fence along the entire perimeter of the Work Area.

This Agreement does not grant any permanent rights easement or other rights to Grantee and in no event will Grantee have the right to construct or install any permanent structures on the Property pursuant to this Agreement, provided, however, the foregoing shall not affect any rights Grantee may have pursuant to its existing easement(s) filed of record in Bexar County, Texas, which are located on the Property.

Grantee shall make reasonable efforts to provide reasonable notice to OWNER of the dates and anticipated durations of the necessary Work.

Prior to any entry onto the Property by Grantee or its employees, general contractor or subcontractors, Grantee shall cause its general contractor obtain and maintain in force at their own expense, insurance policies of (i) Workers' compensation insurance with Employer's

Liability covering Grantee's employees as required by applicable law, (ii) automobile liability insurance covering liability for all vehicles owned, leased and hired by Grantee with limits of not less than \$1,000,000.00 combined single limit coverage for bodily injury and property damage, and (iii) commercial general liability insurance by an insurance company qualified to do business in the State of Texas, insuring against claims of all persons for loss of life, personal injury and property damage arising out of or incident to the activities of Grantee's general contractor and/or its employees or subcontractors upon the Property. OWNER, OWNER's Asset Manager and OWNER's Property Manager shall be named as an additional insured under the commercial general liability and auto liability policies, and Grantee or its general contractor shall deliver to OWNER a certificate evidencing such insurance and reflecting a combined single limit coverage of the commercial general liability policy in an amount of not less than \$2,000,000.00 for bodily injury and property damage liability. If the following can be obtained by the general contractor's then-current carrier, such certificate shall provide that the coverage cannot be canceled without at least thirty (30) days prior written notice to OWNER, and Grantee and its general contractor shall cause such insurance to remain in full force and effect during the term of this Agreement. To the fullest extent permitted by law, Grantee shall be responsible for and obligated to pay any liens, claims, and/or damages (including without limitation reasonable attorneys' fees and costs) connected with, resulting from, or arising from Grantee's and/or its employees, general contractor or subcontractors entry upon the Property, and the activities, operations and/or restoration and/or repair work on the Property performed by Grantee and/or its employees, general contractor or subcontractors. The foregoing obligations shall survive the termination or expiration of this Agreement. Grantee may self-insure its responsibilities provided for hereinabove. "Self-insure" shall mean that Grantee is itself acting as though it were the insurance company providing the insurance of the types and in the amounts required under the provisions above and Grantee shall pay any amounts due in lieu of insurance proceeds because of self-insurance.

In consideration for the rights granted to Grantee hereunder, and to compensate OWNER for the loss of use of the Work Area while Grantee is performing the Work, upon the execution of this Agreement by OWNER and Grantee, Grantee agrees to pay OWNER the sum of \$49,950.00. In addition, in the event Grantee has not completed the Work and necessary repairs prior to the end of the Term, this Agreement will automatically extend for successive periods of 30 days each until such time as Grantee has completed the Work and such repairs, and Grantee shall pay OWNER the amount of \$10,500.00 per each 30 day period, with each such extension payment being due and payable within ten (10) days following the beginning of the applicable 30 day period.

In the event of a default by Grantee of its obligations under this Agreement, OWNER shall have the right to pursue all rights and remedies available at law and in equity, save and except termination of this Agreement; provided, however, OWNER shall have the right to

terminate this Agreement in the event Grantee fails to deliver to OWNER the initial payment of \$49,950.00 within thirty (30) days following the execution of this Agreement by OWNER and Grantee.

Whenever any notice, demand or request is required or permitted under this Agreement, such notice, demand or request shall be in writing and shall be delivered by hand, be sent by registered or certified mail, postage prepaid, return receipt requested, be sent by commercial courier for next business day delivery, to the address for each party set forth next to their signature hereto, or to such other addresses as are specified by written notice given in accordance herewith, or be transmitted by email to the email address for each party set forth next to their signature hereto (provided that if sent by email, such notice, demand or request is also sent by regular mail), or to such other email addresses as are specified by written notice given in accordance herewith. All notices, demands or requests delivered by hand shall be deemed given upon the date so delivered; those given by mailing as hereinabove provided shall be deemed given on the date of deposit in the United States Mail; those given by commercial courier as hereinabove provided shall be deemed given on the date of deposit with the commercial courier; and those given by email shall be deemed given on the date of email transmittal (provided such notice is also sent by regular mail). Any notice, demand, or request shall be deemed received by the party to whom addressed on the date of hand delivery, on the date of email transmittal, on the first calendar day after deposit with commercial courier, or on the date of deposit in the United States Mail, as the case may be.

OWNER has executed and delivered this Agreement and granted the right to enter the Property and other rights granted herein, and Grantee has received and accepted this Agreement and its rights to enter upon the Property and exercise the rights granted herein, in the Property's AS IS, WHERE IS, condition, WITH ALL FAULTS, and without any representations or warranties from OWNER whatsoever, express or implied, written or oral.

Grantee shall not assign its interest, or any part thereof, in this Agreement or the rights granted herein, provided, however, this prohibition shall not prevent Grantee's general contractor or subcontractors from entering onto the Access Area and Work Area pursuant to this Agreement. OWNER shall have the right to assign this Agreement to a successor owner of the Property.

This Agreement may be executed in one or more counterparts, each of which upon delivery shall be deemed an original, and all of which together shall constitute one and the same instrument. Facsimile and other electronically transmitted signatures may be relied upon by each of the parties hereto as though they were original signatures.

This Agreement shall be binding upon and inure to the benefit of OWNER and Grantee, and their respective successors and assigns. This Agreement constitutes the complete and final expression of the agreement of the parties relating to the subject matter hereof, and supersedes all previous contracts, agreements and understandings of the parties, either oral or written, relating to such subject matter. This Agreement cannot be modified, nor may any of the terms hereof be waived, except by an instrument in writing (referring specifically to this Agreement) executed by the parties hereto.

If any one or more of the provisions of this Agreement, or the applicability of any such provision to a specific situation, shall be held invalid or unenforceable, such provision shall be modified to the minimum extent necessary to make it or its application valid and enforceable, and the validity and enforceability of all other provisions of this Agreement and all other applications of any such provision shall not be affected thereby.

This Agreement shall be construed and enforced in accordance with the laws of the State of Texas.

{Signatures start on next page}

OWNER:
COUNTRYSIDE PLAZA, LTD.
a Texas limited partnership

By: Milam Real Estate Capital, LLC
a Texas limited liability company, its Asset Manager *BWF*

By: *PRohlfs*

Printed Name: *Paul Rohlfs Jr.*


Title: *Manager*

Phone: *210-822-7500*

Address of OWNER:

Countryside Plaza, Ltd.
c/o Milam Real Estate Capital, LLC
Attn: Asset Manager
250 W. Nottingham, Suite 410
San Antonio, Texas 78209
Email: bfitzsimons@milamcapital.com
and PRohlfs@milamcapital.com

**GRANTEE:
CITY OF SAN ANTONIO, ACTING BY AND
THROUGH ITS SAN ANTONIO WATER SYSTEM**

By: 
Printed Name: Nancy Belinsky
Title: Vice President and General Counsel

Address of Grantee:

San Antonio Water System
2800 US Hwy 281N
San Antonio, Texas 78212
Attn: General Counsel
Email: Mark.Brewton@saws.org

EXHIBIT A

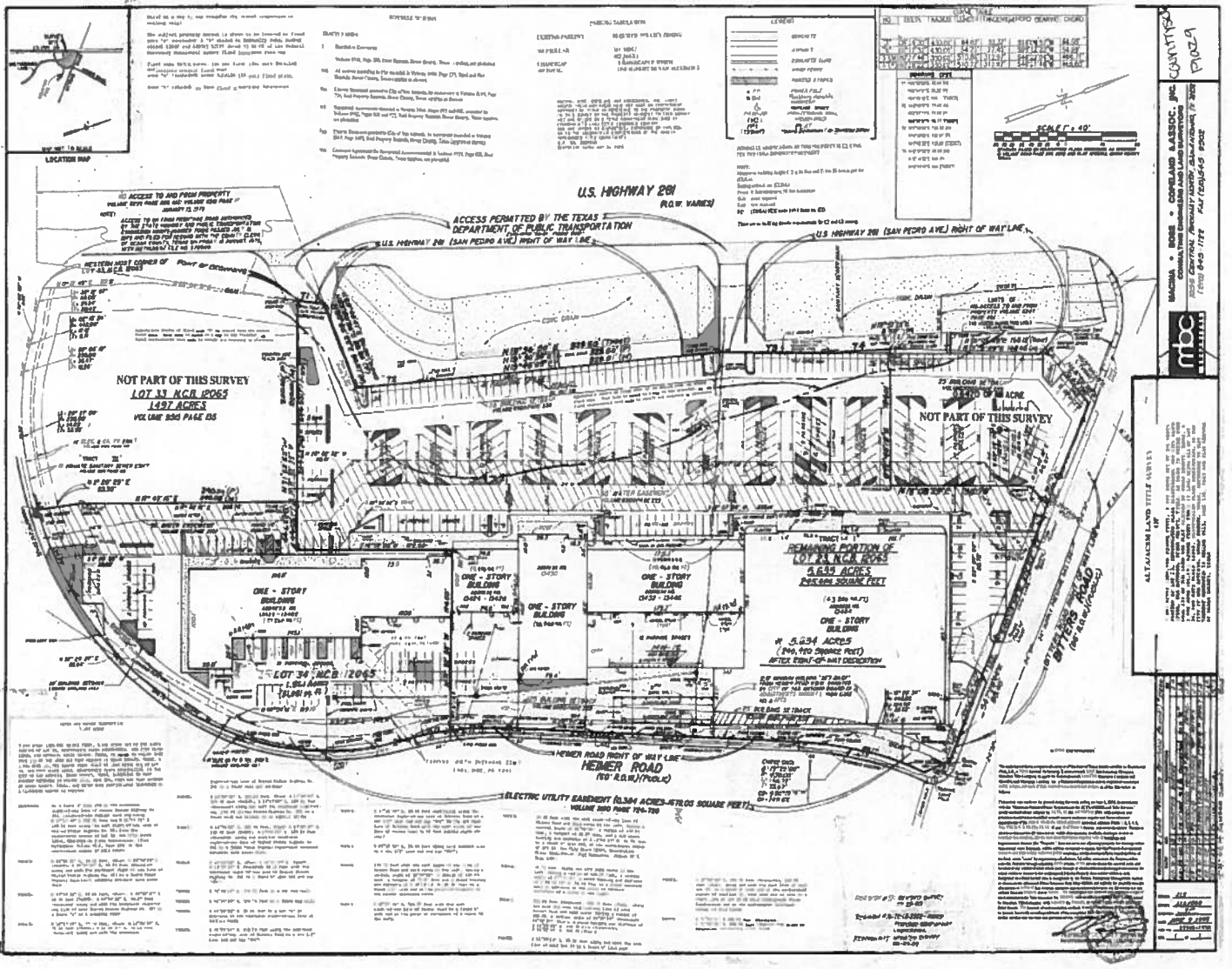


EXHIBIT B

[See Next Page]

