



**Multiple Sewershed Package 14 – CIPP
Solicitation No.: CO-00364
Job No.: 19-4513**

**ADDENDUM 2
November 3, 2020**

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: Are there pipe inspection videos available for this project? If so, please provide the Disclosure Form and any instructions necessary for the bidders to access them.**

Response: Video clips are being made available for the sole purpose of providing historical background information that may assist bidders in preparing their response to this solicitation. To obtain disclaimer form and access to the video information, please go to the solicitation on the SAWS website (https://apps.saws.org/business_center/contractsol/Drill.cfm?id=3890&View=Yes). Complete the form and email the document to Janie Powell (Janie.Powell@saws.org) who will provide access to the videos via SAWS FTP site.

The videos are provided for informational purposes only and are not included in the bid documents. The deterioration is an ongoing process, so the conditions at the time of construction may be substantially different from the conditions shown in the videos.

- 2. Question: For this bid, it appears that instead of having a separate item for adjusting the existing manholes, the replacement of the manhole frames and covers has been made incidental to the manhole rehabilitation item. We request that this manhole frame and cover replacement be broken out into a separate item for adjusting the manholes instead of being incidental to the manhole rehab. We have found that having the items separate often aids during administration of the project since sometimes the frames and covers have already been replaced, but the manhole still needs to be coated.**

Response: Line item 851 Adjust Existing Manholes has been added to the applicable plan sheets and the bid proposal. Refer to Changes to the Specifications #1, Changes to the Plans, and Clarifications #1 and #2 listed in this addendum.

- 3. Question: There are no bid items for traffic control for Sites 10, 13, & 14. Should there be?**

Response: A Traffic Control Plan is not required for Sites 10, 13, and 14. Refer to Sheet 46, 56, and 59.

- 4. Question: The quantity for bid item 66 for obstruction removal w/ remote device is 22 EA, which appears to be too high if this item is still only being paid once per manhole-to-manhole pipe segment instead of per obstacle. Should the quantity for this bid item be reduced? Or for this contract, is this item being paid per obstacle instead of per pipe segment?**

Response: Refer to SPTS Items I, Subsection 2a, "Unit Prices – Obstruction Removal". Obstruction removal shall be for each obstruction removed by remote control device.

5. **Question:** CIPP standard specification section 901.4.3.e.6 requires a soil modulus of 500 psi to be used in the CIPP thickness designs, but this soil modulus is overly conservative and will produce CIPP thicknesses that are thicker than needed, which will increase the difficulty of installation and overall project cost. On previous projects, and on the recent bid for CO-00369, this section has been replaced with language saying the Contractor was allowed to submit calculations signed and sealed by a Texas Professional Engineer utilizing other values for soil modulus so long as those values were part of the sealed calculations, the calculation method complied with ASTM F1216, and the soil modulus utilized did not exceed 1,000 psi. Please confirm that the Contractor will again be allowed to use values other than 500 psi for the soil modulus on this project.

Response: Contractor may submit calculations signed and sealed by a Texas Professional Engineer utilizing other values for soil modulus so long as those values are part of the sealed calculations, and the calculations methods complies with ASTM F1216. Allowable soil modulus shall not exceed 1,000-psi. Refer to Changes to the Specifications #4 listed in this addendum.

6. **Question:** SPTS item B revising section 550.4 says that payment for Trench Excavation Safety Protection for point repairs and excavated lateral connections shall be included in the cost of said items, but Bid Item no. 27 indicates this Trench Excavation Safety Protection will be paid separately as a unit price per LF. Also, per the quantities shown on the drawings, the Trench Excavation Safety Protection is shown as a separate pay quantity that appears to correlate directly to the quantities that would be required in support of the designated point repairs. Should SPTS item B be deleted from the specifications?

Response: Trench Excavation Safety Protection will be paid per SAWS Specification Item No. 550. Refer to Changes to the Specifications #5 listed in this addendum.

7. **Question:** SPTS item H includes revisions to the SAWS standard specification for section 910, but these project documents also includes a special specification section SS910 for the manhole rehabilitation on this project. Which is applicable? Wouldn't the inclusion of the special specification section SS910 replace and supersede any references to the standard specifications for that work on this project, and if so, should SPTS item H be deleted?

Response: Revisions included in SPTS Item H have been incorporated in revised Special Specification SS910 attached to this addendum. Refer to Changes to the Specifications #2 and #3 listed in this addendum.

CHANGES TO THE SPECIFICATIONS

1. Bid Proposal, pages BP-1 to BP-7 – Remove in its entirety and replace with the revised version attached to this addendum. Respondents will utilize the attached Bid Proposal form in their submittals. Failure to use the revised bid proposal may result in the contractor's bid being found non-responsive and rejected.
2. Special Specification Item No. SS910 Manhole Rehabilitation – Remove and replace in its entirety with the revised version attached to this addendum.
3. In the Special Provisions to Technical Specifications, remove Section H "Revision to SAWS Standard Specification Item No. 910 Manhole Rehabilitation (included in Contract Documents)."
4. In the Special Provisions to Technical Specifications, add the following language to Section G "Revision to SAWS Standard Specification Item No. 901 Rehabilitation of Sanitary Sewer by Cured-in-Place Pipe (Hot Water or Steam Cured)":

"901.4.3.e.6 Materials: Delete this section in its entirety and Replace with the following:

- (6) Soil Modulus: 500 psi. Contractor may submit calculations signed and sealed by a Texas Professional Engineer utilizing other values for soil modulus so long as those values are part of the sealed calculations, and the calculations methods complies with ASTM F1216. Allowable soil modulus shall not exceed 1,000-psi."
5. In the Special Provisions to Technical Specifications, remove Section B "Revision to SAWS Standard Specification Item 550 Trench Excavation Safety Protection."

CHANGES TO THE PLANS

1. Remove the following sheets and replace with the attached sheets dated 11/2/2020:
 - Sheet 5- Summary of Quantities (dated 10/5/2020)
 - Sheet 15- Site 1-Compkey 1053166 STA 1+00 to STA 2+41.49 (dated 10/5/2020)
 - Sheet 18- Site 2-Compkey 1000814 STA 1+00 to STA 4+05.09 (dated 10/5/2020)
 - Sheet 21- Site 3-Compkey 1000251, 1000374, 1000378 STA 1+00 to 3+00 (dated 10/5/2020)
 - Sheet 23- Site 3-Compkey 1000251, 1000374, 1000378 STA 5+50 to 8+42 (dated 10/5/2020)
 - Sheet 26- Site 4-Compkey 998446 STA 1+00 to 3+87 (dated 10/5/2020)
 - Sheet 27- Site 5-Compkey 997813 Plan and Profile (dated 10/5/2020)
 - Sheet 30- Site 6-Compkey 1000646 STA 1+43.92 to 5+57.88 (dated 10/5/2020)
 - Sheet 33- Site 7-Compkey 997831, 1000594 STA 1+00 to 4+00 (dated 10/5/2020)
 - Sheet 37- Site 8-Compkeys 1019086 & 1023490 STA 1+00 to 3+50 (dated 10/5/2020)
 - Sheet 41- Site 9-Compkey 976110 STA 1+00 to STA 4+00 (dated 10/5/2020)
 - Sheet 44- Site 10-Compkey 1012397 STA 1+00 to STA 3+76 (dated 10/5/2020)
 - Sheet 45- Site 10-Compkey 1012397 Suggested Bypass Plan (dated 10/5/2020)
 - Sheet 46- Site 10-Compkey 1012397 Traffic Control Plan (dated 10/5/2020)
 - Sheet 47- Site 11-Compkey 1039369 (1 of 2) STA 1+00 to STA 4+00 (dated 10/6/2020)
 - Sheet 51- Site 12-Compkey 1029314 STA 1+00 to STA 4+90.85 (dated 10/5/2020)
 - Sheet 54- Site 13-Compkey 1029899 STA 1+00 to STA 2+27.72 (dated 10/5/2020)
 - Sheet 57- Site 14-Compkeys 1051567 & 1059068 STA 1+00 to STA 6+20.36 (dated 10/5/2020)
 - Sheet 60- Site 15-Compkey 1053576 STA 1+00 to STA 4+20.57 (dated 10/5/2020)

CLARIFICATIONS

1. The following updates have been made to the Bid Line Items on Sheet 5:
 - a. Bid Item 851 Adjust Existing Manholes has been **added**.
 - b. Bid Item 910.1 Manhole Rehabilitation was **modified** to SS 910.1 Manhole Rehabilitation.
2. Sheets 5, 15, 18, 21, 23, 26, 27, 30, 33, 37, 41, 44, 51, 54, 57, & 60 have been revised to include Bid Item 851 Adjust Existing Manholes.
3. Sheets 44, 45, and 46 were revised to show 100-Year Floodplain Limits outside Site 10. Site 10 does not require a Flood Plain Development Permit.
4. Sheet 47 was revised to reflect removal of trees as a No Separate Pay Item (NSPI).

END OF ADDENDUM

This Addendum, including these three (3) pages, is thirty-three (33) pages with attachments in its entirety.
Attachments:

- Bid Proposal (7 pages total)
- Item No. SS910 Manhole Rehabilitation (4 pages total)
- Sheet 5, 15, 18, 21, 23, 26, 27, 30, 33, 37, 41, 44, 45, 46, 47, 51, 54, 57, and 60 (19 pages total)



Javier Garcia, P.E.
Garcia Infrastructure Consultants, LLC



11/3/2020

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 **270** 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.

Statement on President's Executive Orders

Has your firm previously performed work subject to the President's Executive Orders Numbers 11246 and 11375 or any preceding similar executive orders (Numbers 10925 and 11114)?

Yes No

ITEM NO	SPEC NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
1	103.1	Remove Concrete Curb	LF	156	\$	\$
2	103.3	Remove Concrete Sidewalks and Driveways	SF	948	\$	\$
3	203.1	Prime Coat	GAL	6	\$	\$
4	203.2	Tack Coat	GAL	3	\$	\$
5	205.4	HMAC, Type 'D' (2" Comp. Depth) (Local/Resid. Streets)	SY	30	\$	\$
6	206.1	Asphalt Treated Base (10" Comp. Depth)	SY	32	\$	\$
7	500.1	Concrete Curb	LF	156	\$	\$
8	502.1	Concrete Sidewalk	SY	23	\$	\$
9	502.1	Concrete Sidewalk with Combination Retaining Wall (0" to 36")	SY	56	\$	\$
10	503.1	Portland Cement Concrete Driveway	SY	27	\$	\$
11	505.1	Concrete Rip-Rap (5")	SY	11	\$	\$
12	515.1	Topsoil (4" Depth)	CY	130	\$	\$
13	516.1	Bermuda Sodding	SY	1183	\$	\$
14	520.1	Hydromulching	SY	498	\$	\$
15	530.1	Barricades, Signs, and Traffic Handling (Site 1 - El Sendero)	LS	1	\$	\$

ITEM NO	SPEC NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
16	530.1	Barricades, Signs, and Traffic Handling (Site 2 - Weidner)	LS	1	\$	\$
17	530.1	Barricades, Signs, and Traffic Handling (Site 3 - Highcliff)	LS	1	\$	\$
18	530.1	Barricades, Signs, and Traffic Handling (Site 4 - Deerfield)	LS	1	\$	\$
19	530.1	Barricades, Signs, and Traffic Handling (Site 5 - Berry Creek)	LS	1	\$	\$
20	530.1	Barricades, Signs, and Traffic Handling (Site 6 - Tropical)	LS	1	\$	\$
21	530.1	Barricades, Signs, and Traffic Handling (Site 7 - Hall Park)	LS	1	\$	\$
22	530.1	Barricades, Signs, and Traffic Handling (Site 8 - Cambray)	LS	1	\$	\$
23	530.1	Barricades, Signs, and Traffic Handling (Site 9 - Azucena)	LS	1	\$	\$
24	530.1	Barricades, Signs, and Traffic Handling (Site 11 - Medina Base)	LS	1	\$	\$
25	530.1	Barricades, Signs, and Traffic Handling (Site 12 - Cedarhurst)	LS	1	\$	\$
26	530.1	Barricades, Signs, and Traffic Handling (Site 15 - Doolittle)	LS	1	\$	\$
27	550	Trench Excavation Safety Protection	LF	646	\$	\$
28	848	10" PVC Sanitary Sewer Pipe (SDR 26) (All Depths)	LF	18	\$	\$
29	851	Adjust Existing Manholes	EA	28	\$	\$
30	852.1	Sanitary Sewer Manhole (4' Dia.)	EA	4	\$	\$

ITEM NO	SPEC NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
31	852.2	Extra Depth Manhole	VF	9	\$	\$
32	852.4	Sanitary Sewer Drop Manhole (4' Dia. Doghouse)	EA	1	\$	\$
33	854	6" PVC Sanitary Sewer Lateral Pipe (SDR 26) (All Depths)	LF	18	\$	\$
34	855	Reconstruction of Existing Manhole	EA	2	\$	\$
35	862	Abandonment of Sanitary Sewer Main	LF	28	\$	\$
36	864-S1	Bypass Pumping (Site 1 - El Sendero - 8")	LS	1	\$	\$
37	864-S1	Bypass Pumping (Site 2 - Weidner - 12")	LS	1	\$	\$
38	864-S1	Bypass Pumping (Site 3 - Highcliff - 8")	LS	1	\$	\$
39	864-S1	Bypass Pumping (Sites 4 & 5 - Deerfield & Berry Creek - 2 @ 8")	LS	1	\$	\$
40	864-S1	Bypass Pumping (Site 6 - Tropical - 8")	LS	1	\$	\$
41	864-S1	Bypass Pumping (Site 7 - Hall Park - 8")	LS	1	\$	\$
42	864-S1	Bypass Pumping (Site 8 - Cambray - 10")	LS	1	\$	\$
43	864-S1	Bypass Pumping (Site 9 - Azucena - 8")	LS	1	\$	\$
44	864-S1	Bypass Pumping (Site 10 - San Simeon - 8")	LS	1	\$	\$
45	864-S1	Bypass Pumping (Site 11 - Median Base - 10")	LS	1	\$	\$

ITEM NO	SPEC NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
46	864-S1	Bypass Pumping (Site 12 - Cedarhurst - 8")	LS	1	\$	\$
47	864-S1	Bypass Pumping (Site 13 - Mai Kai - 8")	LS	1	\$	\$
48	864-S1	Bypass Pumping (Site 14 - Bane - 8")	LS	1	\$	\$
49	864-S1	Bypass Pumping (Site 15 - Doolittle - 10")	LS	1	\$	\$
50	866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	5721	\$	\$
51	866	Sewer Main Television Inspection (Post-Construction) (8"-15" Dia.)	LF	18	\$	\$
52	868	Sanitary Sewer System Cleaning - Mechanical (8" Dia.)	LF	59	\$	\$
53	901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	4316	\$	\$
54	901	Conventional CIPP 10" Sanitary Sewer Pipe (All Depths)	LF	1082	\$	\$
55	901	Conventional CIPP 12" Sanitary Sewer Pipe (All Depths)	LF	305	\$	\$
56	SS 910.1	Manhole Rehabilitation	VF	224	\$	\$
57	1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	15	\$	\$
58	1103.1	Point Repair, 8" Dia. (up to 9 LF) (10'-20' Depth)	EA	1	\$	\$
59	1103.1	Point Repair, 10" Dia. (up to 9 LF) (0'-10' Depth)	EA	3	\$	\$
60	1103.1	Point Repair, 10" Dia. (up to 9 LF) (10'-20' Depth)	EA	1	\$	\$

ITEM NO	SPEC NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
61	1103.1	Point Repair, 12" Dia. (up to 9 LF) (0'-10' Depth)	EA	1	\$	\$
62	1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	182	\$	\$
63	1103.2	Extra Length Point Repair, 8" Dia. (10'-20' Depth)	LF	91	\$	\$
64	1103.2	Extra Length Point Repair, 10" Dia. (0'-10' Depth)	LF	19	\$	\$
65	1103.2	Extra Length Point Repair, 10" Dia. (10'-20' Depth)	LF	131	\$	\$
66	1103.2	Extra Length Point Repair, 12" Dia. (0'-10' Depth)	LF	6	\$	\$
67	1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	22	\$	\$
68	1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	88	\$	\$
69	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 1 - El Sendero)	LS	1	\$	\$
70	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 3 - Highcliff)	LS	1	\$	\$
71	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 6 - Tropical)	LS	1	\$	\$
72	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 7 - Hall Park)	LS	1	\$	\$
73	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 9 - Azucena)	LS	1	\$	\$
74	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 10 - San Simeon)	LS	1	\$	\$
75	SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 13 - Mai Kai)	LS	1	\$	\$

Solicitation No. CO-00364
 SAWS Job No. 19-4513
 Multiple Sewershed Package 14 - CIPP

ITEM NO	SPEC NO	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
76	SS 2020	Removal & Replacement of Trap Conc. Drainage Channel	SY	22	\$	\$
SUBTOTAL (ITEMS 1-76)					\$	

77	100.1	Mobilization (Max 10% of Line Items 1 - 76)	LS	1	\$	\$
78	101.1	Preparing Right-of-Way (Max 5% of Line Item 1 - 76) (inclusive of Easements, Rights of Entry, etc.)	LS	1	\$	\$

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

TOTAL BID PRICE (TO INCLUDE LINE ITEMS 1-76, 77 and 78)					\$	
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**ITEM NO. SS910
MANHOLE REHABILITATION**

910.1 DESCRIPTION: This item shall govern rehabilitation of manholes as described in the plans. This specification shall govern the materials and methods used for the rehabilitation, including, but not limited to, cleaning, surface preparation, priming and preparing surface including removal of all metallic or plastic manhole steps flush with the existing wall, coating (including bench, walls, cones, and grade rings), and necessary testing. Testing as described in this specification is also included.

910.2 REFERENCED STANDARDS: Reference standards cited in this Specification Item No. 910 refer to the current reference standard published at the time of the latest revision date logged at the end of this Specification Item No. 910 unless a date is specifically cited.

1. AASHTO – American Association of State Highway and Transportation Officials, M306: Standard Specification for Drainage, Sewer, Utility, and Related Castings.
2. ASTM – American Society for Testing and Materials:
 - a. A536: Standard Specification for Ductile Iron Castings
 - b. C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
 - c. C293: Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Center-Point Loading)
 - d. C478: Standard Specification for Circular Precast Reinforced Concrete Manhole Sections
 - e. C490: Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete
 - f. C496: Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
 - g. C882: Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear
 - h. C1140: Standard Practice for Preparing and Testing Specimens from Shotcrete Test Panels
 - i. D638: Standard Test Method for Tensile Properties of Plastics
 - j. D648: Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
 - k. D790: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
 - l. D1238: Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
 - m. D1505: Standard Test Method for Density of Plastics by the Density-Gradient Technique
 - n. D1693: Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics
3. COSA – City of San Antonio: Utility Excavation Criteria Manual.
4. TCEQ – Texas Commission on Environmental Quality:
 - a. Design Criteria for Sewage Systems (30 TCEQ § 217).
 - b. Edwards Aquifer Recharge Zone (30 TCEQ § 213).

910.3 SUBMITTALS: Contractor shall submit manufacturer’s product data, instructions,

recommendations, shop drawings, and certifications. All submittals shall be in accordance with Engineer's requirements and submittals shall be approved by the Engineer prior to delivery.

1. Submit proposed methods, equipment, materials and sequence of operations for sewer construction.
2. Plan operations to minimize disruption of utilities to occupied facilities or adjacent properties.
3. Submit test reports.
4. Submit pre and post construction videos.
5. Videos become property of SAWS.
6. Manufacturer shall certify that Applicator has been trained and approved in the handling, mixing and application of the products to be used.
7. Equipment to be used for applying the products by the Applicator shall be certified and approved by the Manufacturer.
8. Only manhole rehabilitation products approved by the SAWS Standards Committee shall be used.
9. The Contractor shall submit descriptive information including technical data sheets and ASTM test results on each product proposed indicating that the product conforms to and it is suitable for its intended use per these specifications.

910.4 MATERIALS:

1. Concrete: Concrete shall conform to City of San Antonio (CoSA) Standard Specifications for Public Works Constructed. Item 300 - Concrete (concrete class "A").
2. Mortar shall be composed of one-part Portland Cement, one-part masonry cement (or ¼ part hydrated lime) and masonry sand equal to 2-1/2 to 3 times the sum of the volumes of the cements and lime used.
3. Unless otherwise specified, all grouting shall be done with non-shrinking grout.
 - a. Non-shrinking grout shall be furnished factory premixed so only water is added at the job site.
 - b. Grout shall be mixed in a mechanical mixer.
 - c. No more water shall be used than is necessary to produce a flowable grout.
 - d. All proportioning and mixing of the components shall be in accordance with manufacturer's recommendations.
4. Reinforcement: Reinforcing steel shall conform to the requirements of COSA Item 301- Reinforcing Steel.
5. Replacement brick for ring adjustment courses shall be of first quality, sound, kiln fired, new unbroken brick
6. For rehabilitation of existing manholes; first, apply a combination of cementitious coatings followed by an approved epoxy coating. SewpRerCoat 2000 HS and PG and APM MS-10,000 with ConShield, applied at the required one-inch thick application, APM Permacast MS-10,000 with Conshield is the only products approved which does not require a subsequent epoxy coating. Other approved materials are located on SAWS website under SAWS Approved Products List. The list is periodically updated. Contractors should check the list prior to starting construction.
7. Other approved materials are located on SAWS website under SAWS Approved Products List. The list is periodically updated. Contractors should check the list prior to starting construction.

910.5 CONSTRUCTION: Proper surface preparation procedures must be followed to ensure adequate bond strength to any surface to be coated.

1. Applicator shall inspect all surfaces specified to receive a liner prior to surface preparation.
2. Applicator shall notify Engineer of any noticeable disparity in the surfaces which may interfere with the proper preparation or application of the repair mortar and/or liner(s).
3. Concrete that is not sound or has been damaged by chemical exposure shall be removed to a sound, concrete surface.
4. All contaminants including: all oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants shall be removed.
5. Surface preparation methods(s) should be based upon the conditions of the substrate and the requirements of the liner to be applied.
6. Surface to receive liner shall be cleaned and abraded to produce a sound concrete surface with adequate profile and porosity to provide a strong bond between the protective coating and substrate.
7. High pressure cleaning with a minimum of 4,000 psi, and 4 gallons per minute using a rotating pencil nozzle, shall be used to clean and free all foreign material within the manhole.
8. Detergent water and cleaning or muriatic acid shall be used when grease and oil are present.
9. All materials resulting from the cleaning of the manhole shall be removed prior to application of coating.
10. Active water infiltration shall be stopped by using a cementitious water plug or hydro active grout which is compatible with the specified coating.
11. **Prepared surfaces should be tested after cleaning but prior to application of the coating, if a specific pH or moisture content of the concrete is required according to manufacturer's recommendations.**
12. Protective-coating materials are to be handled according to their material safety data sheets. Materials are to be kept dry, protected from weather and stored under cover.
13. **Repair/under-coat materials must be accepted and approved by the protective coating manufacturer for compatibility with the specified liner and shall be used to fill voids, structurally reinforce and/or rebuild surfaces, etc. as determined necessary by the engineer and liner applicator.**
14. Application procedures shall conform to the recommendations of the liner manufacturer, including material handling, mixing, environmental controls during application, safety, and equipment.
15. The liner application equipment shall be specifically designed to accurately apply the specified liner materials and shall be regularly maintained and proper working order.
16. The liner material must be applied by a Certified Applicator of the liner manufacturer.
17. The liner shall be applied to minimum thickness or as specified by the Engineer manufacturer's recommendations.

910.6 TESTING: Contractor maybe required perform testing for manhole rehabilitation

San Antonio Water System Special Specification

1. Visually verify the absence of leaks.
2. Contractor maybe required to perform either a hydrostatic test or vacuum test on every manhole that is rehabilitated.
 - a. Test to be coordinated with SAWS Inspector.
 - b. Test to be performed as outline in Specification Item 852 Sanitary Sewer Manholes.
3. Every manhole that is rehabilitated shall be inspected using high-voltage holiday detection equipment.
 - a. All detected holidays shall be marked and repaired by abrading coating surface with grit disk paper or other hand tooling method.
 - b. After abrading and cleaning, additional protective coating material shall be applied to the repair area.
 - c. All touch-up repair procedures shall follow the protective coating manufacturer's recommendations.
4. If a manhole fails to pass one of the above tests, it shall be repaired in accordance with the manufacturer's recommendation and re-tested.
5. It shall not be accepted until it passes all tests.
6. All repairs and re-testing shall be at no additional cost to SAWS.

910.7 MEASUREMENT: Measurement for rehabilitation will be per vertical feet of manhole rehabilitated based on the rehabilitation required. For each type of manhole rehabilitation, the bench area or manhole base is considered subsidiary to the measurement of the rehabilitate manhole or manhole structure. The manholes will be measured from the invert of the pipe to the base of the frame.

910.8 PAYMENT: This item shall be paid for per vertical foot of rehabilitation from the invert of the lowest pipe to the base of frame, measured to the closest foot, based on the requirements defined in the plans and in the Measurement section of this specification. Payment shall be full compensation for materials, labor, equipment, tools, testing, disposal of existing materials, and any incidentals necessary to complete the work including, but not limited to, the bench, invert, and all interior surfaces of the manhole.

Payment will be made under the following:

- | | |
|----------------------|--|
| Pay Item (SS 910.1): | Manhole Rehabilitation (Standard Manholes 4 ft diameter) per Vertical Feet. |
| Pay Item (SS 910.2): | Sewer Structure Rehabilitation (Noncircular Manholes, and Manholes Greater than 4 ft. in Diameter) – per Square Feet |

- End Specification -

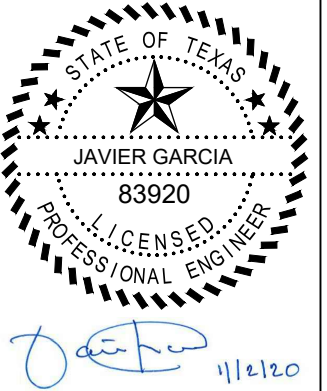
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SUMMARY OF QUANTITIES			
ITEM #	DESCRIPTION	UNITS	QTY
Item #	Description	Units	Est. Qty.
100.1	Mobilization	LS	1
101.1	Preparing Right-of-Way	LS	1
103.1	Remove Concrete Curb	LF	156
103.3	Remove Concrete Sidewalks and Driveways	SF	948
203.1	Prime Coat	GAL	6
203.2	Tack Coat	GAL	3
205.4	HMAC, Type 'D' (2" Comp. Depth) (Local/Resid. Streets)	SY	30
206.1	Asphalt Treated Base (10" Comp. Depth)	SY	32
500.1	Concrete Curb	LF	156
502.1	Concrete Sidewalk	SY	23
502.1	Concrete Sidewalk with Combination Retaining Wall (0" to 36")	SY	56
503.1	Portland Cement Concrete Driveway	SY	27
505.1	Concrete Rip-Rap (5")	SY	11
515.1	Topsoil (4" Depth)	CY	130
516.1	Bermuda Sodding	SY	1,183
520.1	Hydromulching	SY	498
530.1	Barricades, Signs, and Traffic Handling (Site 1 - El Sendero)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 2 - Weidner)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 3 - Highcliff)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 4 - Deerfield)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 5 - Berry Creek)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 6 - Tropical)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 7 - Hall Park)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 8 - Cambray)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 9 - Azucena)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 11 - Medina Base)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 12 - Cedarhurst)	LS	1
530.1	Barricades, Signs, and Traffic Handling (Site 15 - Doolittle)	LS	1
550	Trench Excavation Safety Protection	LF	646
848	10" PVC Sanitary Sewer Pipe (SDR 26) (All Depths)	LF	18
851	Adjust Existing Manholes	EA	28
852.1	Sanitary Sewer Manhole (4' Dia.)	EA	4
852.2	Extra Depth Manhole	VF	9
852.4	Sanitary Sewer Drop Manhole (4' Dia. Doghouse)	EA	1
854	6" PVC Sanitary Sewer Lateral Pipe (SDR 26) (All Depths)	LF	18
855	Reconstruction of Existing Manholes	EA	2
862	Abandonment of Sanitary Sewer Main	LF	28

1

SUMMARY OF QUANTITIES			
ITEM #	DESCRIPTION	UNITS	QTY
864-S1	Bypass Pumping (Site 1 - El Sendero - 8")	LS	1
864-S1	Bypass Pumping (Site 2 - Weidner - 12")	LS	1
864-S1	Bypass Pumping (Site 3 - Highcliff - 8")	LS	1
864-S1	Bypass Pumping (Sites 4 & 5 - Deerfield & Berry Creek - 2 @ 8")	LS	1
864-S1	Bypass Pumping (Site 6 - Tropical - 8")	LS	1
864-S1	Bypass Pumping (Site 7 - Hall Park - 8")	LS	1
864-S1	Bypass Pumping (Site 8 - Cambray - 10")	LS	1
864-S1	Bypass Pumping (Site 9 - Azucena - 8")	LS	1
864-S1	Bypass Pumping (Site 10 - San Simeon - 8")	LS	1
864-S1	Bypass Pumping (Site 11 - Median Base - 10")	LS	1
864-S1	Bypass Pumping (Site 12 - Cedarhurst - 8")	LS	1
864-S1	Bypass Pumping (Site 13 - Mai Kai - 8")	LS	1
864-S1	Bypass Pumping (Site 14 - Bane - 8")	LS	1
864-S1	Bypass Pumping (Site 15 - Doolittle - 10")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	5,721
866	Sewer Main Television Inspection (Post-Construction) (8"-15" Dia.)	LF	18
868	Sanitary Sewer System Cleaning - Mechanical (8" Dia.)	LF	59
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	4,316
901	Conventional CIPP 10" Sanitary Sewer Pipe (All Depths)	LF	1,082
901	Conventional CIPP 12" Sanitary Sewer Pipe (All Depths)	LF	305
SS 910.1	Manhole Rehabilitation	VF	224
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	15
1103.1	Point Repair, 8" Dia. (up to 9 LF) (10'-20' Depth)	EA	1
1103.1	Point Repair, 10" Dia. (up to 9 LF) (0'-10' Depth)	EA	3
1103.1	Point Repair, 10" Dia. (up to 9 LF) (10'-20' Depth)	EA	1
1103.1	Point Repair, 12" Dia. (up to 9 LF) (0'-10' Depth)	EA	1
1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	182
1103.2	Extra Length Point Repair, 8" Dia. (10'-20' Depth)	LF	91
1103.2	Extra Length Point Repair, 10" Dia. (0'-10' Depth)	LF	19
1103.2	Extra Length Point Repair, 10" Dia. (10'-20' Depth)	LF	131
1103.2	Extra Length Point Repair, 12" Dia. (0'-10' Depth)	LF	6
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	22
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	88
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 1 - El Sendero)	LS	1
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 3 - Highcliff)	LS	1
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 6 - Tropical)	LS	1
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 7 - Hall Park)	LS	1
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 9 - Azucena)	LS	1
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 10 - San Simeon)	LS	1
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 13 - Mai Kai)	LS	1
SS 2020	Removal & Replacement of Trap. Conc. Drainage Channel	SY	22

1



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 12042 Blanco Rd., Ste. 203
 San Antonio, Texas 78216
 Ph. (210) 437-0323

1	ADDENDUM NO. 2	WF	JG	11/02/20
No.	Revision	Drawn	Approved	Date

REVISIONS

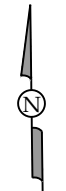
SAWS MULTIPLE SEWERSHED PACKAGE 14

SUMMARY OF QUANTITIES

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____
 APPROVED _____

MAP No. 000-000 SHEET 5 OF 71
 SECT. No. _____
 DR. JFM CK. JGM JOB No. _____



HORIZ. SCALE: 1"=40'
0 20 40
SCALE IN FEET

KEY NOTES

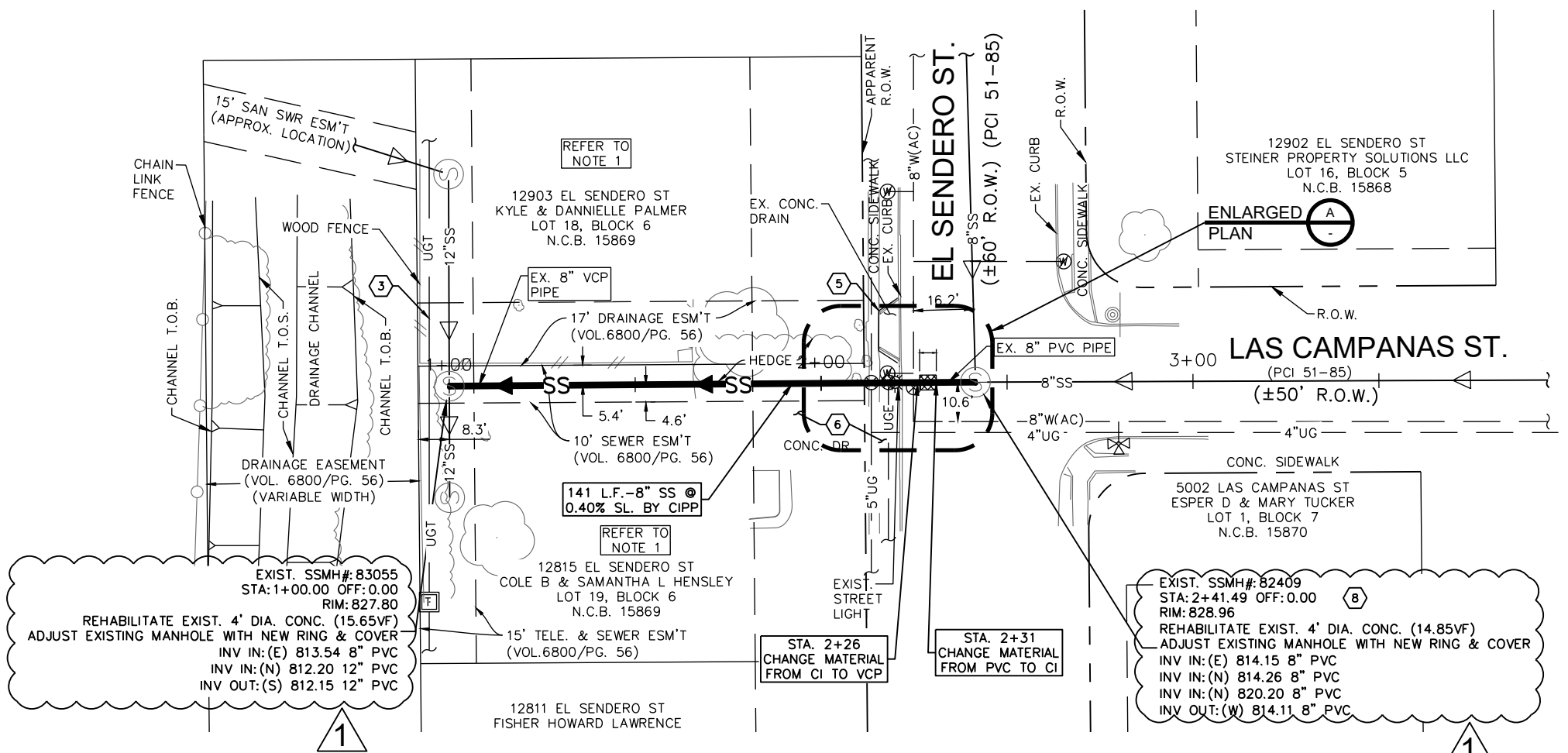
- ① EXIST. WATER METER TO BE PROTECTED DURING POINT REPAIR CONSTRUCTION (N.S.P.I)
- ② CONTRACTOR SHALL COORDINATE TEMPORARY BRACING OF UTILITY POLES AS NEEDED DURING CIPP AND POINT REPAIRS REHABILITATION OF SEWER MAIN FOR ALL POLES LESS THAN 5-FT FROM OPEN TRENCH TO OUTSIDE OF POLE WITH CPS ENERGY (NSPI)
- ③ CAUTION UNDERGROUND TELEPHONE CABLE IN CLOSE PROXIMITY TO EXIST. 12" SAN. SWR. LINE AND SSMH# 83055. PROTECT BURIED TELEPHONE LINES (N.S.P.I.)
- ④ CAUTION UNDERGROUND CPS GAS AND ELECTRIC CROSSING AT EXISTING 8" SEWER MAIN. PROTECT BURIED GAS AND ELECTRIC LINES (N.S.P.I.)
- ⑤ PROTECT EXISTING CONCRETE DRAIN, AND HANDRAIL (N.S.P.I.)
- ⑥ PROTECT EXISTING CONCRETE DRIVEWAY (N.S.P.I.)
- ⑦ CAUTION WATER AND SEWER MAIN CROSSING (APPROX CLEARANCE = 11-FT)
- ⑧ EXISTING CAST IRON PIPE SECTION SHALL BE MECHANICALLY CLEANED. EXERCISE CAUTION TO AVOID DAMAGE TO VCP PIPE. ANY DAMAGE TO EXISTING VCP PIPE SHALL BE REPAIRED AT CONTRACTORS EXPENSE (N.S.P.I.)

LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	— — —
PARCEL R.O.W. LINE	— · — · —
MECHANICAL CLEANING	▨
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

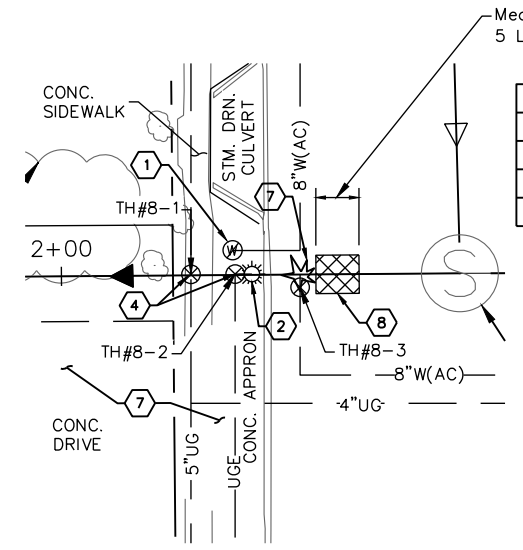
SHEET NOTES

1. ALL WORK, INCLUDING FENCE REMOVAL, SHALL BE LIMITED TO THE LIMITS OF THE EASEMENT.
2. CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010.



1
PROP. 8" Ø SANITARY SEWER POINT REPAIR
AND CIPP REHABILITATION SEGMENT (1053166)
SCALE: 1" = 40' (H)

Item #	Description	Units	Est. Qty.
530.1	Barricades, Signs, and Traffic Handling (Site 1 - El Sendero)	LS	1
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Site 1 - El Sendero - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	141
868	Sanitary Sewer System Cleaning - Mechanical (8" Dia.)	LF	5
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	141
SS 910.1	Manhole Rehabilitation	VF	31
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 1 - El Sendero)	LS	1



A
ENLARGED PLAN
SCALE: 1" = 20' (H)

TEST HOLE TABLE

NUMBER	DESCRIPTION	ELEVATION
8-1	5" BLACK STEEL GAS PIPE	826.34'
8-2	4" GRAY PVC ELECTRIC PIPE	825.53'
8-3	8" WHITE A.C. WATER MAIN	825.60'



J. Garcia 11/21/20

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12042 Blanco Rd., Ste. 203
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1	ADDENDUM NO. 2	EL	JG	11/02/20
No.	Revision	Drawn	Approved	Date

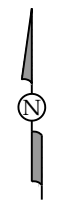
REVISIONS
MULTIPLE SEWERSHED PACKAGE 14
SITE 1 - COMPEKY 1053166
STA. 1+00 TO STA. 2+41.49
SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

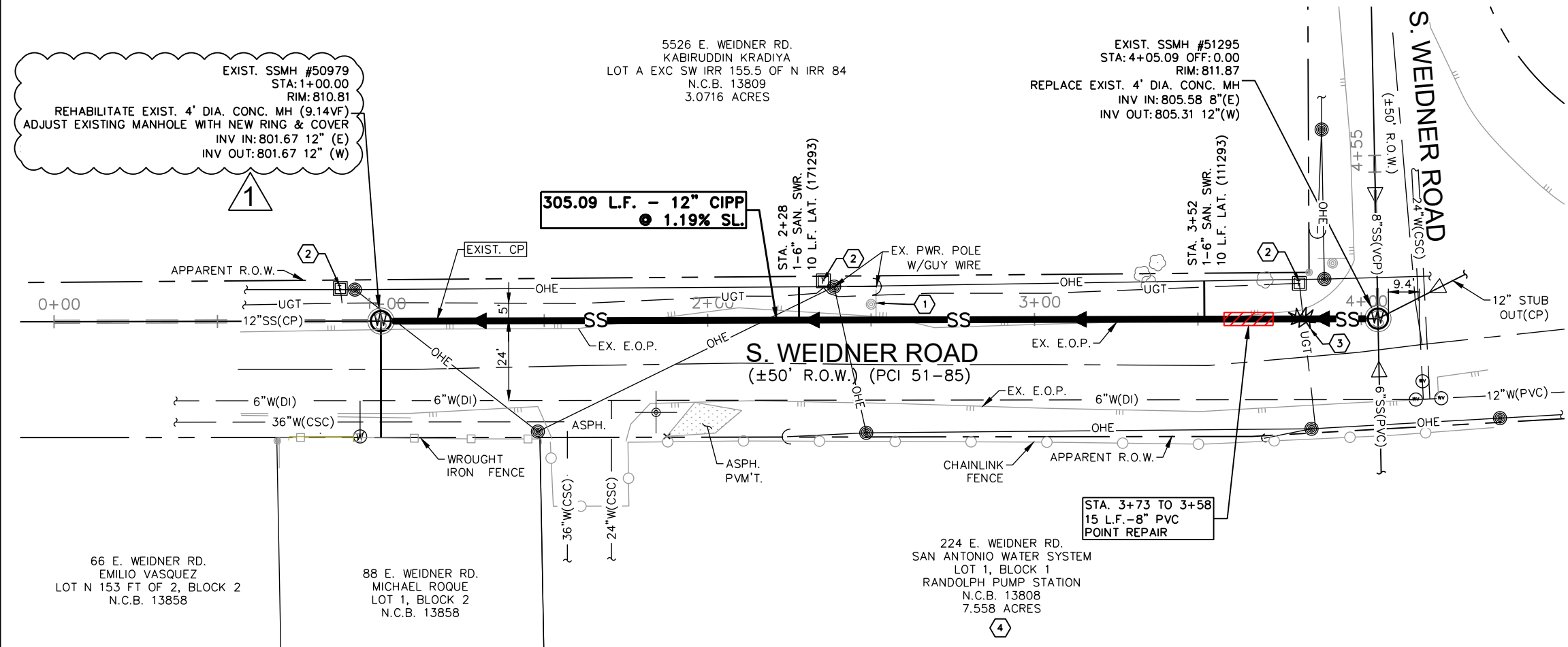
SUBMITTED	
APPROVED	
MAP No. 000-000	SHEET 15 OF 71
SECT. No.	
DR. JFM	CK. JGM
JOB No.	

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TRENCH EXCAVATION SAFETY PROTECTION:
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.



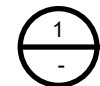
HORIZ. SCALE: 1"=40'



LEGEND

ELECTRIC (OVERHEAD)	OHE
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	▶
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	- - - -
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨▨▨▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

PROP. 12"Ø SANITARY SEWER POINT REPAIR AND CIPP REHABILITATION SEGMENT (1000814)



SCALE: 1" = 40'

SITE 2 - COMPKEY 100814

STATION	DIRECTION	DESCRIPTION
2+28	LT	REMOTE CUTTING TRIM PROTRUDING TAP
3+52	LT	REMOTE CUTTING TRIM PROTRUDING TAP

Item #	Description	Units	Est. Qty.
203.1	Prime Coat	GAL	3.8
203.2	Tack Coat	GAL	2.2
205.4	HMAC, Type 'D' (2" Comp. Depth) (Local/Resid. Streets)	SY	21.6
206.1	Asphalt Treated Base (10' Comp. Depth)	SY	19
520.1	Hydromulching	SY	66.4
530.1	Barricades, Signs, and Traffic Handling (Site 2 - Weidner)	LS	1
550	Trench Excavation Safety Protection	LF	15
851	Adjust Existing Manholes	EA	1
852.1	Sanitary Sewer Manhole (4' Dia.)	EA	1
852.2	Extra Depth Manhole	VF	0.56
864-S1	Bypass Pumping (Site 2 - Weidner - 12")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	305.09
901	Conventional CIPP 12" Sanitary Sewer Pipe (All Depths)	LF	305.09
SS 910.1	Manhole Rehabilitation	VF	9.14
1103.1	Point Repair, 12" Dia. (up to 9 LF) (0'-10' Depth)	EA	1
1103.2	Extra Length Point Repair, 12" Dia. (0'-10' Depth)	LF	6
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	2
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	2

SHEET NOTES

- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL SERVICES AND DETERMINE IF ACTIVE PRIOR TO REHABILITATION.

KEY NOTES

- EXISTING TRAFFIC SIGN TO BE PROTECTED. (N.S.P.I.)
- EXISTING TELEPHONE PEDESTAL TO BE PROTECTED. (N.S.P.I.)
- CAUTION EXISTING UNDERGROUND TELEPHONE CROSSING OVER SANITARY SEWER.
- COORDINATE CONSTRUCTION TIMELINE WITH MR. SCOTT OAKLAND AT THE SAWS RANDOLPH PUMP STATION PRIOR TO COMMENCING ANY WORK

TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.

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Javier Garcia 11/2/20

No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
 SITE 2 - COMPKEY 1000814
 STA. 1+00 TO STA. 4+05.09
 SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____
 APPROVED _____

MAP No. 000-000 SHEET 18 OF 71
 SECT. No. _____
 DR. JFM CK. JGM JOB No. _____

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STARCREST DR.

16' UTILITY EASEMENT
(VOL. 4700 / PG. 59)

16' UTILITY EASEMENT
(VOL. 4700 / PG. 59)

SALADO CREEK

16' UTILITY EASEMENT
(VOL. 4700 / PG. 59)

3702 HIGHCLIFF DR
ESTHER KATHRYN SMITH
LOT 1, BLOCK 11,
N.C.B. 13373

3706 HIGHCLIFF DR
MACINTYRE PHILIP &
CAROLYN JENNIE
LOT 2, BLOCK 11,
N.C.B. 13373

EX. PLANTER

STA. 0+08
1-6" SAN. SWR.
LAT.

STA. 0+60
1-6" SAN. SWR.
LAT.

3710 HIGHCLIFF DR
DEMPERS MONA
REINETTE
LOT 3, BLOCK 11,
N.C.B. 13373

EXIST. SSMH #59957 (DROP MH)
STA: 0+00.00
RIM: 707.16
INV IN: 694.89 8" (NE)
INV IN: 694.93 8" (SE)
INV IN: 701.62 8" (NE)
INV OUT: 694.91 8" (NW)

EXIST. SSMH #46398
STA: 1+78.29 RIM: 716.65
REHABILITATE EXIST. 4' DIA. CONC. MH (9.03VF)
ADJUST EXISTING MANHOLE WITH NEW RING & COVER
INV IN: 707.65 8" (W)
INV OUT: 707.62 8" (E)

178.29 L.F. - 8" CIPP
0.652% SL.

8322 STARCREST DR
CAMPBELL CYNTHIA NELL
LOT 4, BLOCK 7,
N.C.B. 13366

8318 STARCREST DR
CORKILL LINDA A
LOT 5, BLOCK 7,
N.C.B. 13366

121.71 L.F. - 8" CIPP
0.40% SL.

STA. 2+08.9
1-6" SAN. SWR.
LAT. (117507)

EX. 8" CP PIPE

STA. 2+93
1-6" SAN. SWR.
LAT. (116512)

HIGHCLIFF DRIVE
(±50' R.O.W.) (PCI 51-85)

8303 CASTLECREEK DR
BRIETSKE KIMBERLY M
LOT 6, BLOCK 7,
N.C.B. 13366

REFER TO
NOTE 1

8307 CASTLECREEK
RIVERA EUGENIA
LOT 13, BLOCK 7,
N.C.B. 13366

REFER TO
NOTE 1

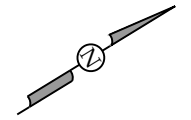
MATCH LINE STA. 3+00
SEE SHT. 22 OF 71

SHEET NOTES:

- ACCESS TO REAR LOT / 16-FT SAN. SWR. EASEMENT IS NOT AVAILABLE VIA FRONT LOT. REMOVE SIDE LOT FENCING FOR ACCESS AS REQUIRED.
- CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010.

KEY NOTES

- CAUTION EXISTING UNDERGROUND GAS IN CLOSE PROXIMITY TO EXIST. SSMH #59757
- CONTRACTOR SHALL COORDINATE TEMPORARY BRACING OF UTILITY POLES AS NEEDED DURING CIPP AND POINT REPAIRS. REHABILITATION OF SEWER MAIN FOR ALL POLES LESS THAN 5-FT FROM OPEN TRENCH TO OUTSIDE OF POLE WITH CPS ENERGY
- REMOVE AND REPLACE FENCING FOR ACCESSIBILITY PURPOSES. LIMIT REMOVAL TO EASEMENT LIMITS AND SPECIFIED ACCESS AND WORK AREAS.



HORIZ. SCALE: 1"=40'
0 20 40
SCALE IN FEET

LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	---
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

PROP. 8"Ø SANITARY SEWER POINT REPAIR AND CIPP REHABILITATION SEGMENT (1000251, 1000374, 1000378)

1
SCALE: 1" = 40'

SITE 3-COMPKEY
1000251, 1000374, 1000378

STATION	DIRECTION	DESCRIPTION
0+08	RT	REMOTE CUTTING TAP
0+60	LT	REMOTE CUTTING TRIM PROTRUDING TAP
1+97	RT	REMOTE CUTTING TRIM PROTRUDING TAP
2+08.9	LT	REMOTE CUTTING TAP
2+70	RT	REMOTE CUTTING TRIM PROTRUDING TAP
2+93	LT	REMOTE CUTTING TAP

Item #	Description	Units	Est. Qty.
530.1	Barricades, Signs, and Traffic Handling (Site 3 - Highcliff)	LS	1
851	Adjust Existing Manholes	EA	1
864-S1	Bypass Pumping (Site 3 - Highcliff - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	300
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	300
SS 910.1	Manhole Rehabilitation	VF	9
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	3
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	6
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 3 - Highcliff)	LS	1



Javier Garcia 11/2/20

TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.

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No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

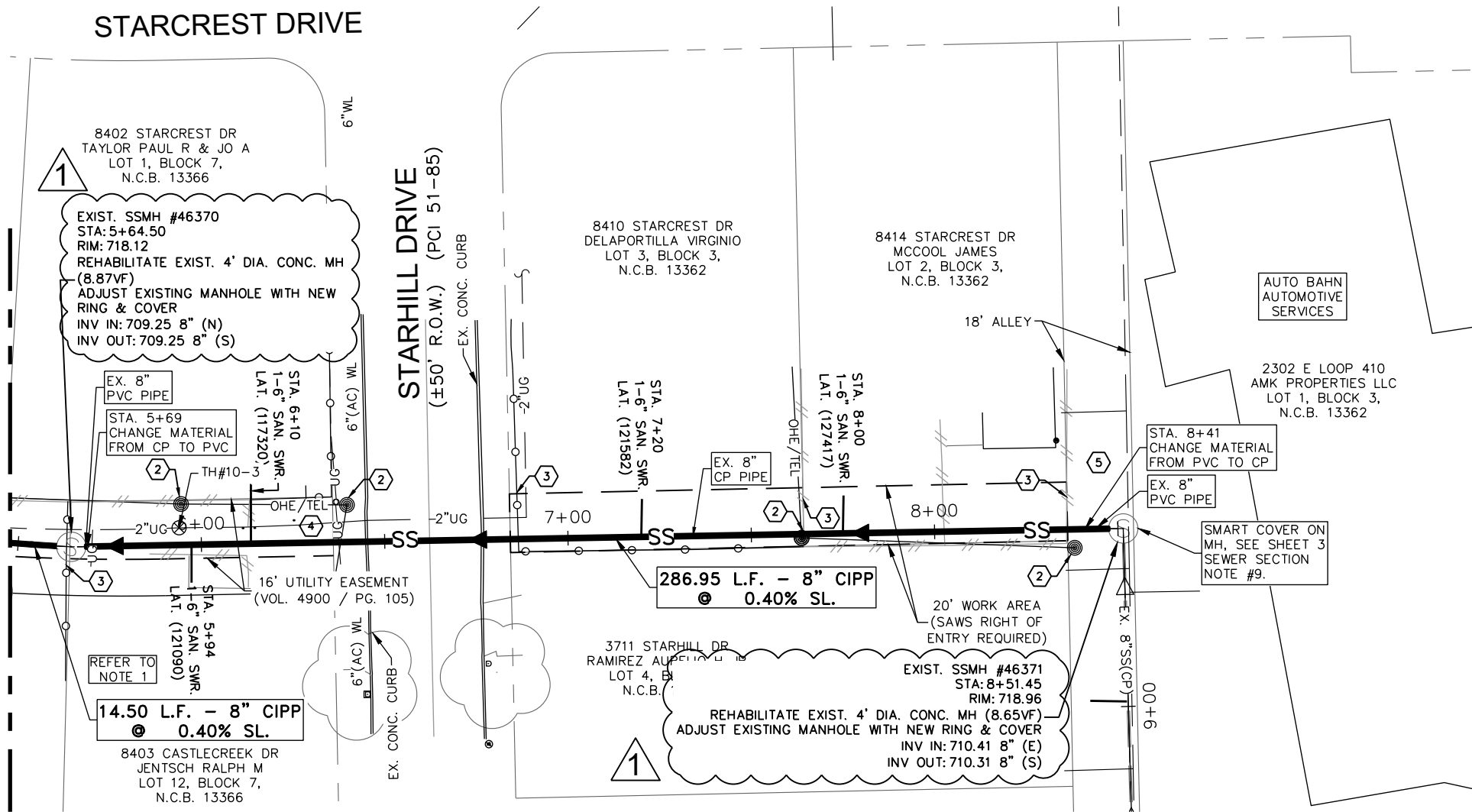
REVISIONS
MULTIPLE SEWERSHED PACKAGE 14
SITE 3 - COMPKEY
1000251, 1000374, 1000378
STA. 1+00 TO STA. 3+00
SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED	APPROVED
MAP No. 000-000	SHEET 21 OF 71
SECT. No.	DR. JFM CK. JGM JOB No.

STARCREST DRIVE

MATCH LINE STA. 5+50
SEE SHT. 22 OF 71

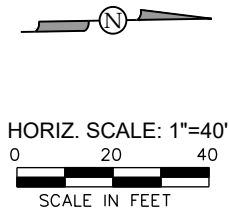


1
-
SCALE: 1" = 40'

PROP. 8"Ø SANITARY SEWER POINT REPAIR AND CIPP
REHABILITATION SEGMENT (1000251, 1000374, 1000378)

SHEET NOTES:

- ACCESS TO REAR LOT / 16-FT SAN. SWR. EASEMENT IS NOT AVAILABLE VIA FRONT LOT. REMOVE SIDE LOT FENCING FOR ACCESS AS REQUIRED.
- CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010.



KEY NOTES

- CAUTION EXISTING UNDERGROUND GAS IN CLOSE PROXIMITY TO EXIST. SSMH #59757
- CONTRACTOR SHALL COORDINATE TEMPORARY BRACING OF UTILITY POLES AS NEEDED DURING CIPP AND POINT REPAIRS REHABILITATION OF SEWER MAIN FOR ALL POLES LESS THAN 5-FT FROM OPEN TRENCH TO OUTSIDE OF POLE WITH CPS ENERGY (N.S.P.I.)
- REMOVE AND REPLACE FENCING FOR ACCESSIBILITY PURPOSES. LIMIT REMOVAL TO EASEMENT LIMITS AND SPECIFIED ACCESS AND WORK AREAS.
- ACCESS TO MH 46370 IS AVAILABLE VIA STARHILL DRIVE (NO FENCING OR GATE)
- ACCESS TO MH 46371 IS AVAILABLE VIA STARCREST DRIVE AND 18' ALLEY

LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	----
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

SITE 3-COMPKEY
1000251, 1000374, 1000378

STATION	DIRECTION	DESCRIPTION
5+94	LT	REMOTE CUTTING TAP
6+10	RT	REMOTE CUTTING TAP
7+20	RT	REMOTE CUTTING TAP
7+75	LT	REMOTE CUTTING TRIM PROTRUDING TAP

TEST HOLE TABLE

NUMBER	DESCRIPTION	ELEVATION
10-3	2 1/2" BLACK STEEL GAS PIPE	713.58'

Item #	Description	Units	Est. Qty.
851	Adjust Existing Manholes	EA	2
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	301.5
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	301.5
SS 910.1	Manhole Rehabilitation	VF	17.5
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	1
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	4



Javier Garcia 11/2/20

TRENCH EXCAVATION SAFETY PROTECTION:
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No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
SITE 3 - COMPKEY
1000251, 1000374, 1000378
STA. 5+50 TO STA. 8+42
SANITARY SEWER REHABILITATION

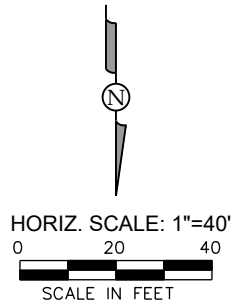
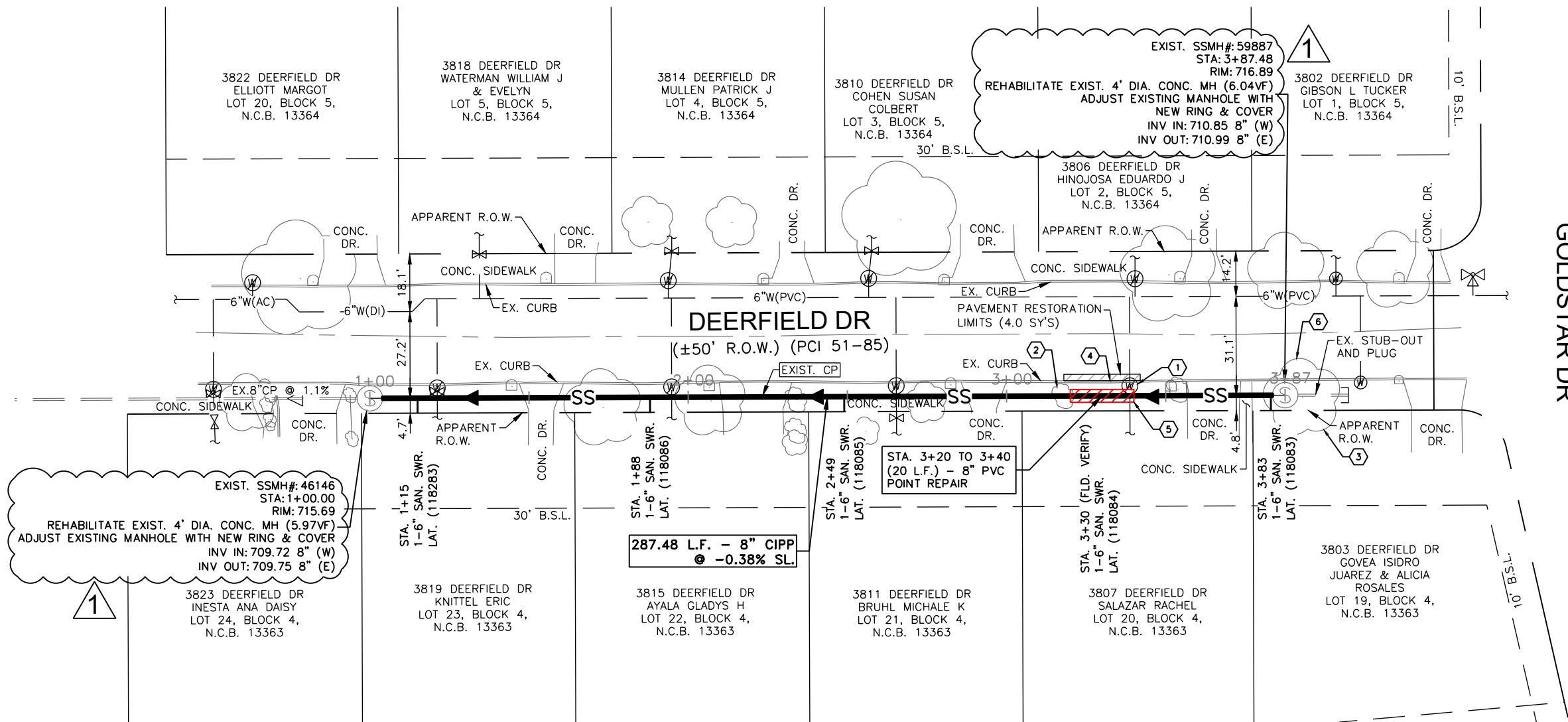
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 000-000 SHEET 23 OF 71
SECT. No. _____
DR. JFM CK. JGM JOB No. _____

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GOLDSTAR DR

LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	- - - -
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

1
 PROP. 8" Ø SANITARY SEWER POINT REPAIR AND CIPP
 REHABILITATION SEGMENT 998446
 SCALE: 1" = 40' (H)

KEY NOTES

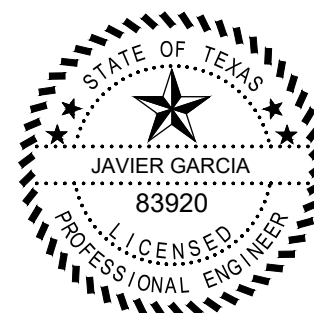
- ① PROTECT EXISTING WATER METER AND VALVE DURING POINT REPAIR CONSTRUCTION AND ADJUSTED METER BOX TO MATCH FINISH GRADE (N.S.P.I.)
- ② REMOVE EXISTING BUSH (N.S.P.I.)
- ③ PROTECT EXISTING TREE (N.S.P.I.)
- ④ REMOVE AND REPLACE CONCRETE CURB (APPROXIMATELY 25 LF)
- ⑤ RESOD DISTURBED AREA
- ⑥ CONTRACTOR TO HAND DIG AROUND MANHOLE AND WITHIN THE IMMEDIATE VICINITY OF THE TREE. USE OF HEAVY MACHINERY IS NOT PERMITTED.

SITE 4-COMPKEY 998446

STATION	DIRECTION	DESCRIPTION
1+15	RT	TRIM PROTRUDING TAP
1+88	RT	TRIM PROTRUDING TAP
2+49	RT	REMOTE CUTTING TAP
3+30	RT	REMOTE CUTTING TAP
3+83	RT	REMOTE CUTTING TAP

Item #	Description	Units	Est. Qty.
103.1	Remove Concrete Curb	LF	24
203.1	Prime Coat	GAL	1.3
203.2	Tack Coat	GAL	0.4
205.4	HMAC, Type 'D' (2" Comp. Depth) (Local/Resid. Streets)	SY	4.0
206.1	Asphalt Treated Base (10" Comp. Depth)	SY	6.7
500.1	Concrete Curb	LF	24
515.1	Topsoil (4" Depth)	CY	3.7
516.1	Bermuda Sodding	SY	33.3
530.1	Barricades, Signs, and Traffic Handling (Site 4 - Deerfield)	LS	1
550	Trench Excavation Safety Protection	LF	20
851	Adjust Existing Manholes	EA	2
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	287.48
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	287.48
SS 910.1	Manhole Rehabilitation	VF	12.01
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	1
1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	11
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	2
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	5

TRENCH EXCAVATION SAFETY PROTECTION:
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Javier Garcia
 11/2/20

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No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

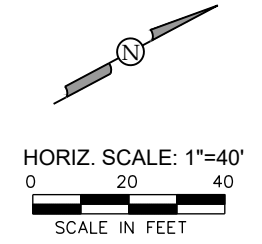
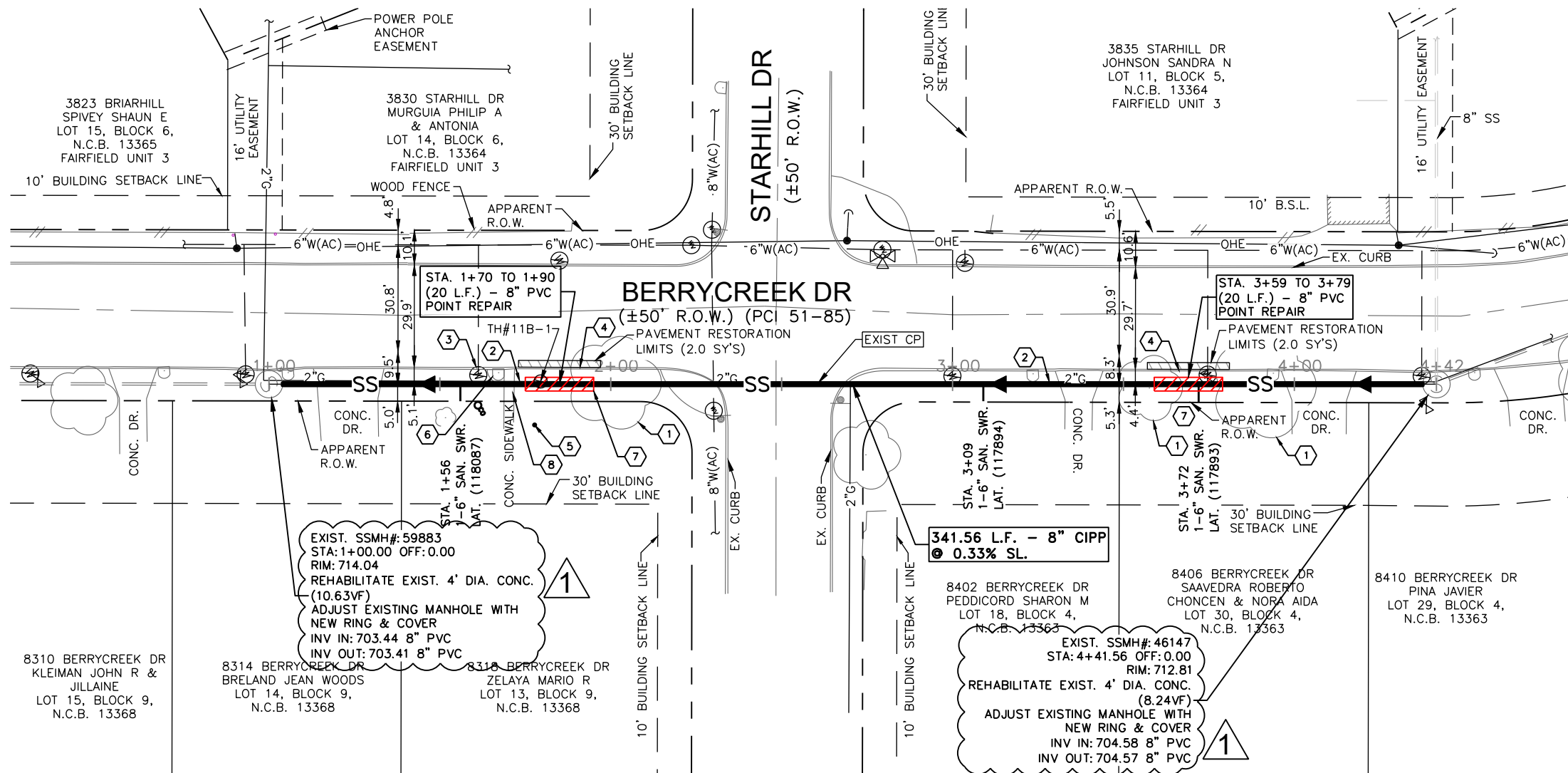
MULTIPLE SEWERSHED PACKAGE 14
 SITE 4 - COMPKEY 998446
 STA. 1+00 TO STA. 3+87
 SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____
 APPROVED _____

MAP No. 000-000	SHEET 26
SECT. No.	OF 71
DR. JFM	CK. JGM
JOB No.	

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LEGEND	
ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	- - - -
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

1
PROP. 8" Ø SANITARY SEWER POINT REPAIR AND CIPP
REHABILITATION SEGMENT 997813
 SCALE: 1" = 40' (H)

- KEY NOTES**
- 1 PROTECT EXISTING TREES (NSPI)
 - 2 EXISTING 2-INCH GAS MAIN AND SEWER MAIN ARE IN CLOSE PROXIMITY. EXERCISE CAUTION DURING EXCAVATION TO PREVENT DAMAGE TO GAS MAIN (NSPI)
 - 3 PROTECT WATER SERVICE AND METER AT SEWER MAIN CROSSING (N.S.P.I.)
 - 4 REMOVE AND REPLACE CONCRETE CURB (APPROXIMATELY 25 LF)
 - 5 PROTECT EXISTING LIGHT FIXTURES (NSPI)
 - 6 PROTECT EXISTING MAILBOX (NSPI)
 - 7 RESOD DISTURBED AREA
 - 8 REMOVE AND REPLACE CONCRETE SIDEWALK


TEST HOLE TABLE		
NUMBER	DESCRIPTION	ELEVATION
11B-1	2" BLACK METAL GAS PIPE	710.91

SITE 5—COMPKEY 997831		
STATION	DIRECTION	DESCRIPTION
1+58	RT	REMOTE CUTTING TAP
3+09	RT	REMOTE CUTTING TAP
3+72	LT	REMOTE CUTTING TAP

Item #	Description	Units	Est. Qty.
103.1	Remove Concrete Curb	LF	24
103.3	Remove Concrete Sidewalks and Driveways	SF	12
203.1	Prime Coat	GAL	1.3
203.2	Tack Coat	GAL	0.4
205.4	HMAC, Type 'D' (2" Comp. Depth) (Local/Resid. Streets)	SY	4.0
206.1	Asphalt Treated Base (10" Comp. Depth)	SY	6.7
500.1	Concrete Curb	LF	24
502.1	Concrete Sidewalk	SY	1.3
515.1	Topsoil (4" Depth)	CY	3.7
516.1	Bermuda Sodding	SY	33.3
530.1	Barricades, Signs, and Traffic Handling (Site 5 - Berry Creek)	LS	1
550	Trench Excavation Safety Protection	LF	40
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Sites 4 & 5 - Deerfield & Berry Creek - 2 @ 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	341.6
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	341.6
SS 910.1	Manhole Rehabilitation	VF	18.9
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	2
1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	22
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	3




TRENCH EXCAVATION SAFETY PROTECTION:
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1	ADDENDUM NO. 2	WF	JG	11/02/20
No.	Revision	Drawn	Approved	Date

REVISIONS



MULTIPLE SEWERSHED PACKAGE 14

SITE 5 - COMPKEY 997813

STA. 1+00 TO STA. 4+41.56

SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____

APPROVED _____

MAP No. 000-000

SECT. No. _____

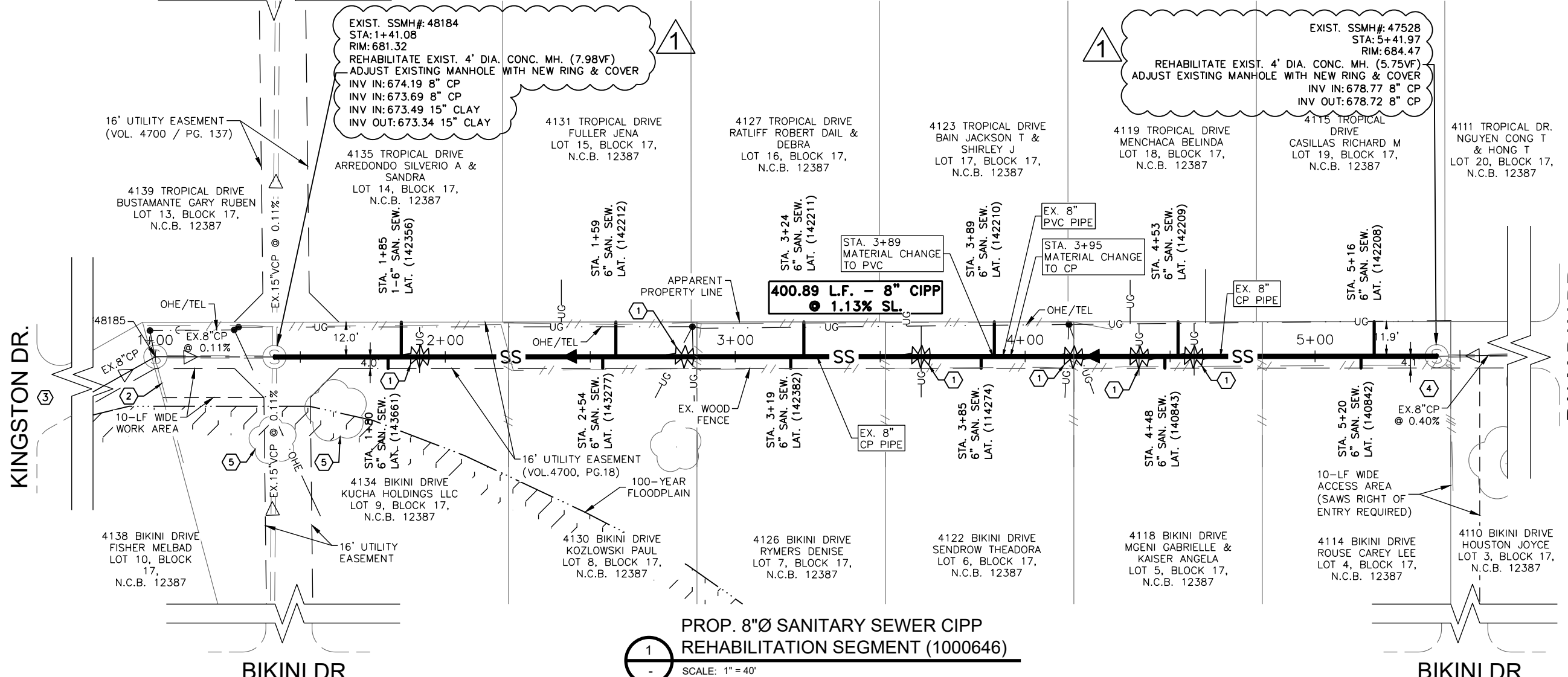
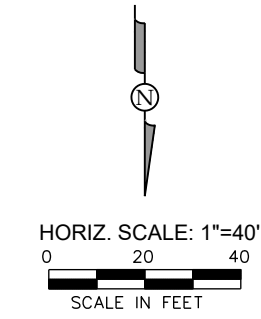
DR. JFM CK. JGM JOB No. _____

SHEET **27** OF 71

Javier Garcia

11/2/20

TROPICAL DR.



PROP. 8"Ø SANITARY SEWER CIPP REHABILITATION SEGMENT (1000646)

SCALE: 1" = 40'

LEGEND

100-YR FLOODPLAIN LIMITS	
ELECTRIC (OVERHEAD)	
FENCE (CHAINLINK)	
FENCE (WOOD)	
FIBER OPTIC	
FLOW ARROW (EX.)	
FLOW ARROW (PR.)	
GAS MAIN (BURIED)	
GAS VALVE	
PARCEL LOT LINE	
PARCEL R.O.W. LINE	
POINT REPAIR	
PAVEMENT REPLACEMENT	
POWER POLE	
POWER POLE GUY WIRE	
SANITARY SEWER MAIN (EX)	
EX. SANITARY SEWER MANHOLE	
PR. SANITARY SEWER MANHOLE	
STREET SIGN	
TELEPHONE (BURIED)	
TELEPHONE (OVERHEAD)	
TELEPHONE MANHOLE	
TELEPHONE PEDESTAL/BOX	
WATER MAIN	
WATER METER	
WATER VALVE/COVER	

KEY NOTES

- ① CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER, CONTRACTOR TO VERIFY LOCATIONS PRIOR TO COMMENCING CONSTRUCTION.
- ② REMOVE AND REPLACE FENCING FOR ACCESSIBILITY PURPOSES, LIMIT REMOVAL TO EASEMENT WIDTH LIMITS AND SPECIFIED WORK AND ACCESS AREAS.
- ③ ACCESS TO MH 48185 AND MH 48184 (CIPP LAUNCHING MH) VIA GATE AT KINGSTON DR.
- ④ ACCESS TO MH 47528 (CIPP RECEIVING MH) IS VIA 4114 BIKINI DR. AT BIKINI DR.
- ⑤ PROTECT EXISTING TREE.

SHEET NOTES

1. CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER ITEM SS 2010.
2. SITE 6 REQUIRES A FLOOD PLAIN DEVELOPMENT PERMIT.

Item #	Description	Units	Est. Qty.
530.1	Barricades, Signs, and Traffic Handling (Site 6 - Tropical)	LS	1
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Site 6 - Tropical - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	400.9
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	400.9
SS 910.1	Manhole Rehabilitation	VF	13.7
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	2
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	12
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 6 - Tropical)	LS	1

SITE 6-COMPKEY 1000646

STATION	DIRECTION	DESCRIPTION
1+80.0	RT	REMOTE CUTTING TAP
1+84.4	LT	TRIM PROTRUDING TAP
2+53.0	RT	REMOTE CUTTING TAP
2+58.5	LT	REMOTE CUTTING TAP
3+18.8	RT	REMOTE CUTTING TAP
3+23.3	LT	REMOTE CUTTING TAP
3+84.5	RT	REMOTE CUTTING TAP
3+89.0	LT	REMOTE CUTTING TAP
4+47.8	RT	REMOTE CUTTING TAP
4+52.4	LT	REMOTE CUTTING TAP
5+15.5	RT	REMOTE CUTTING TAP
5+20.0	LT	TRIM PROTRUDING TAP



Javier Garcia
11/2/20

Garcia Infrastructure Consultants, LLC
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San Antonio, Texas 78216
Ph. (210) 437-0323

No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14

SITE 6 - COMPKEY 1000646
STA. 1+43.92 TO STA. 5+57.88
SANITARY SEWER REHABILITATION

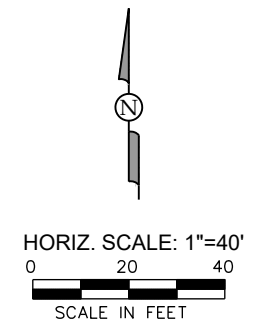
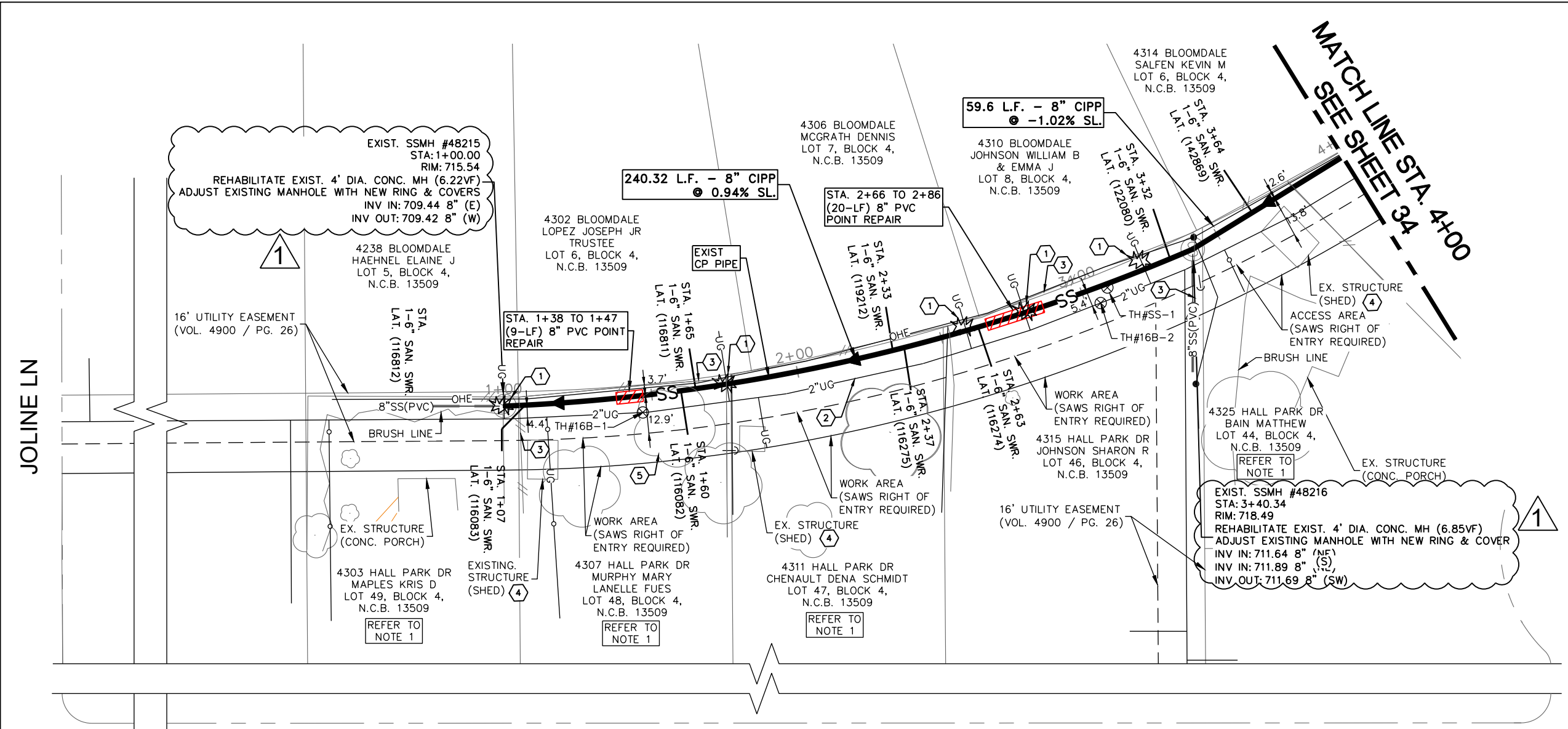
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 000-000	SHEET 30 OF 71
DR. JFM CK. JGM JOB No.	

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 Last plotted by: Walter Flores Plot Date: 11/2/2020 11:22 AM Plotter used: DWG To PDF.pc3



LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	---
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

SHEET NOTES:

1. ACCESS TO REAR LOT / 16-FT SAN. SWR. EASEMENT IS NOT AVAILABLE VIA FRONT LOT. REMOVE SIDE LOT FENCING FOR ACCESS AS REQUIRED.
2. CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010.

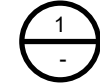
KEY NOTES

- 1 CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER
- 2 CAUTION EXISTING UNDERGROUND GAS MAIN IN CLOSE PROXIMITY TO SANITARY SEWER
- 3 REMOVE AND REPLACE FENCING FOR ACCESSIBILITY PURPOSES. LIMIT REMOVAL TO EASEMENT LIMITS AND SPECIFIED ACCESS AND WORK AREAS.
- 4 PROTECT EXISTING STRUCTURES AND SHED WITHIN RESIDENTIAL PROPERTIES (N.S.P.I.)
- 5 PROTECT EXISTING TREE.

**SITE 7-COMPKEY
997831, 1000594**

STATION	DIRECTION	DESCRIPTION
1+07	RT	REMOTE CUTTING TAP
1+60	RT	REMOTE CUTTING TAP
1+65	LT	REMOTE CUTTING TAP
2+33	LT	REMOTE CUTTING TAP
2+37	RT	REMOTE CUTTING TAP
2+63	RT	REMOTE CUTTING TAP
3+32	LT	REMOTE CUTTING TAP
3+64	LT	REMOTE CUTTING TAP

**HALL PARK DR
PROP. 8"Ø SANITARY SEWER CIPP
REHABILITATION SEGMENT (997831, 1000594)**



SCALE: 1" = 40'

Item #	Description	Units	Est. Qty.
515.1	Topsoil (4" Depth)	CY	15.6
516.1	Bermuda Sodding	SY	141.6
530.1	Barricades, Signs, and Traffic Handling (Site 7 - Hall Park)	LS	1
550	Trench Excavation Safety Protection	LF	29
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Site 7 - Hall Park - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	300
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	300
SS 910.1	Manhole Rehabilitation	VF	13
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	2
1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	11
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	8
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 7 - Hall Park)	LS	1

TEST HOLE TABLE

NUMBER	DESCRIPTION	ELEVATION
16B-1	2" PER RECORDS BLACK METAL GAS PIPE	711.42
16B-2	2" BLACK METAL GAS PIPE	714.49

TRENCH EXCAVATION SAFETY PROTECTION:
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.

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Javier Garcia
11/2/20

No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

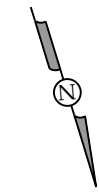
REVISIONS

**MULTIPLE SEWERSHED
PACKAGE 14
SITE 7 - COMPKEY
997831, 1000594
STA. 1+00 TO STA. 4+00
SANITARY SEWER REHABILITATION**

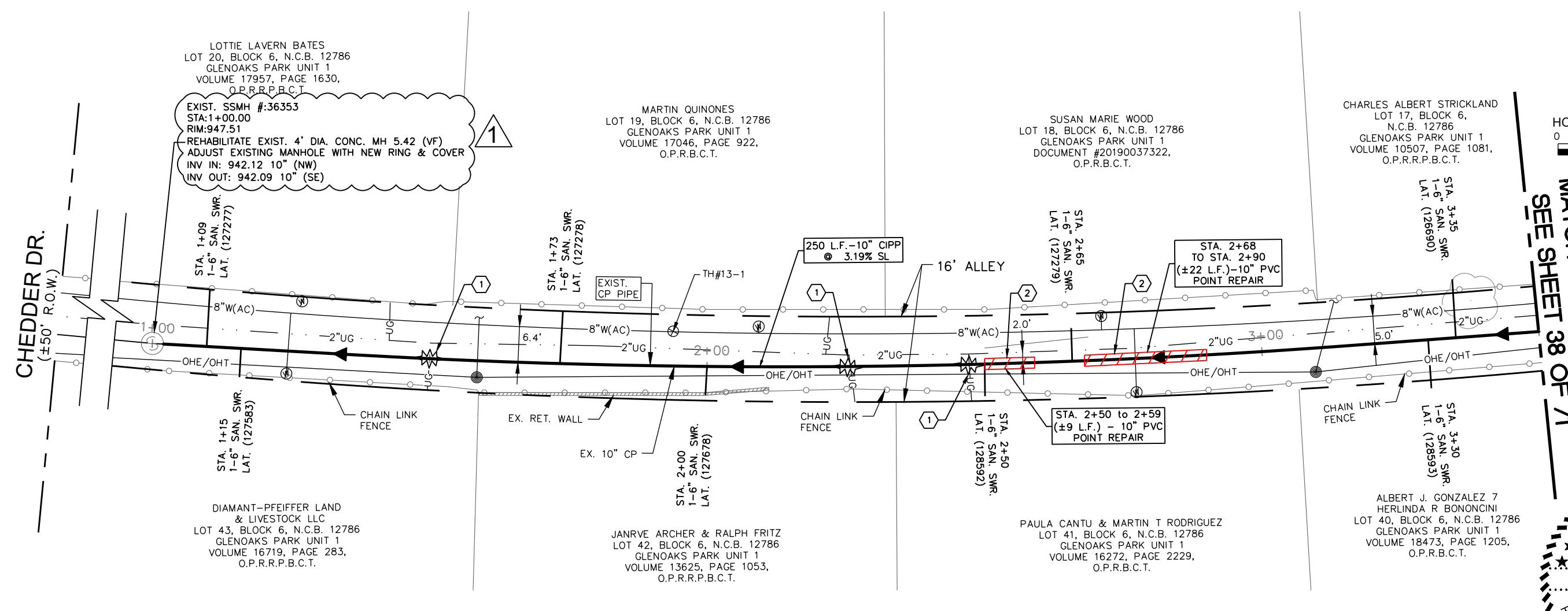
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 000-000 SHEET 33 OF 71
SECT. No. _____
DR. JFM CK. JGM JOB No. _____



HORIZ. SCALE: 1"=20'
0 10 20
SCALE IN FEET



LOTTIE LAVERN BATES
LOT 20, BLOCK 6, N.C.B. 12786
GLENOAKS PARK UNIT 1
VOLUME 17957, PAGE 1630,
O.P.R.R.P.B.C.T.

MARTIN QUINONES
LOT 19, BLOCK 6, N.C.B. 12786
GLENOAKS PARK UNIT 1
VOLUME 17046, PAGE 922,
O.P.R.R.P.B.C.T.

SUSAN MARIE WOOD
LOT 18, BLOCK 6, N.C.B. 12786
GLENOAKS PARK UNIT 1
DOCUMENT #20190037322,
O.P.R.R.P.B.C.T.

CHARLES ALBERT STRICKLAND
LOT 17, BLOCK 6,
N.C.B. 12786
GLENOAKS PARK UNIT 1
VOLUME 10507, PAGE 1081,
O.P.R.R.P.B.C.T.

EXIST. SSMH #36353
STA:1+00.00
RIM:947.51
REHABILITATE EXIST. 4' DIA. CONC. MH 5.42 (VF)
ADJUST EXISTING MANHOLE WITH NEW RING & COVER
INV IN: 942.12 10" (NW)
INV OUT: 942.09 10" (SE)

STA. 2+68
TO STA. 2+90
(±22 L.F.)-10" PVC
POINT REPAIR

STA. 2+50 TO 2+59
(±9 L.F.) - 10" PVC
POINT REPAIR

MATCH LINE STA. 3+50
SEE SHEET 38 OF 71

File: L:\SHARE\ICADD\SAWS\1037-SSORP_M-14\Drawings\PKG1-CIPP\Site-8 (13)_Cambray-1019086-SWR01.dwg Last Save: 11/2/2020 11:37 AM Last saved by: Wilor
Last plotted by: Walter Flores Plot Style: AECmonochrome.ctb Plot Scale: 1:1 Plot Date: 11/2/2020 11:37 AM Plotter used: DWG To PDF.pc3

SHEET NOTES

1. ANY BRUSH CLEARING TO ACCESS SITE WILL BE COVERED UNDER PREP OF ROW LINE ITEM.
2. RESTORE ALLEY TO EQUAL OR GREATER CONDITIONS.

KEY NOTES

- 1 CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER.
- 2 CONTRACTOR SHALL MAINTAIN ALLEY GRADE FOLLOWING POINT REPAIRS.

PROP. 10" Ø SANITARY SEWER POINT REPAIR AND CIPP REHABILITATION COMPKEYS 1019086, 1023490

1
SCALE: 1" = 20' (H)

SITE 8-COMPKEYS 1019086, 1023490

STATION	DIRECTION	DESCRIPTION
1+09	LT	REMOTE CUTTING TAP
1+15	RT	REMOTE CUTTING TAP
1+73	LT	REMOTE CUTTING TAP
2+00	RT	REMOTE CUTTING TAP
2+50	TOP	REMOTE CUTTING TAP
2+65	TOP	REMOTE CUTTING TAP
3+30	RT	REMOTE CUTTING TAP
3+35	LT	REMOTE CUTTING TAP

Item #	Description	Units	Est. Qty.
520.1	Hydromulching	SY	88.9
530.1	Barricades, Signs, and Traffic Handling (Site 8 - Cambray)	LS	1
550	Trench Excavation Safety Protection	LF	31
851	Adjust Existing Manholes	EA	1
864-S1	Bypass Pumping (Site 8 - Cambray - 10")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	250
901	Conventional CIPP 10" Sanitary Sewer Pipe (All Depths)	LF	250
SS 910.1	Manhole Rehabilitation	VF	5.42
1103.1	Point Repair, 10" Dia. (up to 9 LF) (0'-10' Depth)	EA	2
1103.2	Extra Length Point Repair, 10" Dia. (0'-10' Depth)	LF	13
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	8

TEST HOLE TABLE

NUMBER	DESCRIPTION	ELEVATION
13-1	8" GREY AC WATER	947.07

LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	— — — —
PARCEL R.O.W. LINE	— · — · —
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	⌒
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙



Javier Garcia 11/2/20

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1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
SITE 8 - COMPKEYS 1019086 & 1023490
STA. 1+00 - STA. 3+50
SANITARY SEWER REHABILITATION

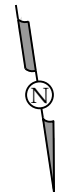
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

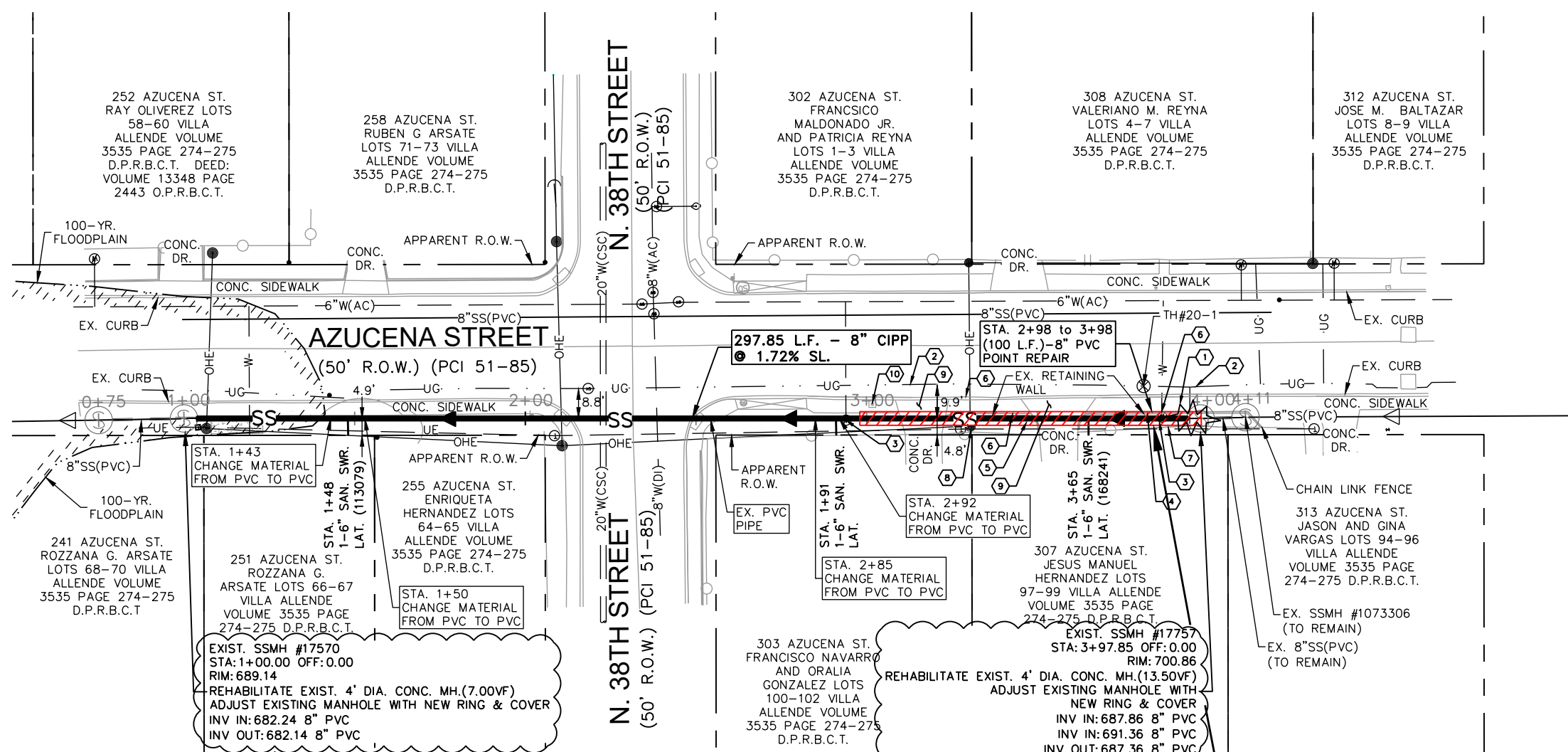
MAP No. 000-000
SECT. No. _____
DR. JFM CK. JGM JOB No. _____

SHEET 37 OF 71

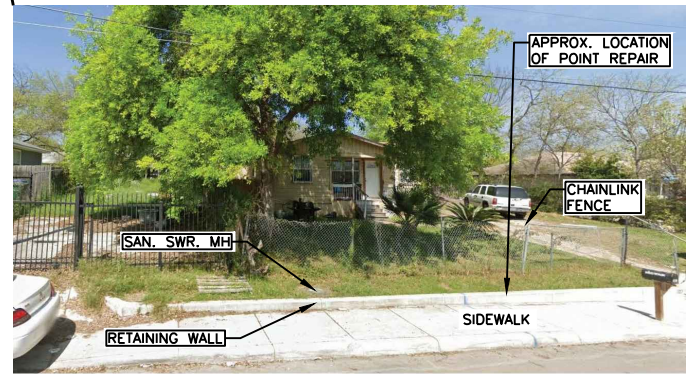
TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, 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 OR 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.



HORIZ. SCALE: 1"=40'
0 20 40
SCALE IN FEET



PROP. 8"Ø SANITARY SEWER POINT REPAIR AND CIPP REHABILITATION SEGMENT (976110)
SCALE: 1"=40'



LEGEND	
100-YR FLOODPLAIN LIMITS	---/---/---
ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	— — — —
PARCEL R.O.W. LINE	— · — · —
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

KEY NOTES

- CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER
- EXISTING 2-INCH GAS MAIN AND SEWER MAIN ARE IN CLOSE PROXIMITY. EXERCISE CAUTION DURING EXCAVATION TO PREVENT DAMAGE TO GAS MAIN
- PROTECT WATER SERVICE AND METER AT SEWER MAIN CROSSING (NSPI)
- REMOVE AND REPLACE RETAINING WALL (60 FT.)
- REMOVE AND REPLACE CONCRETE SIDEWALK
- REMOVE AND REPLACE CONCRETE CURB (APPROX. 105 FT.)
- REMOVE AND REPLACE CHAIN LINK FENCE AND TWO (2) GATES
- THE CONTRACTOR SHALL COORDINATE TEMPORARY BRACING OF UTILITY POLES AS NEEDED DURING INSTALLATION OF THE SEWER MAIN FOR ALL POLES LESS THAN 5' FROM UTILITY TRENCH MEASURED FROM OUTSIDE TRENCH TO OUTSIDE OF POLE WITH CPS ENERGY. (NSPI)
- REMOVE AND REPLACE CONCRETE DRIVEWAY
- PROTECT EXIST. ROCK MAILBOX. IF DAMAGED CONTRACTOR SHALL REPAIR TO BETTER THAN EXISTING CONDITION (N.S.P.I.)

SHEET NOTES

- CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010.
- RESIDENTS AT 303 AZUCENA ST AND 307 AZUCENA ST SHALL BE ALLOWED ACCESS TO THE PROPERTY AT ALL TIMES DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY THESE RESIDENTS WHEN WORK IS BEING CONDUCTED IN THEIR DRIVEWAYS SO THEY CAN RELOCATE THEIR VEHICLES IF NEEDED.
- SITE 9 REQUIRES A FLOOD PLAIN DEVELOPMENT PERMIT.

TEST HOLE TABLE		
NUMBER	DESCRIPTION	ELEVATION
20-1	2 1/2" BLACK METAL GAS PIPE	698.17

SITE 9—COMPKEY 1000646		
STATION	DIRECTION	DESCRIPTION
1+48	RT	REMOTE CUTTING TAP
1+91	RT	REMOTE CUTTING TAP
3+65	RT	REMOTE CUTTING TAP

Item #	Description	Units	Est. Qty.
103.1	Remove Concrete Curb	LF	108
103.3	Remove Concrete Sidewalks and Driveways	SF	888
500.1	Concrete Curb	LF	108
502.1	Concrete Sidewalk	SY	16
502.1	Concrete Sidewalk with Combination Retaining Wall (0" to 36")	SY	56
503.1	Portland Cement Concrete Driveway	SY	26.7
515.1	Topsoil (4" Depth)	CY	19
516.1	Bermuda Sodding	SY	171
530.1	Barricades, Signs, and Traffic Handling (Site 9 - Azucena)	LS	1
550	Trench Excavation Safety Protection	LF	100
851	Adjust Existing Manholes	EA	2
854	6" PVC Sanitary Sewer Lateral Pipe (SDR 26) (All Depths)	LF	18
864-S1	Bypass Pumping (Site 9 - Azucena - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	298
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	298
SS 910.1	Manhole Rehabilitation	VF	20.4
1103.1	Point Repair, 8" Dia. (up to 9 LF) (10'-20' Depth)	EA	1
1103.2	Extra Length Point Repair, 8" Dia. (10'-20' Depth)	LF	91
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	3
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 9 - Azucena)	LS	1



Javier Garcia 11/2/20

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1	ADDENDUM NO. 2	WF	JG	11/02/20

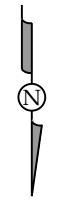
MULTIPLE SEWERSHED PACKAGE 14
SITE 9 - COMPKEY 976110
STA. 1+00 TO STA. 4+00
SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED	
APPROVED	
MAP No. 000-000	SHEET 41 OF 71
DR. JFM	CK. JGM
JOB No.	

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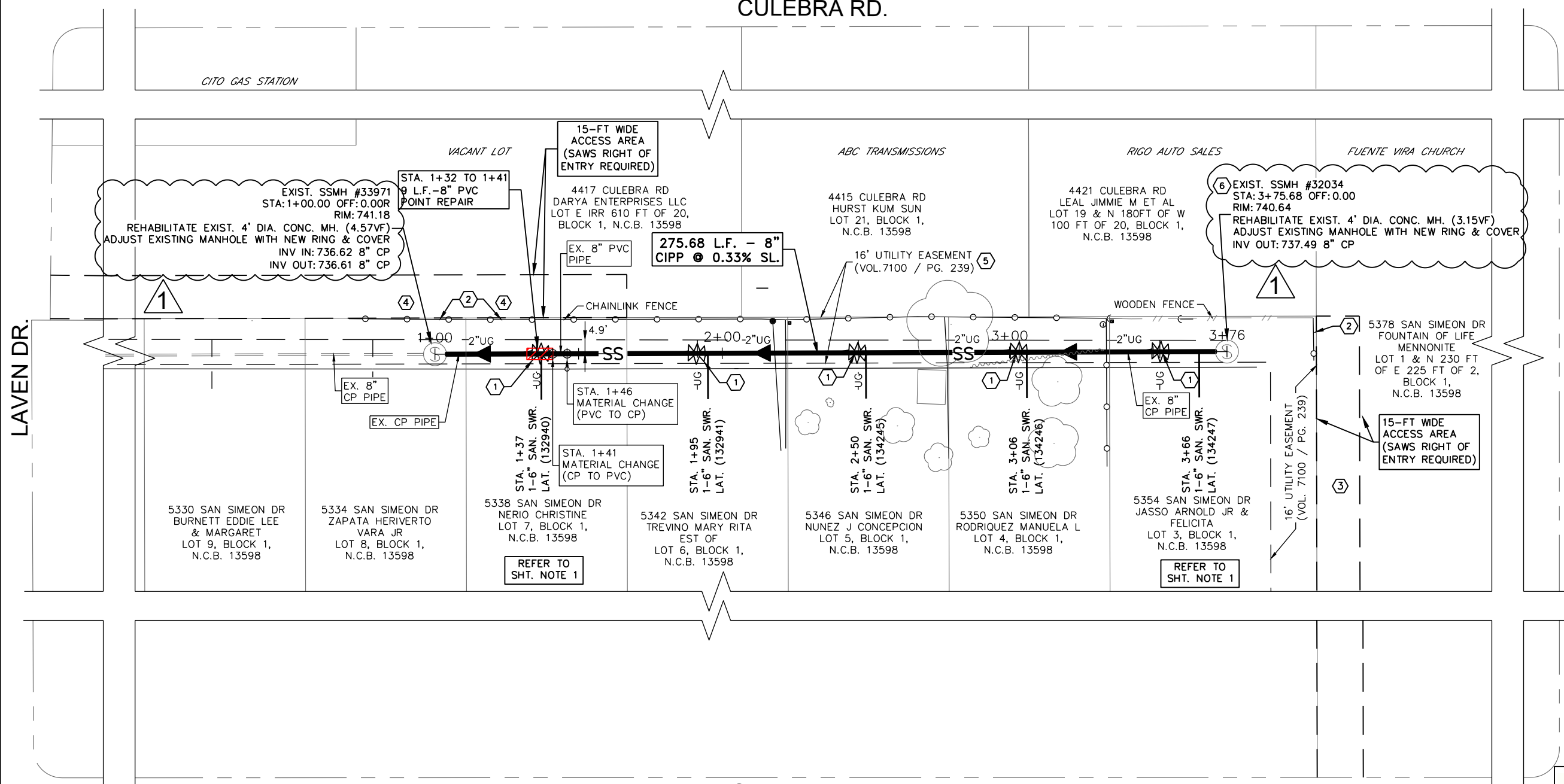
CULEBRA RD.



HORIZ. SCALE: 1"=40'
0 20 40
SCALE IN FEET

LAVEN DR.

EL CENTRO



LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊕
PARCEL LOT LINE	— — — —
PARCEL R.O.W. LINE	— · — · —
POINT REPAIR	⊕
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	⊖
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊕
PR. SANITARY SEWER MANHOLE	⊕
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊕
TELEPHONE PEDESTAL/BOX	⊕
WATER MAIN	—WL—
WATER METER	⊕
WATER VALVE/COVER	⊕

- KEY NOTES**
- CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER LATERAL.
 - REMOVE AND REPLACE FENCING TO ACCESS M.H. AND 1 POINT REPAIR
 - ACCESS TO MH 32034 IS VIA 5378 SAN SIMEON (ROE)
 - ACCESS TO MH 33971 AND 5338 SAN SIMEON (POINT REPAIR) IS VIA 4417 CULEBRA RD ACCESS (ROE)
 - ALL WORK SHALL STAY WITHIN EXISTING EASEMENT.
 - EXISTING MANHOLE TO BE REMOVED IS EQUIPPED WITH A SMART COVER. NOTIFY SAWS PRIOR TO COMMENCING CONSTRUCTION FOR DEACTIVATION, REFER TO SHEET 3, SAWS GENERAL CONSTRUCTION NOTES, SEWER SECTION, NOTE 9. ANY DAMAGE DONE TO THE SMART COVER WILL BE CHARGED TO THE CONTRACTOR (N.S.P.I)

TRENCH EXCAVATION SAFETY PROTECTION:
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.

SAN SIMEON DR.
PROP. 8"Ø SANITARY SEWER POINT REPAIR
AND CIPP REHABILITATION SEGMENT (1012397)



SITE 10-COMPKEY 1012397

STATION	DIRECTION	DESCRIPTION
1+37	RT	REMOTE CUTTING TAP
1+95	RT	REMOTE CUTTING TAP
2+50	RT	REMOTE CUTTING TAP
3+06	RT	REMOTE CUTTING TAP
3+66	RT	REMOTE CUTTING TAP

- SHEET NOTES**
- ACCESS TO REAR LOT / 16-FT SAN. SWR. EASEMENT IS NOT AVAILABLE VIA FRONT LOT.
 - CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010.

Item #	Description	Units	Est. Qty.
515.1	Topsoil (4" Depth)	CY	3.7
516.1	Bermuda Sodding	SY	33.8
550	Trench Excavation Safety Protection	LF	9
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Site 10 - San Simeon - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	275.7
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	275.7
SS 910.1	Manhole Rehabilitation	VF	7.7
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	1
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	5
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 10 - San Simeon)	LS	1



Javier Garcia
11/2/20

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No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
SITE 10 - COMPKEY 1012397
STA. 1+00 TO STA. 3+76
SANITARY SEWER REHABILITATION

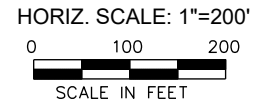
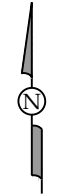
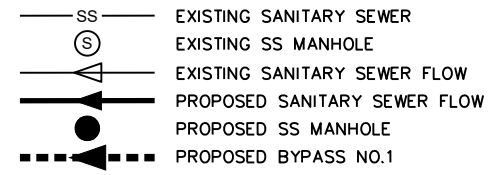
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 000-000 SHEET 44
SECT. No. _____ OF 71
DR. JFM CK. JGM JOB No. _____

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Last plotted by: Walter Flores Plo Scale: 1:1 Plot Date: 11/2/2020 11:44 AM Plotter used: DWG To PDF.pc3

LEGEND



SANITARY SEWER BYPASS NOTES

1. ALL WORK FOR BYPASS PUMPING SHALL BE DONE IN ACCORDANCE TO SAWS SPECIFICATION NO. 864-S1 BYPASS PUMPING.
2. THE CONTRACTOR SHALL FIELD VERIFY MANHOLE INVERTS AND SANITARY SEWER LINE SLOPES PRIOR TO COMMENCING BYPASS WORK.
3. THE CONTRACTOR SHALL MAINTAIN SEWAGE FLOW IN THE CONSTRUCTION AREA IN ORDER TO PREVENT BACKUP AND/OR OVERFLOW IN TO STREAM PIPE SEGMENTS AND LATERALS, ADJACENT DITCHES, STORM SEWERS AND WATERWAYS.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE PUMPING EQUIPMENT, FORCE MAINS AND OTHER NECESSARY APPURTENANCES IN ORDER TO MAINTAIN RELIABLE SANITARY SEWER SERVICE IN ALL SANITARY SEWER LINES AS REQUIRED FOR CONSTRUCTION.
5. THE CONTRACTOR SHALL HAVE BACKUP PUMP(S), FORCE MAIN(S) AND APPURTENANCES READY TO DEPLOY IMMEDIATELY.
6. ANY SPILLAGE BACKUPS AND/OR OVERFLOWS, ETC, AS A RESULT OF INADEQUATE EQUIPMENT ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL DEMONSTRATE THAT THE PUMPING SYSTEM IS IN GOOD WORKING ORDER AND IS SUFFICIENTLY SIZED TO SUCCESSFULLY HANDLE FLOWS BY PERFORMING A TEST RUN FOR A PERIOD OF 2 HOURS PRIOR TO BEGINNING WORK.
8. THE CONTRACTOR SHALL BE REQUIRED TO HAVE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE TO REPAIR OR REPLACEMENT ON THE JOB SITE PRIOR TO ISOLATING THE SEWER MANHOLE OR LINE SEGMENT AND BEGINNING BYPASS PUMPING OPERATIONS.
9. THE CONTRACTOR SHALL SECURE ALL BYPASS PUMPING ROUTED THROUGH STORM DRAINS AND PROTECT PIPE AGAINST STORM WATER FLOW AND DEBRIS.
10. FLOW DATA PROVIDED IS BASED ON PIPE FLOWING FULL AND DOES NOT INCLUDE INFLOW/INFILTRATION. CONTRACTOR SHALL VERIFY FLOW DATA INFORMATION.
11. INFORMATION ON THIS SHEET IS FOR CONTRACTOR'S INFORMATION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE INFORMATION.
12. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SEWER SERVICE AT ALL TIMES.
13. UPSTREAM MH IS BEGINNING OF SEWER MAIN. CONTRACTOR TO COORDINATE WITH PROPERTY OWNERS TO MINIMIZE SEWER FACILITY USAGE DURING CONSTRUCTION AND/OR INTERCEPT SEWER LATERALS AS NEEDED

NOTE:
ROADWAY AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL UTILIZE TEMPORARY ACCESS RAMP, DETAIL SHEET 6, OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE LAYOUT PLAN WITH DETAILS TO ENGINEER AT A MINIMUM OF ONE (1) WEEK PRIOR TO SET UP FOR REVIEW AND APPROVAL.

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No.	Revision	Drawn	Approved	Date
1	Addendum No. 2	EL	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
 SITE 10 - COMPEKEY 1012397
 SUGGESTED BYPASS PLAN
 SANITARY SEWER REHABILITATION

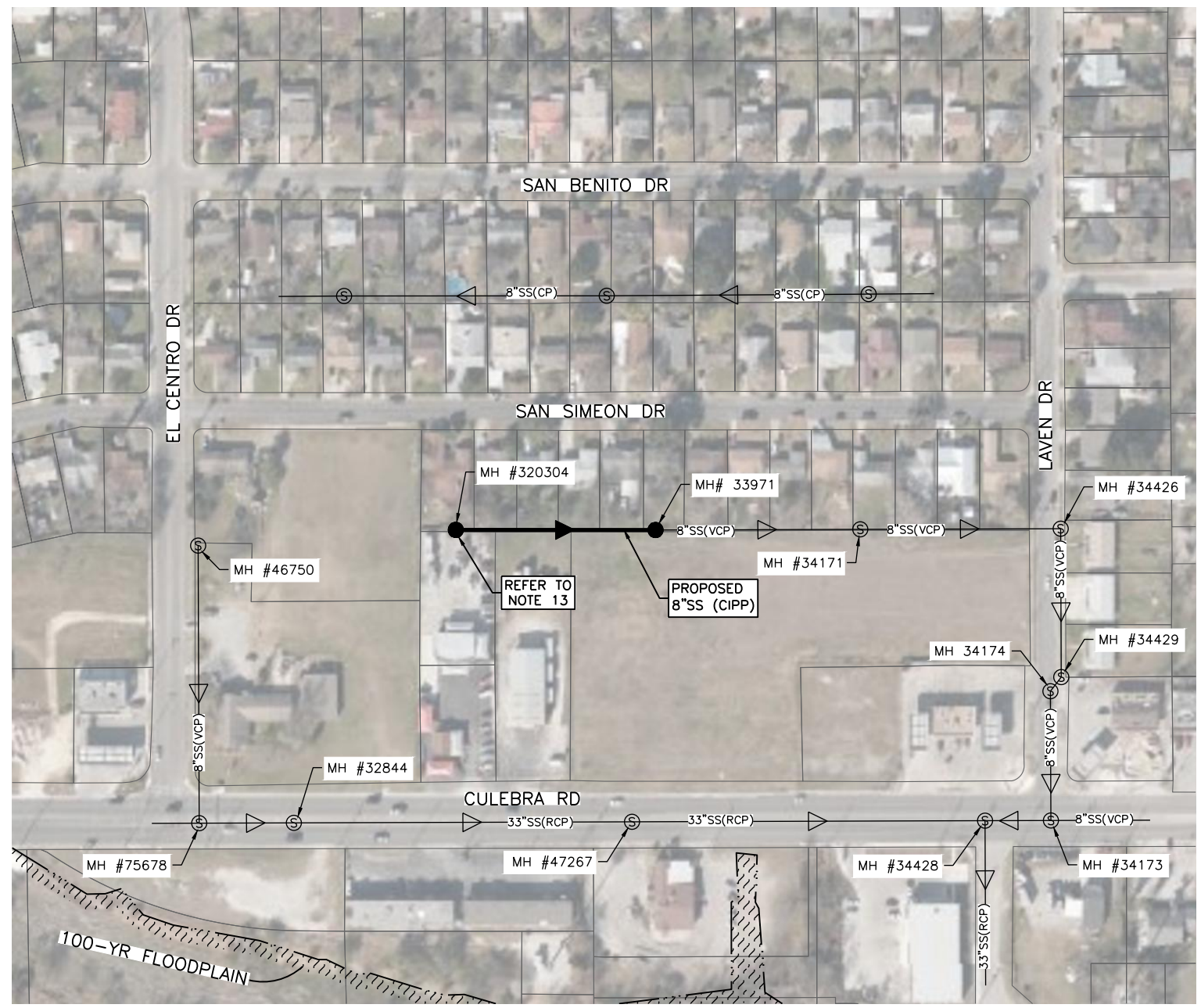
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____
 APPROVED _____

MAP No. 000-000 SHEET 45 OF 71
 SECT. No. _____
 DR. JFM CK. JGM JOB No. _____



J Garcia 11/2/20

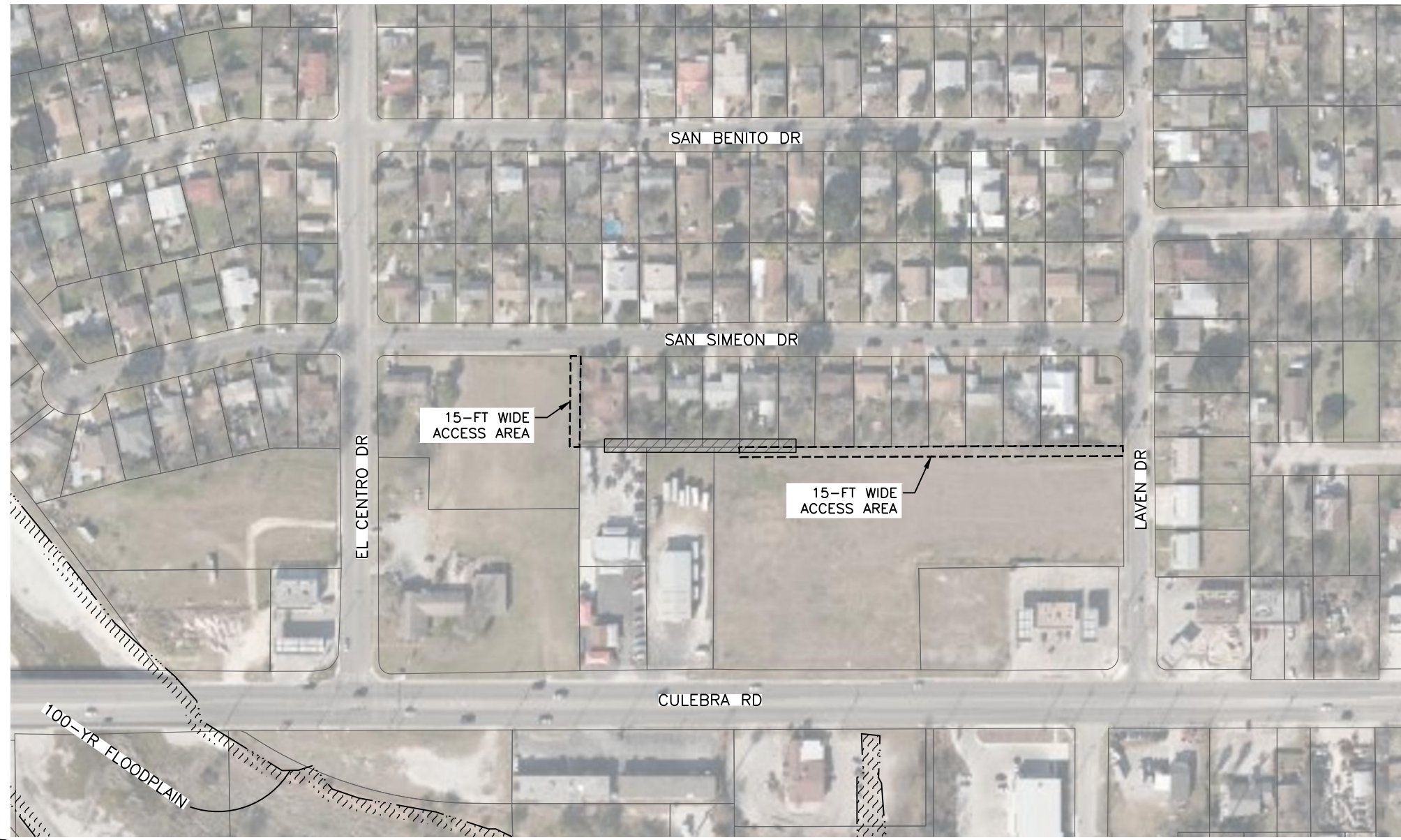


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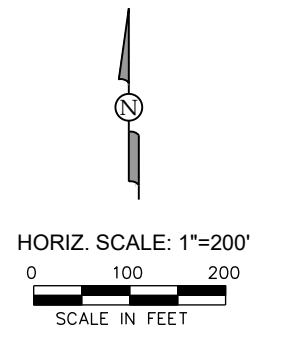
TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, 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 OR 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.

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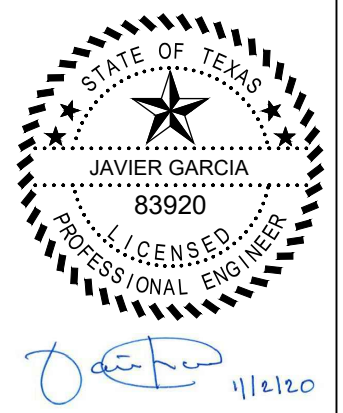
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- TCP LEGEND**
- CHANNELIZING DEVICE
 - ▨ CONSTRUCTION AREA
 - RIGHT-OF-WAY
 - ➔ TRAFFIC DIRECTION
 - ⊕ TRAFFIC SIGN
 - ▨▨▨ TY III BARRICADE (8')
 - ▨▨▨ TY II BARRICADE (4')
 - VERTICAL PANEL



TCP NOTE:
NO TRAFFIC CONTROL REQUIRED



1 TRAFFIC CONTROL PLAN SEGMENT (1012397)
SCALE:

- | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | | | | | | | | | | | | | | |
| 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | | |

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1	ADDENDUM NO. 2	WF	JG	11/02/20
No.	Revision	Drawn	Approved	Date

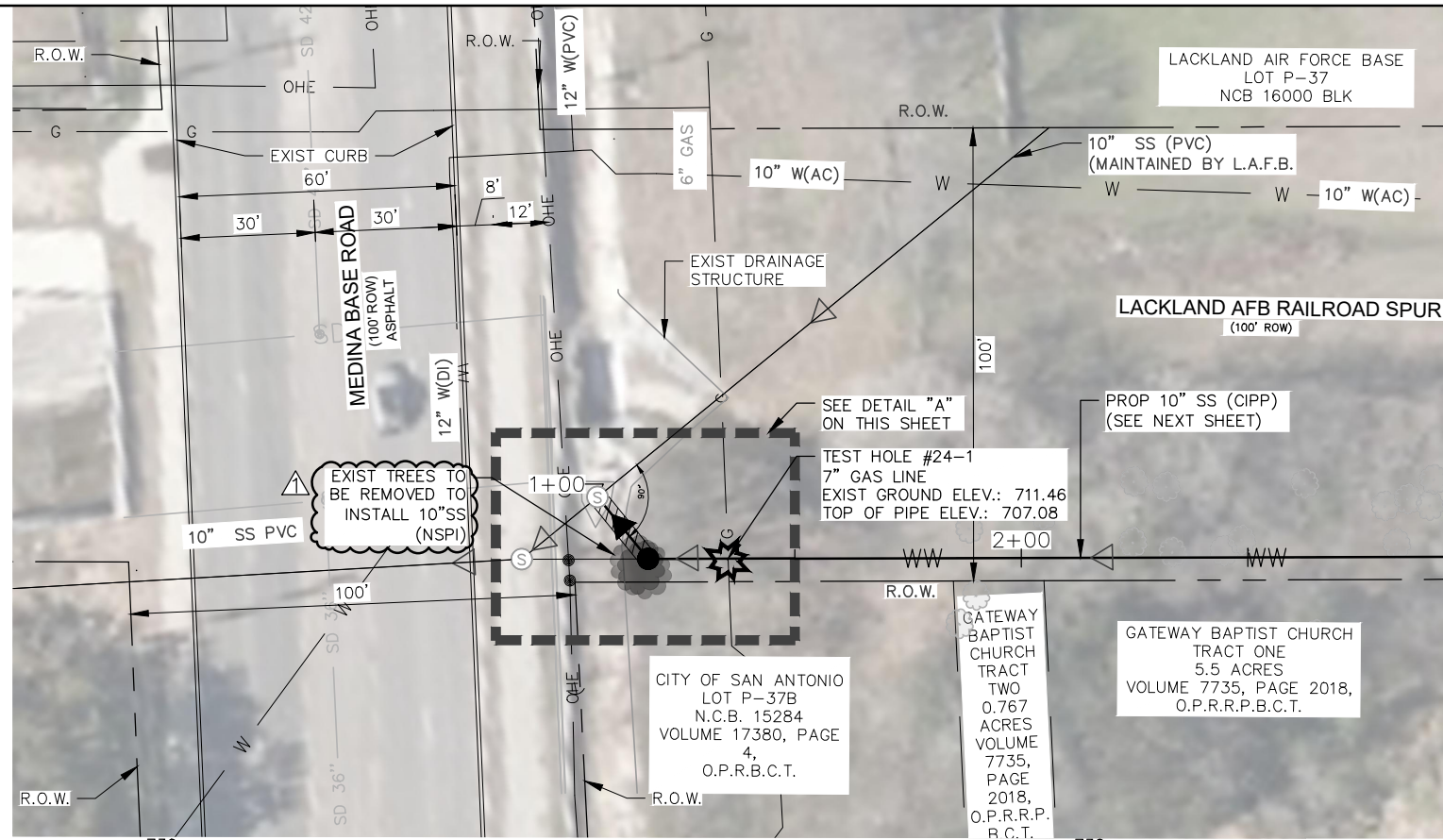
REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
SITE 10 - COMPEKY 1012397
TRAFFIC CONTROL PLAN
SANITARY SEWER REHABILITATION

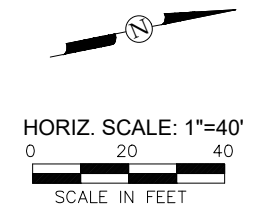
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

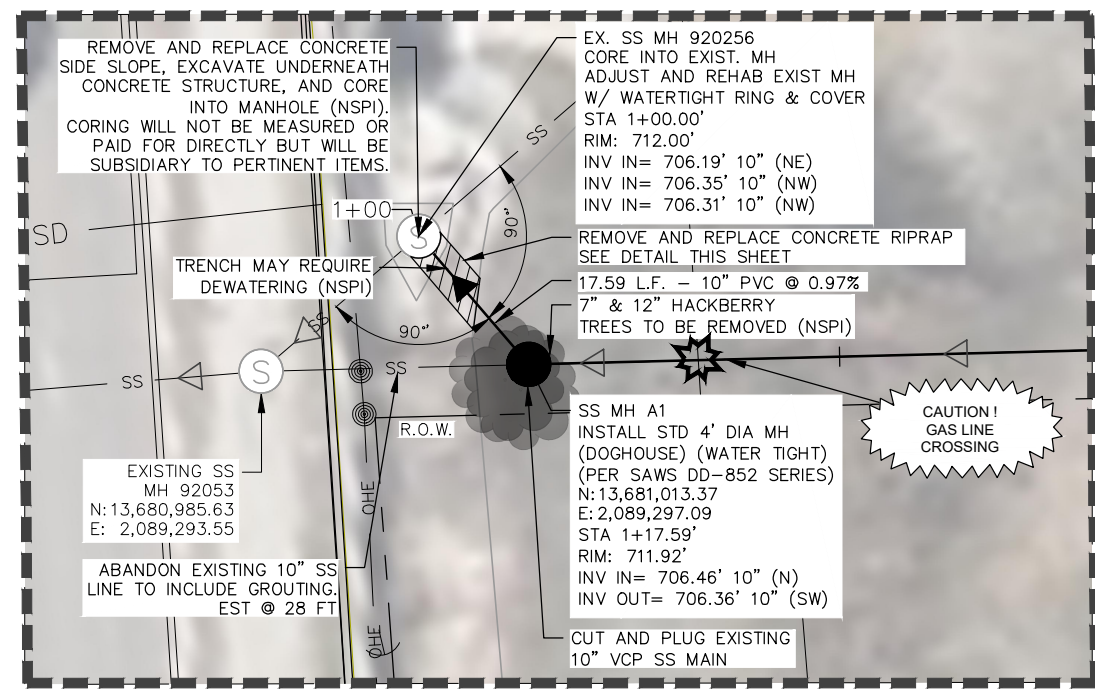
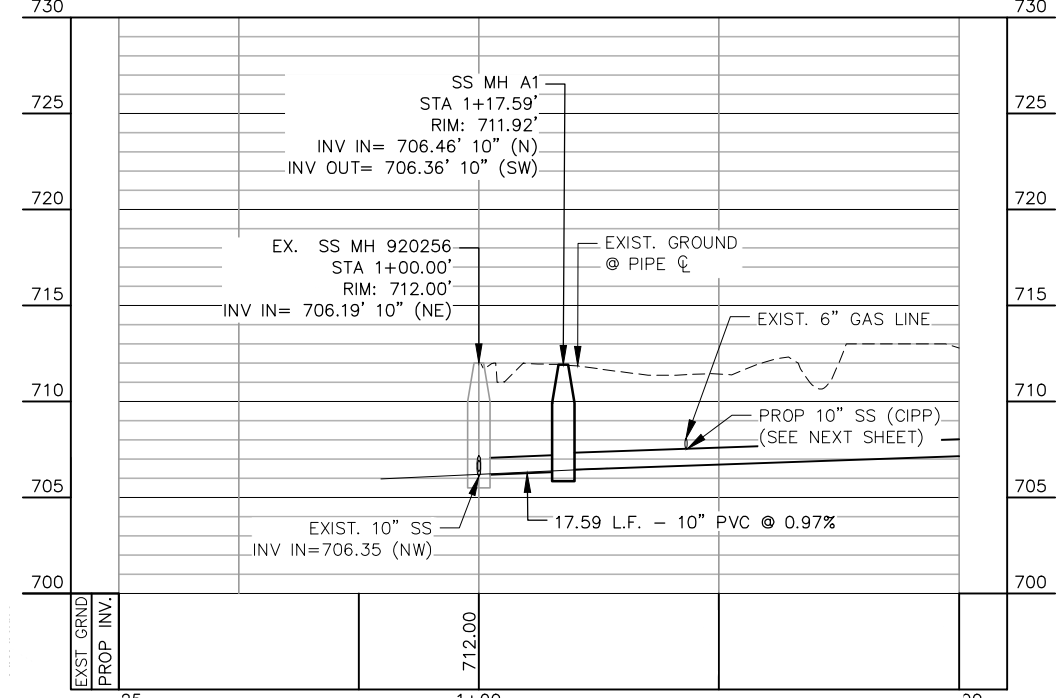
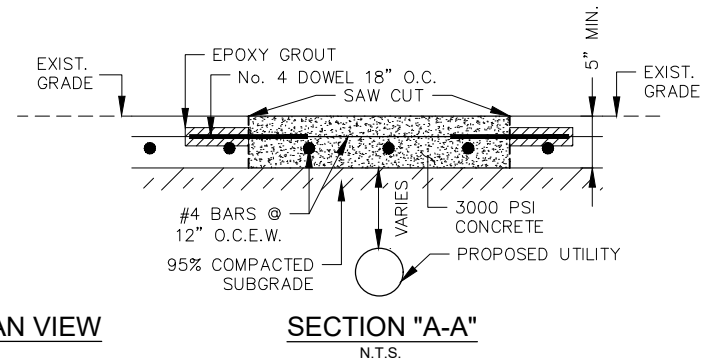
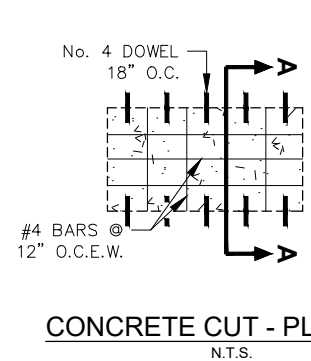
MAP No. 000-000	SHEET 46 OF 71	
SECT. No.		
DR. JFM	CK. JGM	JOB No.



ITEM	DESCRIPTION	UNIT	QUANTITY
505.1	CONCRETE RIPRAP (5" THICK) (COSA)	SY	11
515	TOPSOIL	CY	1
516	BERMUDA SODDING	SY	6
530.1	BARRICADES, SIGNS, TRAFFIC HANDLING (SITE 11 - MEDINA BASE)	LS	1
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	18
848	10" PVC SANITARY SEWER LINE (SDR-26), (ALL DEPTHS)	LF	18
852.1	SANITARY SEWER MANHOLE (0'-6")	EA	2
852.3	EXTRA DEPTH MANHOLE (>6")	VF	8
852.4	SANITARY SEWER DROP MANHOLE (DOGHOUSE)	EA	1
862	ABANDONMENT OF SANITARY SEWER MAIN	LF	28
864-S1	BYPASS PUMPING, SMALL DIAMETER SANITARY SEWER	LS	1
866	PRE-CONSTRUCTION SANITARY SEWER MAIN TELEVISION INSPECTION (8"-15" MAIN)	LF	18
866	POST-CONSTRUCTION SANITARY SEWER MAIN TELEVISION INSPECTION (8"-15" MAIN)	LF	18

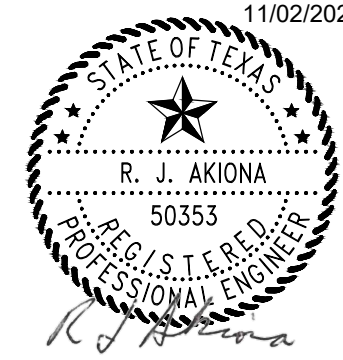


LEGEND	
ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙



LINE A - . 10" Ø SANITARY SEWER
COMPKEY1039369 - 505.57 L.F.
 SCALE: 1" = 40'

- NOTE:**
- PROPERTY LINES SHOWN ARE APPROXIMATE.
 - CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
 - CONTRACTOR TO CONTACT LACKLAND HOLLAND MILITARY WORKING DOG HOSPITAL AT 210-671-3991 A MINIMUM OF SEVEN (7) DAYS PRIOR TO START OF CONSTRUCTION FOR COORDINATION.
 - CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING DRAINAGE FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING DRAINAGE SYSTEMS, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT HIS EXPENSE. THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT 210-206-8433 AS SOON AS CONFLICTS WITH UTILITIES ARE ENCOUNTERED OR ANY DRAINAGE SYSTEM IS DAMAGED DURING CONSTRUCTION.
 - CONSTRUCTION SPOILS WILL NOT BE ALLOWED TO BE DEPOSITED ANYWHERE WITHIN A DRAINAGE EASEMENT, RIGHT-OF-WAY OR FLOODPLAIN WITHIN THE LIMITS OF THE PROJECT AND SHALL BE DISPOSED OFFSITE IN COMPLIANCE WITH CURRENT APPLICABLE REGULATIONS.
 - CONTRACTOR SHALL PROPERLY COMPACT, REGRADE, AND REVEGETATE DISTURBED AREAS CAUSED BY CONSTRUCTION ACTIVITIES WITHIN THE DRAINAGE CHANNEL TO EXISTING OR BETTER CONDITIONS. ALL CONCRETE RIPRAP REPAIRS ARE TO MEET COSA STANDARDS.
 - CONTRACTOR SHALL NOT STOCKPILE OR STORE ANY MATERIALS THAT WILL BLOCK OR OTHERWISE SIGNIFICANTLY IMPEDE DRAINAGE FLOW AND POTENTIALLY CAUSE AN ADVERSE IMPACT TO THE ADJACENT RESIDENTIAL PROPERTIES AND/OR STRUCTURES DURING CONSTRUCTION ACTIVITIES.
 - ALL TREE TRIMMING SHALL BE IN ACCORDANCE WITH THE COSA TREE PRESERVATION STANDARDS. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS AND SAWS INSPECTOR PRIOR TO CONDUCTING TREE TRIMMING OPERATIONS (NSPI).



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 Registration # F-14070
 12950 Country Parkway STE 120
 San Antonio, Texas 78216
 Office: 210-802-0808
 www.MendezEngineering.com

ADDENDUM No. 2	JJC	RA	11/02/20
No.	Revision	Drawn	Approved
REVISIONS			
MULTIPLE SEWERSHED PACKAGE 14			
SITE - 11 COMPKEY 1039369 (1 OF 2)			
1+00 TO STA. 4+00			
SANITARY SEWER REHABILITATION			
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM		CONT. BUDGET PROJ.	
SUBMITTED _____			
APPROVED _____			
MAP No. 000-000	SHEET		47
SECT. No.	DR. JJC		OF 71
CK. RA	JOB No.		

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TRENCH SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATIONS SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR 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.



HORIZ. SCALE: 1"=40'
0 20 40
SCALE IN FEET

BAYWELL DR

CEDARHURST DR.
(±50' R.O.W.) (PCI 51-85)

SRINGDALE DR

CHADWICK RD

PROP. 8" Ø SANITARY SEWER CIPP
REHABILITATION SEGMENT (1029314)

1
SCALE: 1" = 40' (H)

SITE 12-COMPKEY 1029314

STATION	DIRECTION	DESCRIPTION
1+63	RT	REMOTE CUTTING TAP
1+89	LT	REMOTE CUTTING TAP
2+15	LT	REMOTE CUTTING TAP
2+46	RT	REMOTE CUTTING TRIM PROTRUDING TAP
2+90	LT	REMOTE CUTTING TRIM PROTRUDING TAP
2+95	RT	REMOTE CUTTING TRIM PROTRUDING TAP
3+65	LT	REMOTE CUTTING TRIM PROTRUDING TAP
3+70	RT	REMOTE CUTTING TRIM PROTRUDING TAP
4+40	LT	REMOTE CUTTING TRIM PROTRUDING TAP
4+78	RT	REMOTE CUTTING TRIM PROTRUDING TAP

TEST HOLE TABLE

NUMBER	DESCRIPTION	ELEVATION
22-1	2" BLACK STEEL GAS PIPE	782.90
22-2	8" GRAY AC WATER	783.04

Item #	Description	Units	Est. Qty.
103.3	Remove Concrete Sidewalks and Driveways	SF	48
502.1	Concrete Sidewalk	SY	5.3
515.1	Topsail (4" Depth)	CY	3.5
516.1	Bermuda Sodding	SY	32
520.1	Hydromulching	SY	124.4
530.1	Barricades, Signs, and Traffic Handling (Site 12 - Cedarhurst)	LS	1
550	Trench Excavation Safety Protection	LF	69
851	Adjust Existing Manholes	EA	2
864-51	Bypass Pumping (Site 12 - Cedarhurst - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	390.85
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	390.85
SS 910.1	Manhole Rehabilitation	VF	15.71
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	2
1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	51
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	7
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	10

SHEET NOTES:
1. SCHEDULING OF WORK AT SITE 12 SHALL TAKE INTO CONSIDERATION NEARBY COSA DRAINAGE PROJECT ON CEDARHURST DR. COSA PROJECT HAS AN ANTICIPATED COMPLETION DATE OF JUNE 5, 2021. TO AVOID, ATTEMPT TO SCHEDULE SITE AFTER THIS DATE. CONTRACT MR. CHRIS ALONSO, P.E. (210) 207-2120 FOR COORDINATION.

KEY NOTES

- CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER.
- CAUTION EXISTING UNDERGROUND GAS SERVICE CROSSING OVER SANITARY SEWER LATERAL.
- RESTORE ALLEY TO EQUAL OR BETTER CONDITIONS. (NSPI)
- COORDINATE/NOTIFY LIFE CHURCH SOUTHWEST CAMPUS FOR WORK AT MH 69855
- CONTRACTOR SHALL MAINTAIN ALLEY GRADE FOLLOWING POINT REPAIRS
- APPROXIMATE LOCATION OF 24" R.C.P. CONTRACTOR SHALL COORDINATE STREET AND DRAINAGE IMPROVEMENTS SCHEDULE WITH COSA CIMS DEPT. PRIOR TO COMMENCING CONSTRUCTION (REFER TO SHT. NOTE 1).

TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.

LEGEND

ELECTRIC (OVERHEAD)	OHE
FENCE (CHAINLINK)	—○—○—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	— — — —
PARCEL R.O.W. LINE	— — — —
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

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1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
SITE 12 - COMPKEY 1029314
STA. 1+00 TO 4+90.85
SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ.

SUBMITTED _____
APPROVED _____

MAP No. 000-000
SECT. No. _____
DR. JFM CK. JGM JOB No. _____

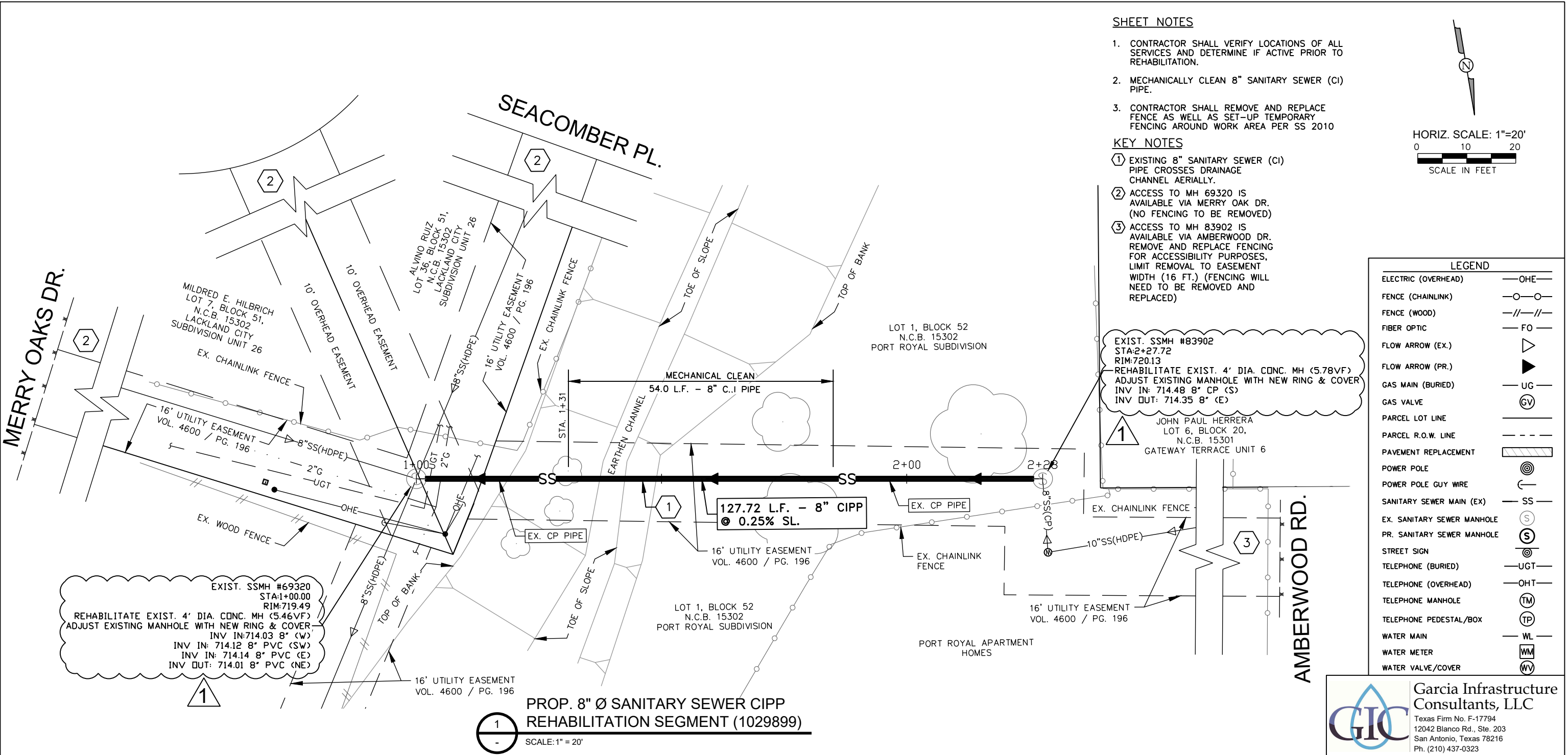
SHEET 51 OF 71



Javier Garcia
11/2/20

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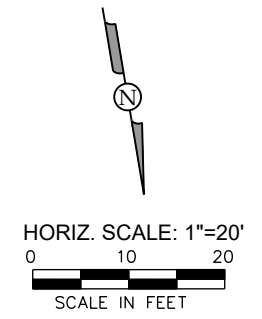


SHEET NOTES

- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL SERVICES AND DETERMINE IF ACTIVE PRIOR TO REHABILITATION.
- MECHANICALLY CLEAN 8" SANITARY SEWER (CI) PIPE.
- CONTRACTOR SHALL REMOVE AND REPLACE FENCE AS WELL AS SET-UP TEMPORARY FENCING AROUND WORK AREA PER SS 2010

KEY NOTES

- EXISTING 8" SANITARY SEWER (CI) PIPE CROSSES DRAINAGE CHANNEL AERIALLY.
- ACCESS TO MH 69320 IS AVAILABLE VIA MERRY OAK DR. (NO FENCING TO BE REMOVED)
- ACCESS TO MH 83902 IS AVAILABLE VIA AMBERWOOD DR. REMOVE AND REPLACE FENCING FOR ACCESSIBILITY PURPOSES, LIMIT REMOVAL TO EASEMENT WIDTH (16 FT.) (FENCING WILL NEED TO BE REMOVED AND REPLACED)



LEGEND

ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	◀
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊕
PARCEL LOT LINE	—
PARCEL R.O.W. LINE	- - -
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

EXIST. SSMH #69320
 STA:1+00.00
 RIM:719.49
 REHABILITATE EXIST. 4' DIA. CONC. MH (5.46VF)
 ADJUST EXISTING MANHOLE WITH NEW RING & COVER
 INV IN: 714.12 8" PVC (SW)
 INV IN: 714.14 8" PVC (E)
 INV OUT: 714.01 8" PVC (NE)

EXIST. SSMH #83902
 STA:2+27.72
 RIM:720.13
 REHABILITATE EXIST. 4' DIA. CONC. MH (5.78VF)
 ADJUST EXISTING MANHOLE WITH NEW RING & COVER
 INV IN: 714.48 8" CP (S)
 INV OUT: 714.35 8" (E)

PROP. 8" Ø SANITARY SEWER CIPP REHABILITATION SEGMENT (1029899)



SCALE: 1" = 20'

Item #	Description	Units	Est. Qty.
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Site 13 - Mai Kai - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	127.7
868	Sanitary Sewer System Cleaning - Mechanical (8" Dia.)	LF	54
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	127.7
SS 910.1	Manhole Rehabilitation	VF	11.3
SS 2010	Removal & Replacement of Fences (All Types, Sizes) (Site 13 - Mai Kai)	LS	1

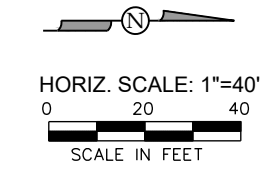
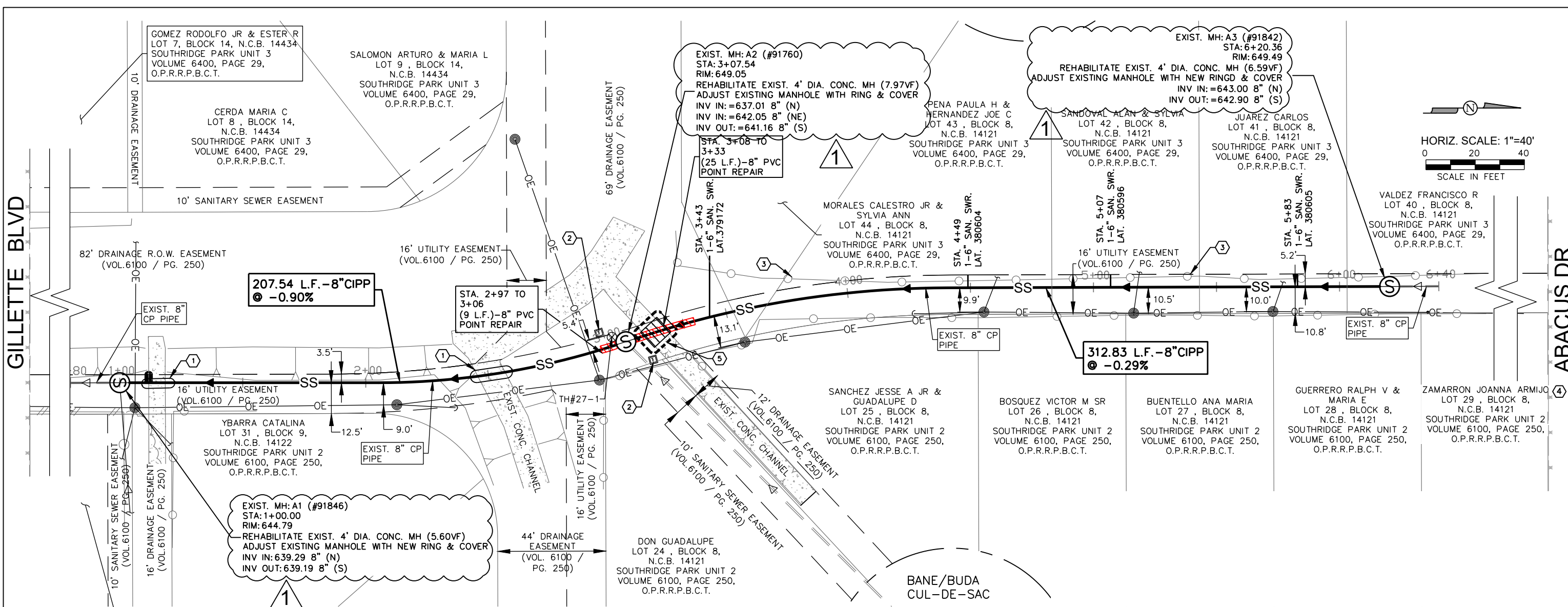
TRENCH EXCAVATION SAFETY PROTECTION:
 CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, 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 OR 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.



J Garcia 11/2/20

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1	ADDENDUM NO. 2	WF	JG	11/02/20
No.	Revision	Drawn	Approved	Date
REVISIONS				
MULTIPLE SEWERSHED PACKAGE 14 SITE 13 - COMKEY 1029899 STA. 1+00 TO 2+27.72 SANITARY SEWER REHABILITATION				
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM				
CONT. BUDGET PROJ.				
SUBMITTED _____				
APPROVED _____				
MAP No. 000-000				SHEET
SECT. No.				54
DR. JFM CK. JGM JOB No.				OF 71



PROP. 8" Ø SANITARY SEWER POINT REPAIR AND CIPP REHABILITATION
COMPKEYS 1051567, 1059068 - 520.37 L.F.



SHEET NOTES

- ANY BRUSH CLEARING TO ACCESS SITE WILL BE COVERED UNDER PREP OF ROW LINE ITEM

KEY NOTES

- EXISTING CONCRETE DRAINAGE CHANNELS TO BE PROTECTED. ANY DAMAGE SHALL BE REPAIRED AT CONTRACTORS EXPENSE TO BETTER THAN EXISTING CONDITIONS (N.S.P.I.)
- EXISTING TELEPHONE PEDESTAL TO BE PROTECTED. ANY DAMAGE TO TELEPHONE INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTORS EXPENSE TO BETTER THAN EXISTING CONDITIONS (N.S.P.I.)
- EXISTING CHAIN LINK FENCING TO BE PROTECTED. ANY DAMAGE SHALL BE REPAIRED AT CONTRACTORS EXPENSE TO BETTER THAN EXISTING CONDITIONS (N.S.P.I.)
- ACCESS TO MH 91842, 91760 AND 91846 AVAILABLE VIA ABACUS DR. 16-FT UTILITY EASEMENT IS WOODED. TRIM TREES IN ACCORDANCE WITH COSA REQUIREMENTS. WORK IS SUBSIDIARY TO R.O.W. PREP (N.S.P.I.)

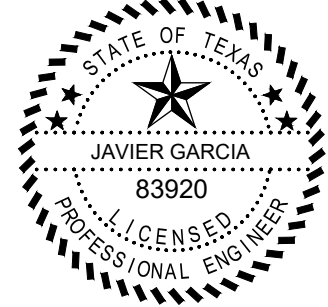
- REMOVE AND REPLACE CONCRETE TRAPEZOIDAL CHANNEL AT SANITARY SEWER CROSSING (25 L.F.-8" PVC POINT REPAIR). CONTRACTOR SHALL COORDINATE WITH SAWS INSPECTOR TO DETERMINE THE CONCRETE RIPRAP AREA TO BE REMOVED. SAW CUTS SHALL BE CLEAN VERTICAL CUTS PERPENDICULAR TO BOTTOM OF CHANNEL. NEW RIP-RAP SHOULD BE ATTACHED TO EXISTING WITH NO. 4 BARS DOWELED 6" INTO EXISTING RIP-RAP, SPACED AT 18 INCHES O.C. AND HAVE A LENGTH OF 18 INCHES. CHANNEL RECONSTRUCTION SHALL MEET COSA TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS AS CALLED FOR IN THE COSA STANDARD SPECIFICATIONS (REFER TO ITEM# SS2020) FOR PUBLIC WORKS CONSTRUCTION.

Item #	Description	Units	Est. Qty.
520.1	Hydromulching	SY	64
550	Trench Excavation Safety Protection	LF	34
851	Adjust Existing Manholes	EA	3
864-51	Bypass Pumping (Site 14 - Bane - 8")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	520.4
901	Conventional CIPP 8" Sanitary Sewer Pipe (All Depths)	LF	520.4
SS 910.1	Manhole Rehabilitation	VF	20.1
1103.1	Point Repair, 8" Dia. (up to 9 LF) (0'-10' Depth)	EA	2
1103.2	Extra Length Point Repair, 8" Dia. (0'-10' Depth)	LF	16
1103.3	Obstruction Removal (All Depths) (w/ Remote Device)	EA	4
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	4
SS 2020	Removal & Replacement of Trap. Conc. Drainage Channel	SY	22

TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.

TEST HOLE TABLE		
NUMBER	DESCRIPTION	ELEVATION
27-1	(2) 2.5" ORANGE PLASTIC CONDUIT FIBER OPTIC	645.99

SITE 14 - COMPKEYS 1051567, 1059068		
STATION	DIRECTION	DESCRIPTION
5+82	LT	REMOTE CUTTING TRIM PROTRUDING TAP
5+06	LT	REMOTE CUTTING TRIM PROTRUDING TAP
4+48	LT	REMOTE CUTTING TRIM PROTRUDING TAP
3+43	LT	REMOTE CUTTING TRIM PROTRUDING TAP



LEGEND	
ELECTRIC (OVERHEAD)	—OHE—
FENCE (CHAINLINK)	—O—O—
FENCE (WOOD)	—//—//—
FIBER OPTIC	—FO—
FLOW ARROW (EX.)	▷
FLOW ARROW (PR.)	▶
GAS MAIN (BURIED)	—UG—
GAS VALVE	⊙
PARCEL LOT LINE	---
PARCEL R.O.W. LINE	---
POINT REPAIR	▨
PAVEMENT REPLACEMENT	▨
POWER POLE	⊙
POWER POLE GUY WIRE	—
SANITARY SEWER MAIN (EX)	—SS—
EX. SANITARY SEWER MANHOLE	⊙
PR. SANITARY SEWER MANHOLE	⊙
STREET SIGN	⊙
TELEPHONE (BURIED)	—UGT—
TELEPHONE (OVERHEAD)	—OHT—
TELEPHONE MANHOLE	⊙
TELEPHONE PEDESTAL/BOX	⊙
WATER MAIN	—WL—
WATER METER	⊙
WATER VALVE/COVER	⊙

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REVISIONS			
No.	Revision	Drawn	Approved
1	ADDENDUM NO. 2	WF	JG

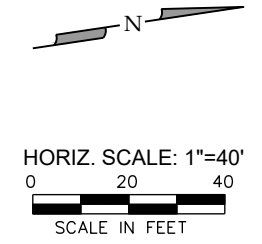
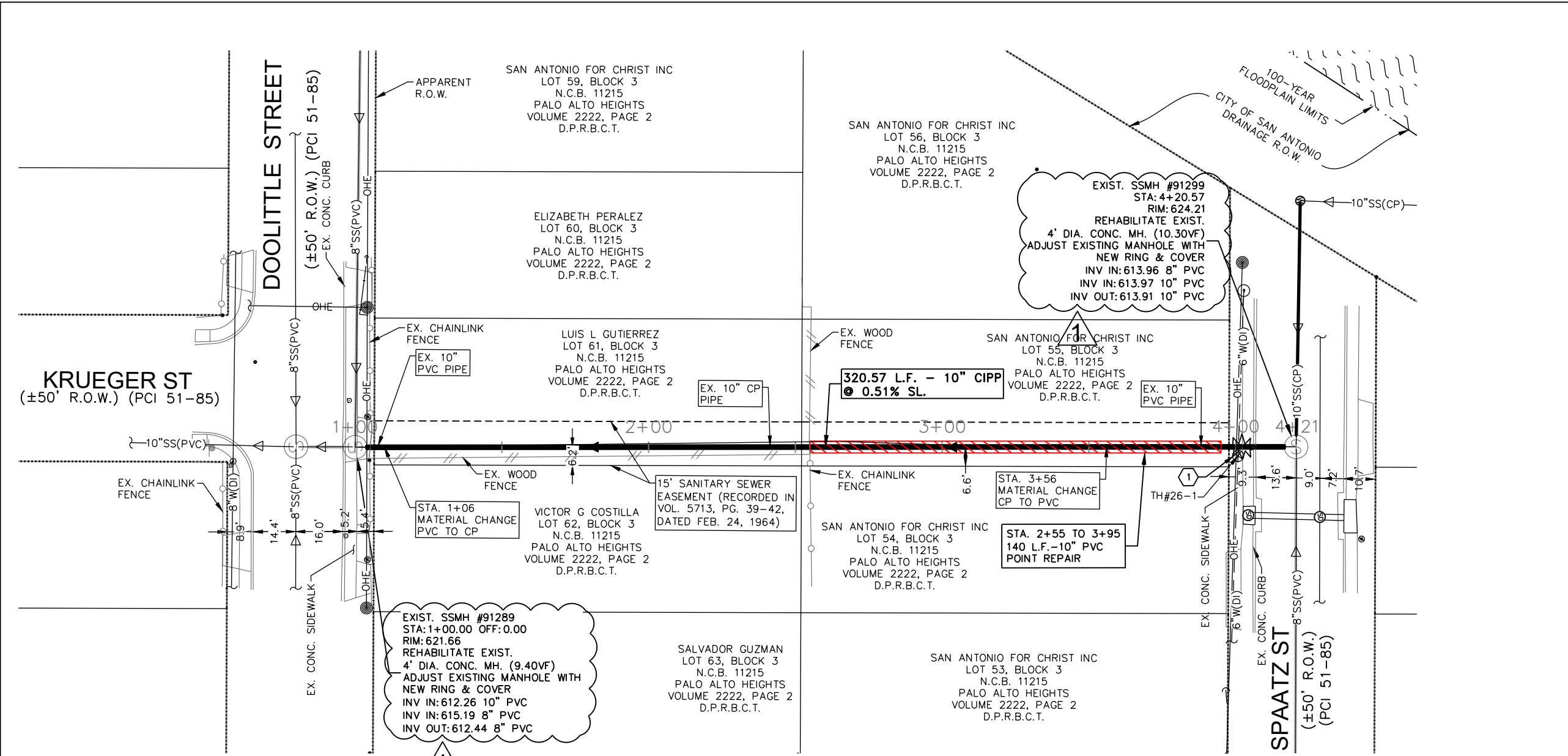
MULTIPLE SEWERSHED PACKAGE 14
 SITE 14 - COMPKEYS 1051567 & 1059068
 STA. 1+00 TO 6+20.36
 SANITARY SEWER REHABILITATION
 DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____
 APPROVED _____

MAP No. 000-000
 SECT. No. _____
 DR. JFM CK. JGM JOB No. _____

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LEGEND	
100-YR FLOODPLAIN LIMITS	
ELECTRIC (OVERHEAD)	
FENCE (CHAINLINK)	
FENCE (WOOD)	
FIBER OPTIC	
FLOW ARROW (EX.)	
FLOW ARROW (PR.)	
GAS MAIN (BURIED)	
GAS VALVE	
PARCEL LOT LINE	
PARCEL R.O.W. LINE	
POINT REPAIR	
PAVEMENT REPLACEMENT	
POWER POLE	
POWER POLE GUY WIRE	
SANITARY SEWER MAIN (EX)	
EX. SANITARY SEWER MANHOLE	
PR. SANITARY SEWER MANHOLE	
STREET SIGN	
TELEPHONE (BURIED)	
TELEPHONE (OVERHEAD)	
TELEPHONE MANHOLE	
TELEPHONE PEDESTAL/BOX	
WATER MAIN	
WATER METER	
WATER VALVE/COVER	

TEST HOLE TABLE		
NUMBER	DESCRIPTION	ELEVATION
26-1	10" BLACK WRAPPED STEEL WATER PIPE	619.39

1 PROP. 10" Ø SANITARY SEWER CIPP REHABILITATION SEGMENT (1053576)

SCALE 1" = 40' (H)

Item #	Description	Units	Est. Qty.
515.1	Topsoil (4" Depth)	CY	45.8
516.1	Bermuda Sodding	SY	416.7
530.1	Barricades, Signs, and Traffic Handling (Site 15 - Doolittle)	LS	1
550	Trench Excavation Safety Protection	LF	140
851	Adjust Existing Manholes	EA	2
864-S1	Bypass Pumping (Site 15 - Doolittle - 10")	LS	1
866	Sewer Main Television Inspection (Pre-Construction) (8"-15" Dia.)	LF	320.57
901	Conventional CIPP 10" Sanitary Sewer Pipe (All Depths)	LF	320.57
SS 910.1	Manhole Rehabilitation	VF	19.7
1103.1	Point Repair, 10" Dia. (up to 9 LF) (10'-20' Depth)	EA	1
1103.2	Extra Length Point Repair, 10" Dia. (10'-20' Depth)	LF	131
1109.2	Service Reconnection (All Depths) (w/ Remote Control Cut Device)	EA	1

KEY NOTES

- 1 WARNING WATER SEWER MAIN CROSSING

TRENCH EXCAVATION SAFETY PROTECTION: CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS 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 SYSTEMS, 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 OR 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.



Javier Garcia 11/2/20

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No.	Revision	Drawn	Approved	Date
1	ADDENDUM NO. 2	WF	JG	11/02/20

REVISIONS

MULTIPLE SEWERSHED PACKAGE 14
 SITE 15 - COMPEKY 1053576
 STA 1+00 TO 4+20.57
 SANITARY SEWER REHABILITATION

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ.

SUBMITTED _____	SHEET 60 OF 71
APPROVED _____	
MAP No. 000-000	JOB No.
SECT. No.	
DR. JFM	CK. JGM