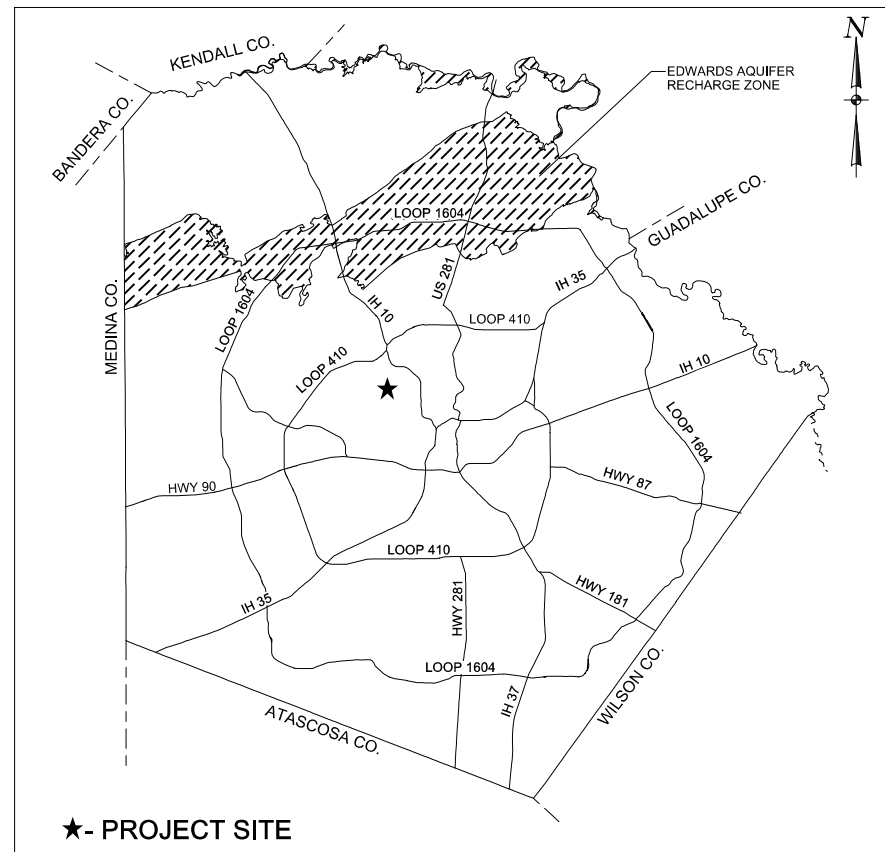


SAWS PROJECT NUMBER: 17-5559

SAN ANTONIO WATER SYSTEM

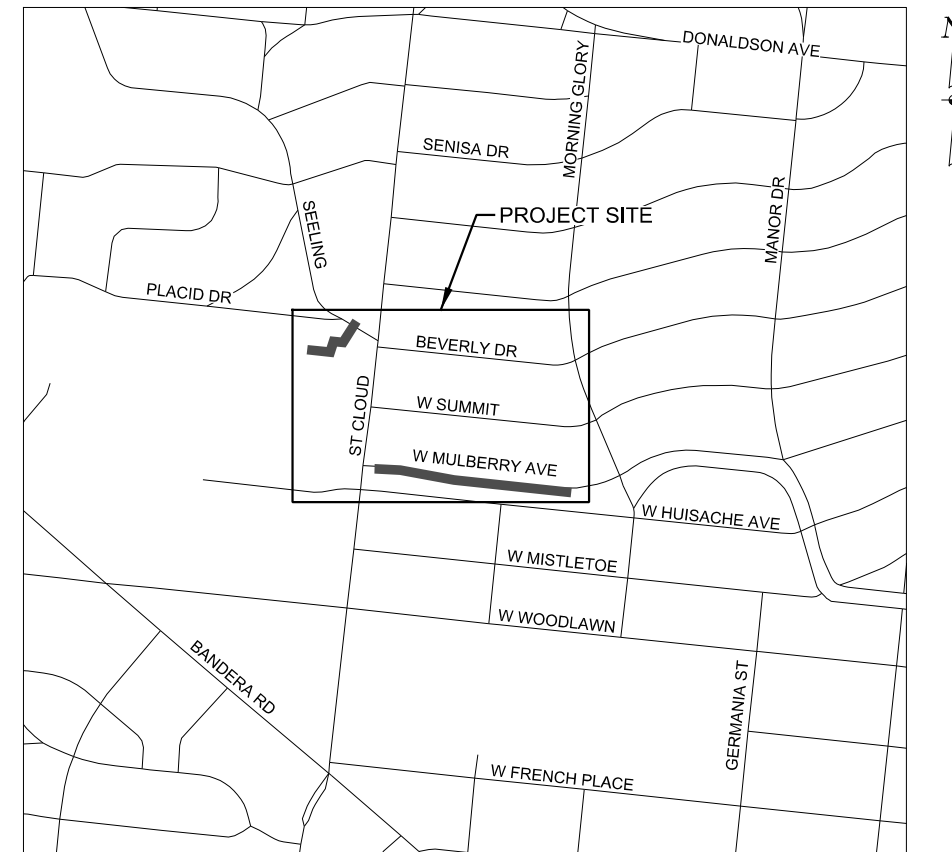
SEELING CHANNEL PHASE III SANITARY SEWER IMPROVEMENTS



★ - PROJECT SITE

CITY LOCATION MAP

N.T.S.



VICINITY MAP

N.T.S.

FEBRUARY 2020
100% SUBMITTAL

MAESTAS

8122 DATAPoint DR., STE. 840 SAN ANTONIO, TX 78229
(210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506



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INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS & SUMMARY OF QUANTITIES
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8	LINE A - W. MULBERRY AVE STA 2+58.74 TO STA. 6+50
9	LINE A - W MULBERRY AVE STA. 6+50 TO STA. 10+50
10	LINE A - W MULBERRY AVE STA. 10+50 TO STA. 14+26.70
11	LINE B - SEELING BLVD STA. 10+00 TO STA 13+13.93
12	SANITARY SEWER BYPASS FLOW DATA

SUMMARY OF QUANTITIES

1

Item No.	Description	Units	Quantity	Sanitary Sewer Plan & Profile Sheets			
				Line A -1	Line A -2	Line A -3	Line B -1
101	Mobilization	LS	1				
102	Preparation of Right-of-Way	LS	1				
103	Remove Miscellaneous Concrete	SF	311				311
550	Trench Excavation Safety Protection	LF	1314	223	400	377	314
848	15" PVC Sanitary Sewer Line, SDR 26, 160 psi, (all depths)	LF	1314	223	400	377	314
852	Sanitary Sewer Manhole (0' - 6')	EA	11	1	2	3	5
852	Extra Depth Manhole	VF	18.0	2.0	6.0	6.0	4.0
854.1	Sanitary Sewer Laterals	LF	8				8
854.2	Two-Way Sanitary Sewer Clean-out	EA	1				1
858	Concrete Encasements, Cradles, Saddles, and Collars	CY	47.1	0.5	0.9	1.1	44.6
862	Abandonment of Sewer Mains	LF	1168	223	401	386	158
864-S1	Bypass Pumping	LS	1				
866	Sewer Main Pre-Television Inspection	LF	1158	271	401	386	100
866	Sewer Main Post-Television Inspection	LF	1314	223	400	377	314



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No.	Revision	Drawn	Approved	Date
1	REMOVE TREE PROTECTION LEVEL	ETM		03/04/2020

REVISIONS

SEELING CHANNEL PHASE III
SANITARY SEWER
**INDEX OF SHEETS &
SUMMARY OF QUANTITIES**
SHEET 1 OF 1

DEVELOPER: SAN ANTONIO WATER SYSTEM
 CONT. BUDGET PROJ. # _____
 SUBMITTED _____
 APPROVED _____
 MAP No. _____ SHEET 2
 SECT. No. _____ OF 12
 DR. CAD CK. ETM JOB No. 17-5559

SAWS GENERAL CONSTRUCTION NOTES

- All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
 - Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
 - Current TXDOT "Standard Specifications for Construction of Highways, Streets and Drainage."
 - Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction."
 - Current City of San Antonio "Standard Specifications for Construction."
 - Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
- The Contractor shall obtain SAWS Standard Details from SAWS website, http://www.saws.org/business_center/specs, unless otherwise noted within design plans.
- The Contractor is to notify and make arrangements with the SAWS Construction Inspection Division at 210-233-3500, and provide notification procedures the Contractor will use to notify affected home residents and/or property owners 72 hours prior to excavation.
- Locations and depths of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor at least 1 week prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
- The Contractor shall verify the exact location of underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:

San Antonio Water System:
 SAWS Utility Locates: <http://www.saws.org/Service/Locates>
 COSA Drainage 210-207-8048
 COSA Traffic Signal Operations 210-207-7720
 Texas State Wide One Call Locator 1-800-545-6005 or 811
- The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition as a result of damages done by the project's construction.
- All work in Texas Highway Department and Bexar County right-of-way shall be done in accordance with respective construction specifications and permit.
- The Contractor shall comply with City of San Antonio's ordinances when excavating near trees. Contractor must comply with Tree Preservation Plan and Details (NSPI).
- The Contractor shall not place any waste materials in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
- Any work completed without prior written authorization which is not included in these plans and specifications will not be compensated by the San Antonio Water System.
- Holiday Work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Request should be sent to constworkreq@saws.org.

Weekend Work: Contractors are required to notify the SAWS Inspection Construction department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org.

Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.

- PRE CON SITE VIDEO: Before the start of any construction. The site must be video recorded by the contractor with one copy submitted to SAWS Inspections. A pre-site video will provide accurate documentation of the existing conditions (NSPI).

- POWER POLE BRACING: Contractors should be advised that there are existing overhead utility poles along the project corridor. Contractors should further be advised that if the distance from the outside face of a utility trench to the face of a utility pole is less than 5 feet, said utility pole is subject to bracing, based on a determination made by utility pole owner. Costs incurred by Contractor for bracing of these utility poles is subsidiary to Item 101, "Preparation of Right of Way". It is advisable for the Contractor to review the construction documents, and visit the construction site to determine potential impacts.
- CONSTRUCTION SEQUENCING: It is the Contractor's sole responsibility to schedule sequencing for removal and installation of existing and proposed SAWS utilities in conjunction with general project construction. Sequence of construction activities shall be considered in order to minimize the extent and duration of disturbances.

Sewer Section:

- The Contractor is responsible for ensuring that no sanitary sewer overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
 - Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at 210-704-SAWS (210-704-7297). Provide the address of the spill and an estimated volume or flow.
 - Attempt to eliminate the source of the SSO.
 - Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
 - Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
 - Clean the affected sewer mains and remove any debris.
 - Meet all post-SSO requirements as per the EPA Consent Decree, including line cleaning and televising the affected sewer mains (at SAWS direction) within 24 hours.

Should the Contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA.

No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.

- The Contractor shall provide bypass pumping of sewage around each segment of pipe to be replaced, in accordance with SAWS Special Specification Item No. 864-S1, "Bypass Pumping Small Diameter Sanitary Sewers" and Item No. 864-S2, "Bypass Pumping Large Diameter Sewes". Payment for such work will be made under the "Sanitary Sewers (Bypass Pumping)" (Lump Sum) as per SAWS Standard Specification.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the Contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. This work shall be subsidiary to Item 852, Sanitary Sewer Manholes.
- SMART MANHOLE COVERS: The Contractor shall notify Juan C. Ramirez at 210-233-3558 and SAWS EOC at 210-704-SAWS (210-233-7297) a minimum of 72 hours, not counting weekends or SAWS holidays, before working on the pipe or manhole, in order to have SAWS remove the Smart Cover. Any damage done to the Smart Cover will be charged to the Contractor through a change order.

GENERAL CONSTRUCTION NOTES

- All proposed sanitary sewer pipe shall be green dyed pipe - ASTM D2241-05, SDR 26, 160 psi.
- Rings and covers from manholes to be abandoned, removed or replaced shall be salvaged and backfilled in accordance with Specification Item 862.
- All fittings and appurtenances not identified by a specific pay item shall be included in the bid price for the pipeline.
- The Contractor shall protect existing sanitary sewer until abandoned.
- The Contractor shall be responsible for maintaining continuous flows and reconnecting all existing services as pipe is laid.

- All limits for work beyond what is considered incidental to normal utility construction will be addressed by the SAWS Inspector. All communication from SAWS will be coordinated through the SAWS Inspector. SAWS Inspector will also determine if additional compensation is warranted if limits exceed incidentals.
- Contractor shall protect and/or repair (if damaged) any existing water/sewer service laterals and irrigation shown or not shown (NSPI).
- Contractor shall maintain vehicular access through all driveways for emergency access.
- All property lines shown are approximate.
- Contractor to protect existing signs that are not specifically called out on the plans as remove and replace (NSPI). Provide temporary signs and salvage and replace signs that interfere with construction of sewer mains and laterals. (NSPI).
- Existing drainage paths shall not be blocked and shall remain in operation during construction.
- The Contractor shall provide erosion control measures to prevent pollution of storm waters originating up gradient, and prevent downstream pollution by contaminated stormwater runoff from the site.
- Contractor must field verify all sanitary sewer depths, distances, pipe sizes, grades, and laterals before start of construction.
- Contractor shall coordinate with SAWS and property owners to access to sites located in easements and private properties.
- Contractor shall coordinate with SAWS Inspector and other contractors who may be working on site for sequencing and scheduling of work.
- Contractor shall pre-televis all sanitary sewers prior to Construction.



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No.	Revision	Drawn	Approved	Date

REVISIONS

SEELING CHANNEL PHASE III
 SANITARY SEWER
**SEWER
 GENERAL NOTES
 SHEET 1 OF 3**

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

SUBMITTED _____
 APPROVED _____

MAP No. _____ SHEET 3
 SECT. No. _____ OF 12
 DR. CAD CK. ETM JOB No. 17-5559

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GENERAL CONSTRUCTION NOTES

35. Service Lateral Connections:

- A. The exact location and elevation of the service laterals and manholes shall be field verified by the Contractor.
- B. A minimum of 3 feet of cover is to be maintained over the sanitary sewer laterals at subgrade.
- C. All sewer lateral services for future connections as identified on plan and profiles shall be capped and sealed.
- D. The Contractor shall be responsible for disconnecting each existing service line from the existing main and re-connecting the service to the new service main. The Contractor shall be responsible for maintaining continuous service.
- E. Laterals shall be constructed to serve all existing houses and vacant lots.

36. Contractor is required to abide by all requirements of easement documents and landowner requirements throughout the project duration.

SERVICE LATERALS

- 37. All sanitary sewer laterals shall be provided with a two-way clean out to be placed in the field as directed by SAWS inspector or engineer.
- 38. Cement Stabilized Sand Bedding shall be subsidiary to laterals.
- 39. All sanitary sewer pipe and laterals shall be ASTM D-2241 pipe with a minimum pressure rating of 160 PSI.
- 40. Control noise level during night hours in accordance with City of San Antonio noise ordinances. Construction activities and equipment that produce noise levels exceeding 60 dBA between the hours of 5:00 P.M. and 8:00 A.M. Monday through Saturday and all day Sunday (as measured at the nearest property line of an adjacent residential area) shall be shielded by an acoustical enclosure. Contractor will not receive extra compensation should night work be required.
- 41. Contractor shall contact COSA regarding any sidewalk closures.
- 42. It is the Contractor's responsibility and expense to coordinate and acquire his own staging area, including parking area to accommodate construction personnel vehicle parking. Signed agreement with property owner shall be submitted to SAWS prior to mobilizing.

TESTING

- 43. After construction, sanitary sewers shall be televised as per Item 866 in the San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction prior to acceptance by SAWS. Any abnormalities, such as broken pipe or misaligned joints, must be replaced by the Contractor at his expense.
- 44. All sewer mains must pass air testing as per Item No. 849 in the San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction prior to acceptance by the SAWS.
- 45. A deflection test shall be performed on all flexible pipes. The test shall be conducted after the final backfill has been in place at least 30 days.

MANHOLES

- 46. All manholes remaining in service shall be filled with concrete (Class "A") to adjust invert to match the newly constructed sewer line as shown on the plans (No Separate Pay Item).

INGRESS AND EGRESS

- 47. The Contractor shall provide access for the delivery of mail by the U.S. Postal Service, garbage collection and all other normal delivery and pickup activities.
- 48. The Contractor shall provide access to all residents, businesses, landowners and tenants at all times throughout the project. Should access be limited for any reason, Contractor shall provide notification a minimum of 48 hours in advance by appropriate and effective means as required.

EXCAVATION AND BACKFILL

- 49. There shall be no blasting allowed on this project.
- 50. Groundwater and surface water management are the sole responsibility of the Contractor.
- 51. Contractor shall notify the Engineer and each property owner 48 hours in advance of coming onto owner's property to begin construction and repeat as required to keep property owners informed and aware of ongoing activity as required and requested.
- 52. 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 the anticipated installation site(s) within the project work area in order to implement Contractor's trench excavation safety protection systems and/or procedures for the project described in the contract documents, the Contractor's implementation of these systems, programs and/or procedures shall provide for adequate trench excavation safety protection that comply with as a minimum, OSHA standards for trench excavation, 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 & activities of individuals working in and around trench excavation.
- 53. All excavation is unclassified. No extra payments will be made to the Contractor on account of rock, mud, muck, gravel, water, or other stable or unstable materials or conditions encountered. Contractor shall make subsurface investigations as he deems are necessary prior to bidding the work to account for these situations and bid accordingly.
- 54. Contractor shall backfill all open trenches or cover all open trenches with steel plates at the end of each work day. Steel plate usage shall be in accordance with COSA Utility Excavation Criteria Manual Steel plate guidelines requirements.
- 55. The Contractor shall limit his work activities to existing rights-of-way and SAWS easements. No provisions have been made for work activities or storage of materials and/or equipment on private property. Prior to utilizing other property on the project for any purpose, the Contractor shall obtain from current landowner and tenant (if applicable) written approval to all activities that will be involved on said properties and provide to SAWS. Contractor shall arrange for a disposal site outside the project right-of-way.
- 56. Unless noted otherwise, Contractor shall be responsible for repair of any damage to all property including existing utilities, landscaping, fencing and roads appurtenances (signs, curbs, drains, culverts, pavement, concrete aprons, traffic signals, sidewalks, driveways, etc.) which is damaged in the performance of this contract by the Contractor, his agents, employees, subcontractors, or their employees. Damaged property and utilities shall be restored to their original condition or better at the Contractor's expense.
- 57. Contractor shall dispose of all excess material and waste from this project at his expenses.

UTILITIES

- 1. Contractor shall exercise extreme caution when working near, adjacent, or under existing utilities. Any damage to existing utility facilities resulting from Contractor's activities or construction methods will be repaired, replaced, restored or fully reimbursed at the Contractor's expense.
- 2. Contractor shall provide proper shoring or other suitable support for all utilities crossed or located adjacent to the construction areas. Contractor shall coordinate with the utility company representatives as required to provide support, marking and protective measures within the construction work zones.
- 3. Due to Federal Regulations Title 49, part 192.181, CPS must maintain access to gas valves at all times. The Contractor must protect and work around any gas valves that are in the project area.

TREE PROTECTION

- 1. If trees are damaged by construction operations, Contractor shall repair damaged trees promptly to prevent further deterioration. All broken branches shall be cut cleanly. For oak species, wounds must be painted with an acceptable wound dressing within 30 minutes in order to prevent infection by oak wilt spores.
- 2. Contractor shall protect all existing landscape and trees from changes to soil chemistry and ph factor by preventing disposal in the project area of any chemical agents or ph altering materials, such as lime based materials in cement, plaster, or similar materials.
- 3. All trees to be preserved as part of the project shall be protected against injury or damage, whether by cutting, soil compaction, breaking, or skinning of roots, trunks, or branches during construction operation. Contractor shall at his expense repair and replace trees damaged by construction operations or lack of adequate protection during construction. Trees damaged by construction operations as determined by the owner, shall be replaced with trees of similar size and species at the Contractor's expense.
- 4. All trees, brush and debris approved for removal shall be disposed of by the Contractor at an approved off site location. No burning will be allowed.
- 5. Contractor shall refer to the project's tree preservation plans for location of trees to be preserved.
- 6. Contractor shall comply with all provisions and requirements of the project's tree preservation plan.

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(210) 366-1988 T&PE No.: F-333 TBPLS No.: 10194506

No.	Revision	Drawn	Approved	Date

REVISIONS

**SEELING CHANNEL PHASE III
SANITARY SEWER
SEWER
GENERAL NOTES
SHEET 2 OF 3**

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

SUBMITTED
APPROVED

MAP No.	SHEET
SECT. No.	4
DR. CAD	CK. ETM
JOB No.	17-5559
	OF 12



GENERAL CONSTRUCTION NOTES

SWPPP

1. Contractor shall provide the owner with an action plan in the event of a fuel spill or other accidental spill, and update same as required.
2. Contractor shall take appropriate measures to minimize materials transported or tracked by construction vehicles onto any roadway.
3. The Contractor shall use and maintain erosion control measures (ECM)/ best management practices (BMP) on this project as required. BMP's include silt fencing, rock berms, construction entrances and exits etc.
4. The Contractor shall ensure that sedimentation and erosion that occur due to work activities are minimized and contained within the designated project work areas. Erosion and sedimentation occurring outside the work area will be resolved by and coordinated by Contractor with impacted landowners as required.
5. Contractor shall inspect BMP/ECM at least one time every 7 days and after every 0.5 inch or greater of rainfall in a 24 hour period and repair and adjust as required. Deficiencies in BMP/ECM shall be identified by the Contractor and the Inspector and shall be addressed by the Contractor as required.
6. Contractor shall provide a signed erosion control plan by a licensed engineer in the state of Texas as a material submittal prior to commencing work. Cost incurred for preparation of SWPPP plan shall be subsidiary and will receive no direct pay. Contractor shall review SWPPP Narrative included in these Plans for suggested erosion control measures. Erosion control plan shall be designed to prevent pollution of storm water originating up gradient and shall prevent downstream pollution by contaminated storm water runoff from the site. This work shall be performed in accordance with local, state, and national

SITE RESTORATION

1. Contractor shall restore all property to acceptable conditions as determined by the Inspector with no spoil, fill or garbage left onsite. All spoil, excess material and garbage shall be removed from the project site at the Contractor's expense.
2. The Contractor shall be responsible for restoring to its original, or better, condition from damages done to existing fences, curbs, or concrete driveways (No Separate Pay Item).

PLAN OF RECORD

1. Contractor shall furnish the Engineer with a complete "Plan-of-Record" redline set of plans prior to submitting "final" pay request.
2. Contractor is required to complete plan of record drawings for completed work as work progresses and shall be required to demonstrate progress to the inspector and engineer prior to payment of testing related bid items on associated segments of the project. Said drawings shall indicate the actual measurements and locations of the installed pipeline, fittings, valves, and appurtenances with offset distances to easement lines and other features.

TRAFFIC CONTROL

1. A Traffic Control Plan (TCP) shall be completed for every project. The TCP shall be submitted to both SAWS and COSA ROW Department prior to commencing work. If the Contractor chooses to use TXDOT or COSA standards, then providing a TCP signed by a Texas licensed PE is not required. Should the Contractor choose to deviate from available TCP standards, then the Contractor must submit a detailed TCP signed and sealed by a Texas licensed PE at no additional cost to SAWS.
2. Traffic control and signing shall meet the TxDOT Traffic Control and Barricade Standards and the latest version of the Texas Manual of Uniform Traffic Control Devices (MUTCD) unless shown otherwise or approved by SAWS.
3. Contractor must backfill all-weather material and/ or steel plate open trenches to allow for full access traffic at end of each work day. Flowable fill may be used as an option for secondary backfill (No Separate Pay Item) to ensure complete local traffic access at end of each work day. COSA R.O.W. will allow full road closure but only limited to area where construction is taking place. Areas outside direct construction zone must be open to local traffic.

4. It is the Contractor's responsibility to see that all signs and barricades are properly installed and maintained. The City's Construction Inspector and Traffic Engineering representative will only be responsible to inspect barricades and signs. If, in the opinion of the Traffic Engineering representative and the construction Inspector, the barricades and signs do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the City's representative shall have the option to stop operations until such time as the conditions are corrected. If the need arises, additional barricades and directional devices may be ordered by the Traffic Engineering representative at the Contractor's expense.
5. Two way traffic must be maintained at all times while working on roads. If two-way traffic cannot be maintained, flagmen or certified peace officers shall be required to assist in traffic control (no separate pay item).
6. At no time shall any two paralleling streets or any two intersections be closed.

MISCELLANEOUS

1. Concrete encasement, where required, shall be placed the full width of the trench to a plane six (6) inches above the top of the pipe. No direct payment will be made for concrete encasement extending further than six (6) inches in a horizontal or vertical plane from the pipe, regardless of the quantity placed.
2. All final payment will be withheld until all compaction, density and mandrel testing have been completed, passed and approved.

CONSTRUCTION STAKING

1. Contractor shall be responsible for layout and setting his own construction stakes, markers, etc.

CPS ENERGY NOTES

1. Consider overhead line clearances and locations where large equipment may be used.
2. Consider location of existing overhead lines for construction and design purposes. Sleeving of overhead primary lines will be a cost to the Contractor. The shielding/sleeving of lines is for reference, not for protection from electrical shock.
3. De-energizing of primary lines or transmission lines for construction purposes will be a cost to the Contractor. De-energizing may not be possible in all instances.
4. Consider possible need for temporary relocation of poles during construction. Associated costs will be the responsibility of the party making the request.
5. Consider locations of both existing guy wires and proposed new guy wires. These could cause unforeseen construction interference. Any temporary bracing needed will be a cost to the Contractor.
6. Width, depth, and location of trenching or excavation must be considered around utility poles. This could necessitate bracing/shoring during construction at a cost to the Contractor.



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REVISIONS	
	SEELING CHANNEL PHASE III SANITARY SEWER SEWER GENERAL NOTES SHEET 3 OF 3
DEVELOPER:	SAN ANTONIO WATER SYSTEM
CONT.	BUDGET PROJ. #
SUBMITTED	
APPROVED	
MAP No.	
SECT. No.	
DR. CAD	CK. ETM
JOB No.	17-5559

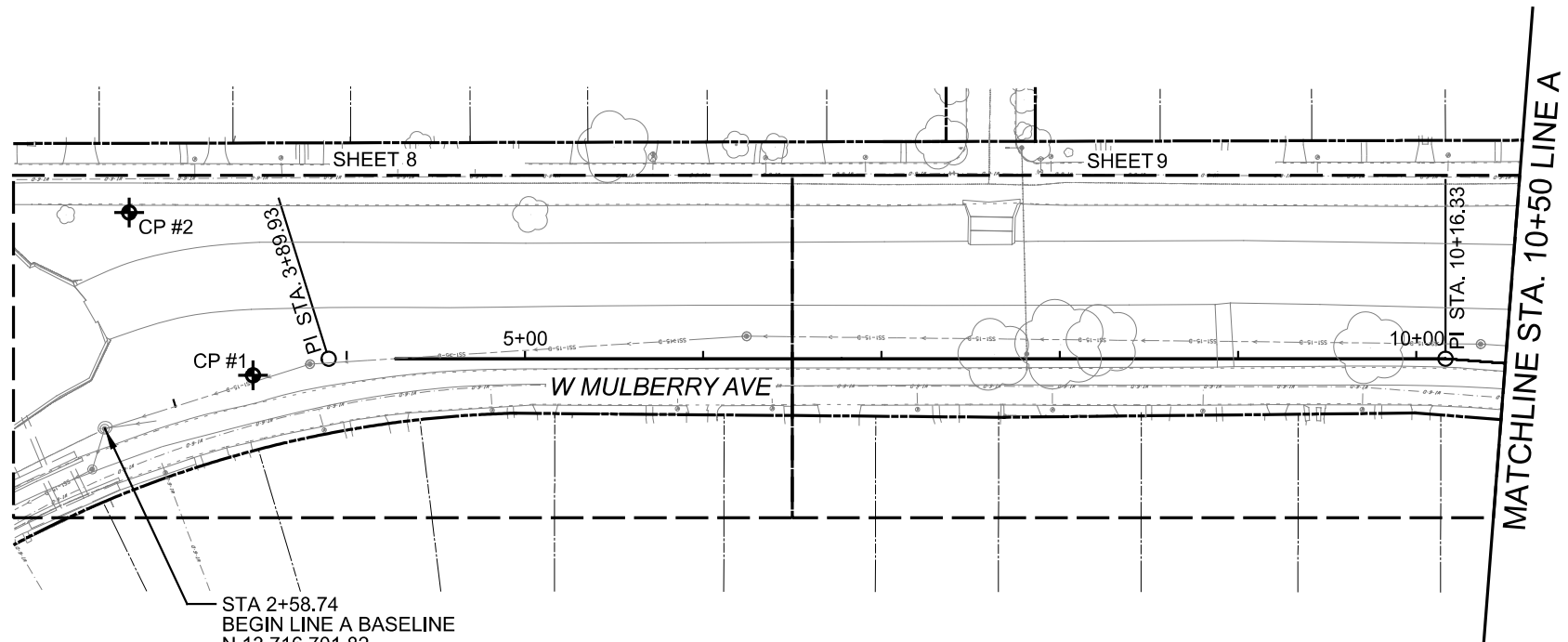
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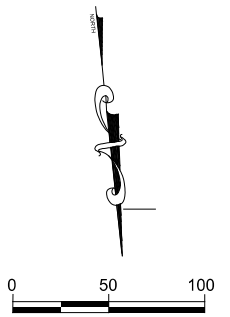
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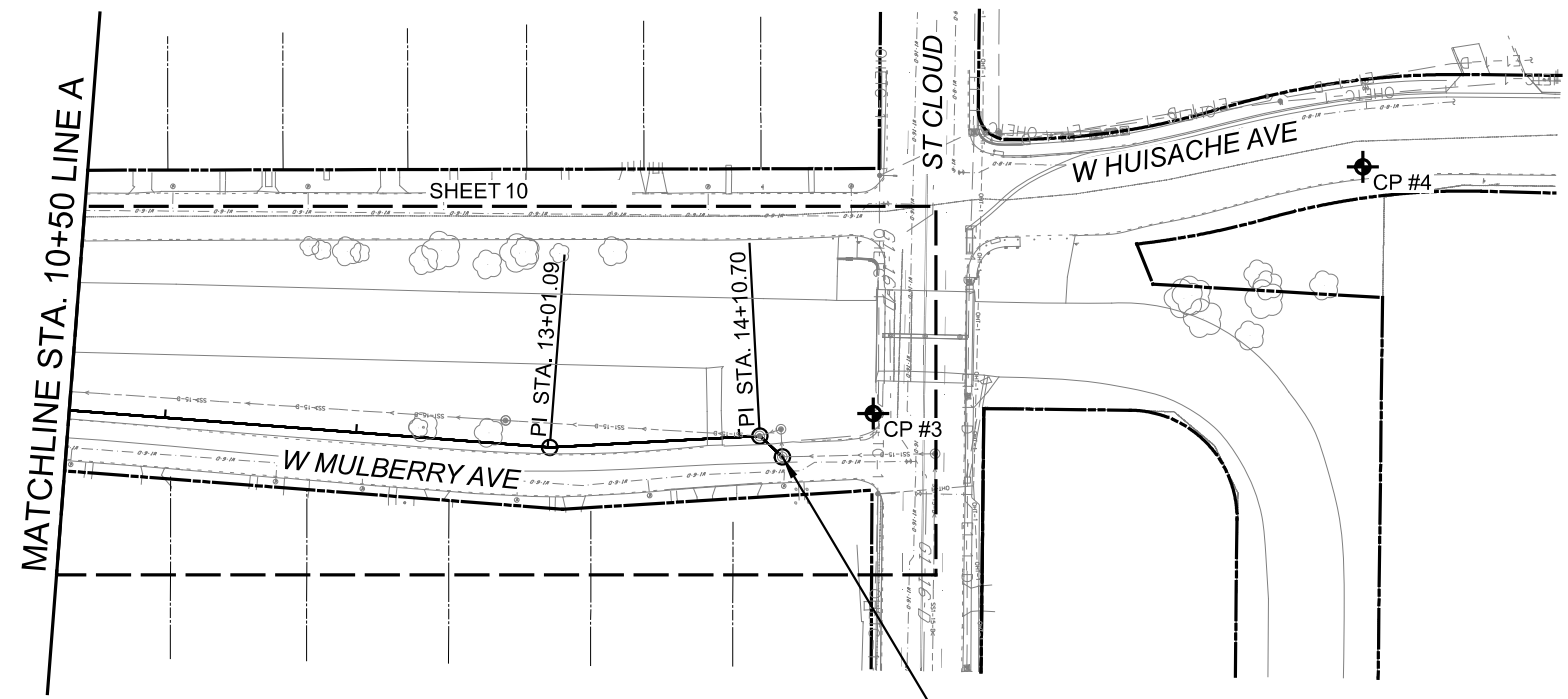
STA 2+58.74
 BEGIN LINE A BASELINE
 N 13,716,701.82
 E 2,113,258.09

POINT	NORTHING	EASTING	ELEV	TYPE	DESCRIPTION
CP #1	13716680.83	2113172.21	692.80	CP	MAG NAIL
CP #2	13716582.72	2113231.63	693.99	CP	MAG NAIL
CP #3	13716794.49	2112056.70	698.14	CP	MAG NAIL
CP #4	13716693.62	2111789.45	705.48	CP	MAG NAIL



LEGEND

BENCHMARK/ CONTROL POINT	
SHEET BORDER	
EXIST APPARENT RIGHT OF WAY	
EXIST PROPERTY LINE	



STA 14+26.70
 END LINE A BASELINE
 N 13,716,811.93
 E 2,112,106.21

LINE A - W MULBERRY AVE BASELINE

Beginning chain MULBERRY_SS_BL3 description

Point 300	N	13,716,701.82	E	2,113,258.09	Sta	2+58.74
Course from 300 to 301 S 78° 39' 28.34" W Dist 120.76						
Point 301	N	13,716,678.07	E	2,113,139.70	Sta	3+79.50
Course from 301 to 302 N 87° 35' 54.31" W Dist 48.10						
Point 302	N	13,716,680.09	E	2,113,091.64	Sta	4+27.60
Course from 302 to 303 N 83° 55' 36.54" W Dist 588.74						
Point 303	N	13,716,742.37	E	2,112,506.21	Sta	10+16.33
Course from 303 to 304 N 79° 30' 43.09" W Dist 284.76						
Point 304	N	13,716,794.21	E	2,112,226.21	Sta	13+01.09
Course from 304 to 305 N 87° 01' 44.52" W Dist 109.61						
Point 305	N	13,716,799.89	E	2,112,116.74	Sta	14+10.70
Course from 305 to 306 N 41° 10' 42.50" W Dist 16.00						
Point 306	N	13,716,811.93	E	2,112,106.21	Sta	14+26.70

Ending chain MULBERRY_SS_BL3 description



100% SUBMITTAL

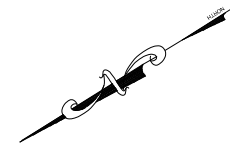
MAESTAS	
8122 DATAPoint DR., STE. 840 SAN ANTONIO, TX 78229 (210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506	
No.	Revision
Drawn	Approved
Date	
REVISIONS	
	SEELING CHANNEL PHASE III SANITARY SEWER
LINE A - W MULBERRY AVE PROJECT LAYOUT	
DEVELOPER:	SAN ANTONIO WATER SYSTEM
CONT.	BUDGET PROJ. #
SUBMITTED	
APPROVED	
MAP No.	SHEET
SECT. No.	6
DR. CAD	CK. ETM
JOB No.	17-5559
	OF 12

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POINT	NORTHING	EASTING	ELEV	TYPE	DESCRIPTION
CP #5	13717542.43	2111919.55	789.31	CP	MAG NAIL
CP #6	13717282.66	2112122.58	701.12	CP	MAG NAIL



SCALE: 1" = 100'

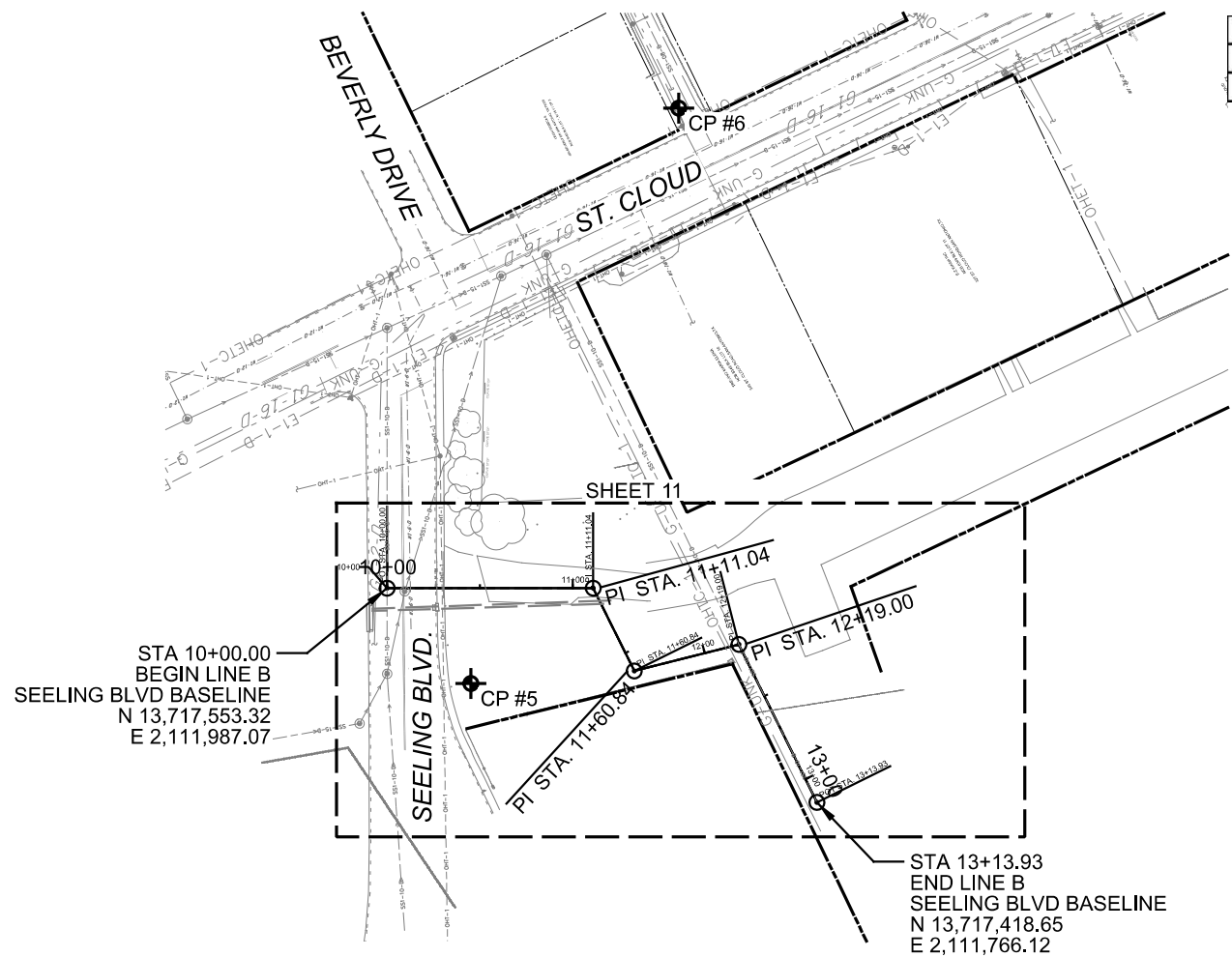
LEGEND

BENCHMARK/ CONTROL POINT #X

SHEET BORDER

EXIST APPARENT RIGHT OF WAY

EXIST PROPERTY LINE



LINE B - SEELING BLVD BASELINE

Beginning chain SEELING_SS_BL description

Point SLNGSS1	N	13,717,553.32	E	2,111,987.07	Sta	10+00.00
Course from SLNGSS1 to SLNGSS2 S 32° 08' 19.76" W Dist 111.04						
Point SLNGSS2	N	13,717,459.29	E	2,111,928.00	Sta	11+11.04
Course from SLNGSS2 to SLNGSS3 N 84° 13' 48.15" W Dist 49.80						
Point SLNGSS3	N	13,717,464.30	E	2,111,878.45	Sta	11+60.84
Course from SLNGSS3 to SLNGSS4 S 17° 55' 04.35" W Dist 58.16						
Point SLNGSS4	N	13,717,408.96	E	2,111,860.56	Sta	12+19.00
Course from SLNGSS4 to SLNGSS5 N 84° 08' 25.43" W Dist 94.93						
Point SLNGSS5	N	13,717,418.65	E	2,111,766.12	Sta	13+13.93

Ending chain SEELING_SS_BL description


100% SUBMITTAL

MAESTAS

8122 DATAPOINT DR., STE. 840 SAN ANTONIO, TX 78229
(210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506

No.	Revision	Drawn	Approved	Date

REVISIONS

 SEELING CHANNEL PHASE III
SANITARY SEWER
**LINE B - SEELING BLVD
PROJECT LAYOUT**

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

SUBMITTED

APPROVED

MAP No.

SECT. No.

DR. CAD CK. ETM JOB No. 17-5559

SHEET
7
OF 12

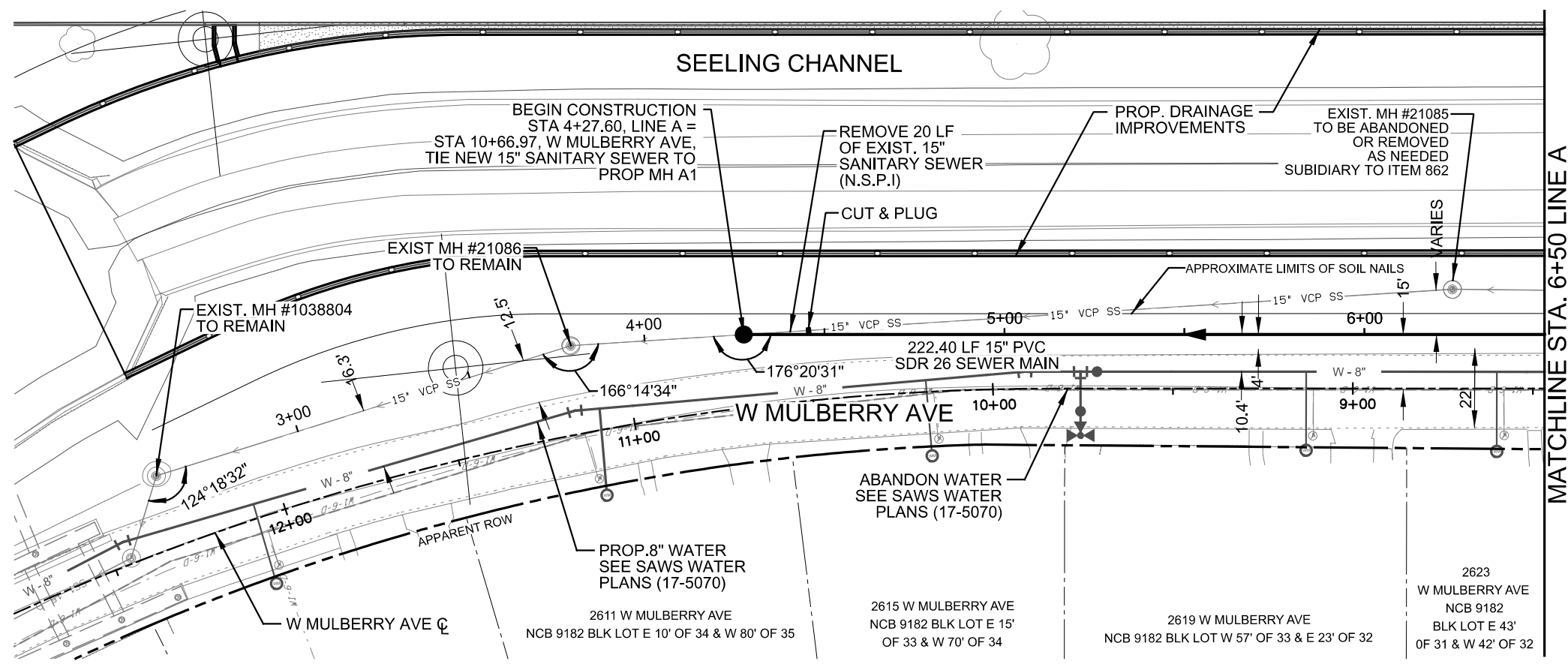


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TRENCH EXCAVATION SAFETY PROTECTION

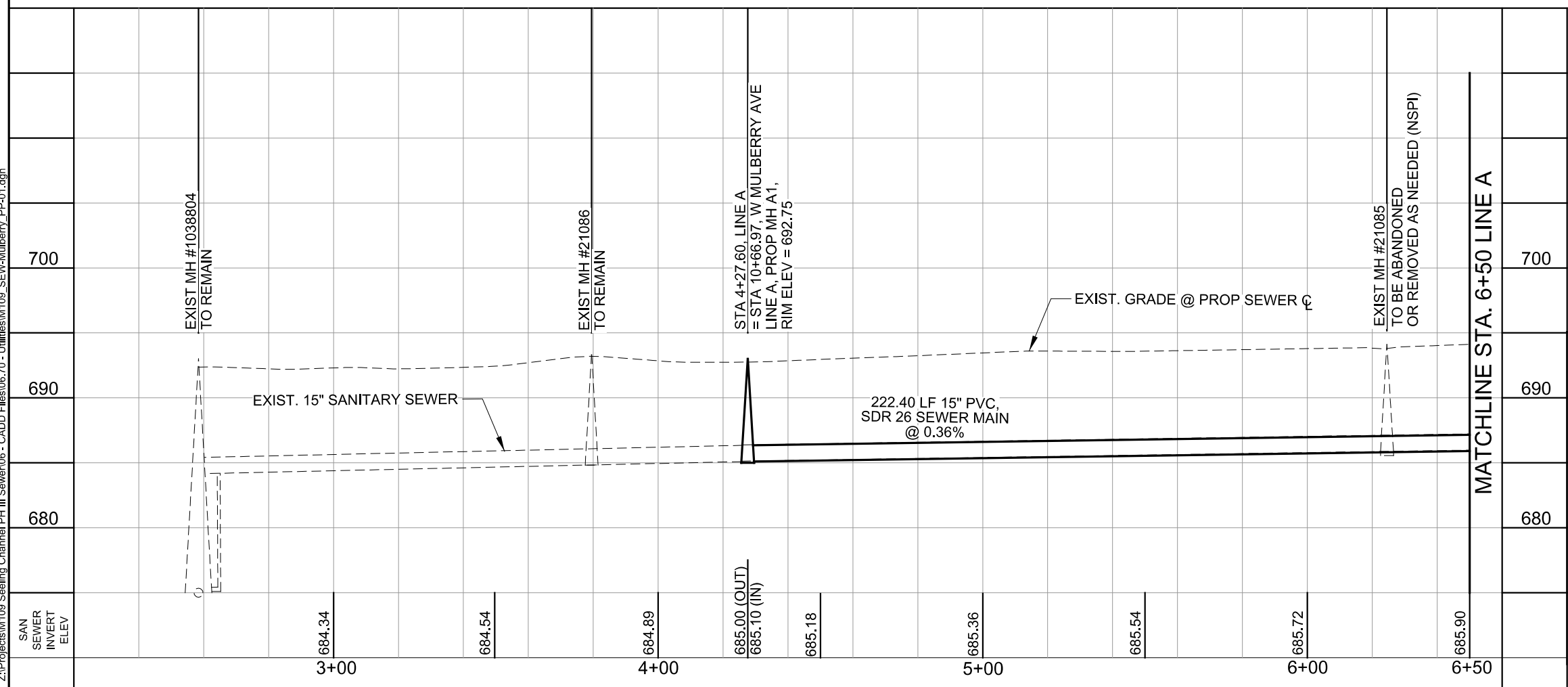
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

SCALE:
HORIZ: 1" = 40'
VERT: 1" = 10'

Item No.	DESCRIPTION	UNIT	EST	FINAL
550	Trench Excavation Safety Protection	LF	223	
848	15" PVC Sanitary Sewer Line, SDR 26, 160 psi, (all depths)	LF	223	
852	Sanitary Sewer Manhole (0' - 6')	EA	1	
852	Extra Depth Manhole	VF	2	
858	Concrete Encasements, Cradles, Saddles, and Collars	CY	0.5	
862	Abandonment of Sewer Mains	LF	223	
866	Sewer Main Pre-Television Inspection	LF	271	
866	Sewer Main Post-Television Inspection	LF	223	



2/7/2020



100% SUBMITTAL

LEGEND

- PROP. SAN SEWER LATERAL WITH TWO WAY CLEAN OUT: 8" line with cleanout symbol
- EXIST. WATER MAIN: 6" C.I.W. line with 'W' symbol
- EXIST. GAS MAIN: 2" G line with 'G' symbol
- SANITARY SEWER: 8" SA line with 'S' symbol
- STORM SEWER: 24" ST line with 'ST' symbol
- UTILITY POLE LINE: line with 'U' symbol
- OH TELE CABLE: OHT line with 'T' symbol
- OH ELECTRIC/TELE: OET line with 'E' symbol
- TELEPHONE PED: line with 'P' symbol
- EXIST RIGHT OF WAY: dashed line
- PROPERTY LINES: solid line
- EXIST. TOPO: dashed line with elevation
- TREES: cloud symbol
- DRIVEWAY & SIDEWALK REPAIR: hatched area
- CONC ENCASUREMENT: cross-hatched area
- TREE PROTECTION FENCE LEVEL II: line with 'X' symbol

- NOTES**
- FOR LOCATION OF UNDERGROUND ELECTRIC AND GAS FACILITIES, TELEPHONE CABLES, AND SPECTRUM CABLE TV CALL TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-545-6005, 48 HOURS PRIOR BEFORE BEGINNING ANY EXCAVATION.
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MAESTAS
8122 DATAPoint DR., STE. 840 SAN ANTONIO, TX 78229
(210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506

No.	Revision	Drawn	Approved	Date

REVISIONS

SEELING CHANNEL PHASE III
SANITARY SEWER
LINE A - W MULBERRY AVE
2+58.74 TO STA. 6+50
SHEET 1 OF 3

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

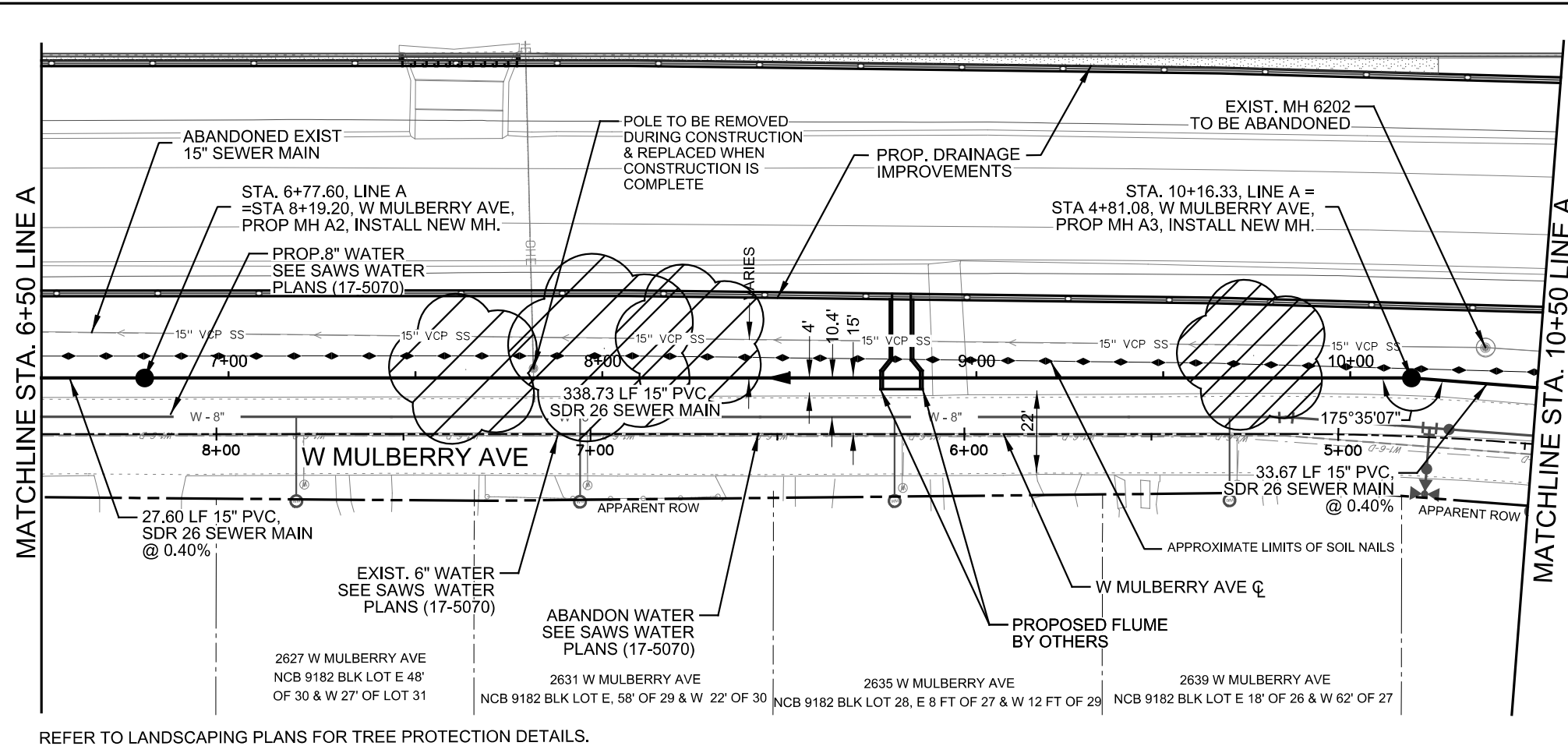
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APPROVED: _____

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SECT. No. _____ OF 12
DR. CAD CK. ETM JOB No. 17-5559

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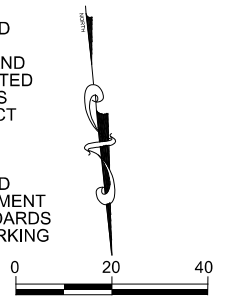
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REFER TO LANDSCAPING PLANS FOR TREE PROTECTION DETAILS.

TRENCH EXCAVATION SAFETY PROTECTION

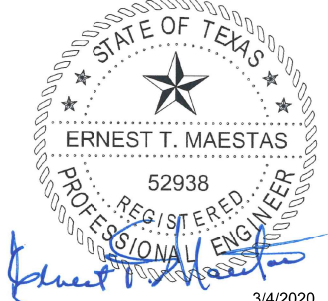
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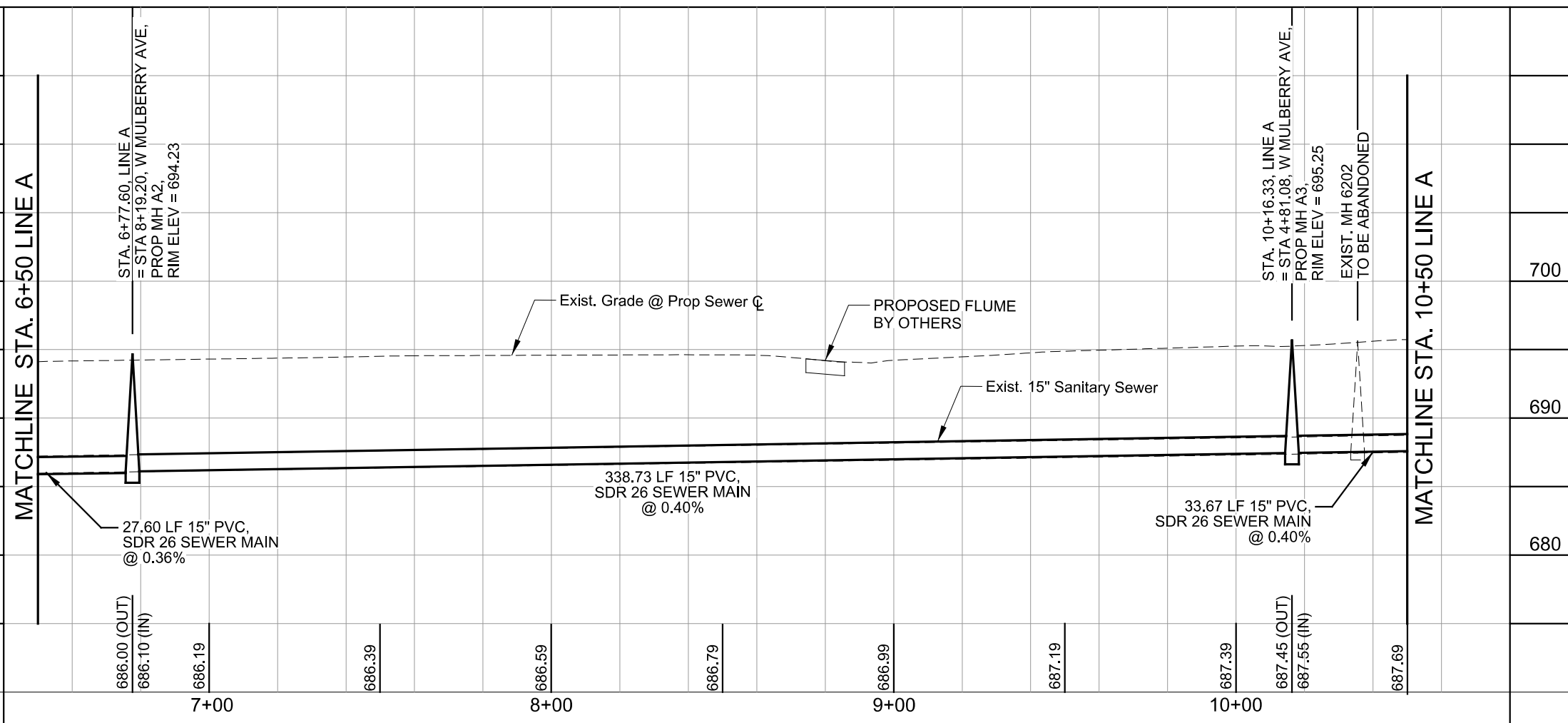
SCALE:
HORZ: 1" = 40'
VERT: 1" = 10'

1

Item No.	DESCRIPTION	UNIT	EST	FINAL
550	Trench Excavation Safety Protection	LF	400	
848	15" PVC Sanitary Sewer Line, SDR 26, 160 psi, (all depths)	LF	400	
852	Sanitary Sewer Manhole (0' - 6')	EA	2	
852	Extra Depth Manhole	VF	6	
858	Concrete Encasements, Cradles, Saddles, and Collars	CY	1	
862	Abandonment of Sewer Mains	LF	401	
866	Sewer Main Pre-Television Inspection	LF	401	
866	Sewer Main Post-Television Inspection	LF	400	



3/4/2020



100% SUBMITTAL

LEGEND

PROP. SAN SEWER	8"
LATERAL WITH TWO WAY CLEAN OUT	8"
EXIST. WATER MAIN	6" C.I.W.
GAS MAIN	2" G
SANITARY SEWER	8" SA
STORM SEWER	24" ST
UTILITY POLE LINE	●
OH TELE CABLE	—OHT—
OH ELECTRIC/TELE	—OET—
TELEPHONE PED	■
EXIST RIGHT OF WAY	-----
PROPERTY LINES	-----
EXIST. TOPO	-----
TREES	☁
DRIVEWAY & SIDEWALK REPAIR	▨
CONC ENCASEMENT	▩
TREE PROTECTION FENCE LEVEL II	⌈

NOTES

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MAESTAS

8122 DATAPoint DR., STE. 840 SAN ANTONIO, TX 78229
(210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506

No.	Revision	Drawn	Approved	Date
1	REMOVE LEVEL II TREE PROTECTION	ETM		03/04/2020

REVISIONS

SEELING CHANNEL PHASE III
SANITARY SEWER
LINE A - W MULBERRY AVE
STA. 6+50 TO STA. 10+50
SHEET 2 OF 3

DEVELOPER:	SAN ANTONIO WATER SYSTEM
CONT.	BUDGET PROJ. #
SUBMITTED	
APPROVED	
MAP No.	
SECT. No.	
DR. CAD	CK. ETM
JOB No.	17-5559
SHEET	9
OF 12	

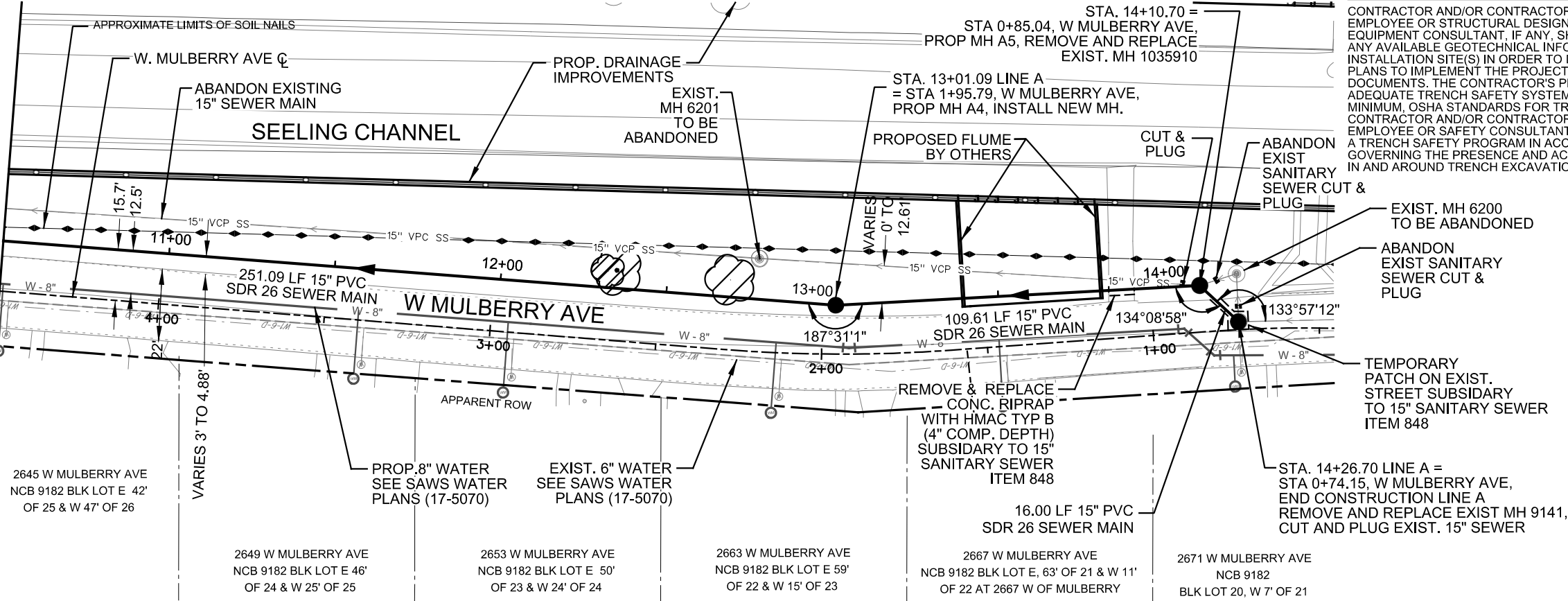
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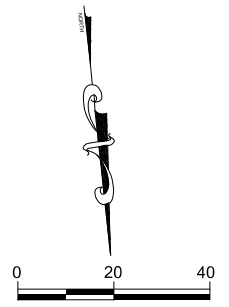
MATCHLINE STA. 10+50 LINE A

MATCHLINE STA. 10+50 LINE A



TRENCH EXCAVATION SAFETY PROTECTION

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Item No.	DESCRIPTION	UNIT	EST	FINAL
550	Trench Excavation Safety Protection	LF	377	
848	15" PVC Sanitary Sewer Line, SDR 26, 160 psi, (all depths)	LF	377	
852	Sanitary Sewer Manhole (0' - 6')	EA	3	
852	Extra Depth Manhole	VF	6	
858	Concrete Encasements, Cradles, Saddles, and Collars	CY	1	
862	Abandonment of Sewer Mains	LF	386	
866	Sewer Main Pre-Television Inspection	LF	386	
866	Sewer Main Post-Television Inspection	LF	377	



3/4/2020

REFER TO LANDSCAPING PLANS FOR TREE PROTECTION DETAILS.

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MAESTAS
 8122 DATAPoint DR., STE. 840 SAN ANTONIO, TX 78229
 (210) 366-1988 TBP No.: F-333 TPLS No.: 10194506

100% SUBMITTAL

LEGEND

PROP. SAN SEWER LATERAL WITH TWO WAY CLEAN OUT	
EXIST. WATER MAIN	
GAS MAIN	
SANITARY SEWER	
STORM SEWER	
UTILITY POLE LINE	
OH TELE CABLE	
OH ELECTRIC/TELE	
TELEPHONE PED	
EXIST RIGHT OF WAY	
PROPERTY LINES	
EXIST. TOPO	
TREES	
DRIVEWAY & SIDEWALK REPAIR	
CONC ENCASEMENT	
TREE PROTECTION FENCE LEVEL II	

REVISIONS

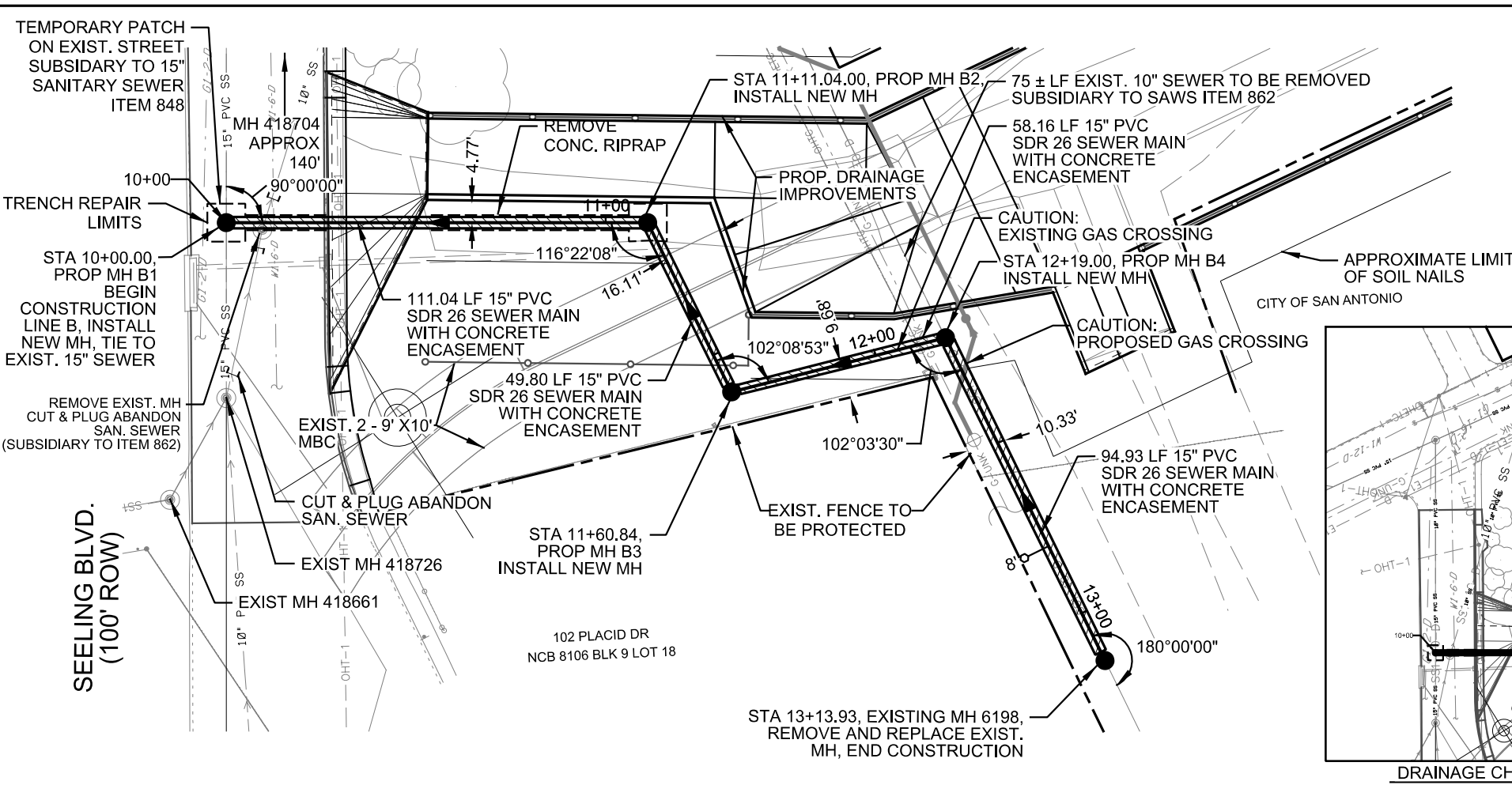
No.	Revision	Drawn	Approved	Date
1	REMOVE LEVEL II TREE PROTECTION	ETM		03/04/2020

SEELING CHANNEL PHASE III SANITARY SEWER LINE A - W MULBERRY AVE STA. 10+50 TO 14+26.70 SHEET 3 OF 3

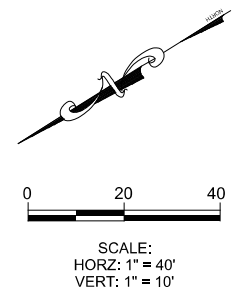
DEVELOPER:	SAN ANTONIO WATER SYSTEM
CONT.	BUDGET PROJ. #
SUBMITTED	
APPROVED	
MAP No.	
SECT. No.	
DR. CAD	CK. ETM
JOB No.	17-5559
SHEET	10
OF 12	

STA.	11+00	12+00	13+00	14+00
SAN SEWER INVERT ELEV	687.69	687.89	688.09	688.29
EXIST. GRADE @ PROP SEWER C				
EXIST. 15" SANITARY SEWER				
251.09 LF 15" PVC, SDR 26 SEWER MAIN @ 0.40%				
109.61 LF 15" PVC, SDR 26 SEWER MAIN @ 0.40%				
16.00 LF 15" PVC, SDR 26 SEWER MAIN @ 0.40%				
EXIST. MH 6201 TO BE ABANDONED				
STA. 13+01.09, LINE A = STA 1+95.79, W MULBERRY AVE, INSTALL NEW MH, PROP MH A4, RIM ELEV = 696.82				
REMOVE CONC. RIPRAP INSTALL HMAC TYP B (4" COMP. DEPTH) SUBSIDIARY TO ITEM 848				
STA. 14+10.70, LINE A = STA 0+85.04, W MULBERRY AVE, REMOVE & REPLACE EXIST. MH 6008 PROP MH A5, RIM ELEV = 696.86				
STA. 14+26.70, LINE A = STA 0+74.15, W MULBERRY AVE, END CONSTRUCTION LINE A REMOVE & REPLACE EXIST. MH 9141 RIM ELEVATION = 697.40				
CONTRACTOR SHALL ADJUST MH GRADE TO MATCH PROP. PAVEMENT ELEVATION				
CONTRACTOR SHALL VERIFY INVERT ELEVATION OF EXIST. 15" SAN. SEWER PRIOR TO CONSTRUCTION				
688.69 (OUT)				
688.84 (IN)				
689.04				
689.28 (OUT)				
689.43 (IN)				
689.49 (OUT)				
689.87 (IN)				
700				

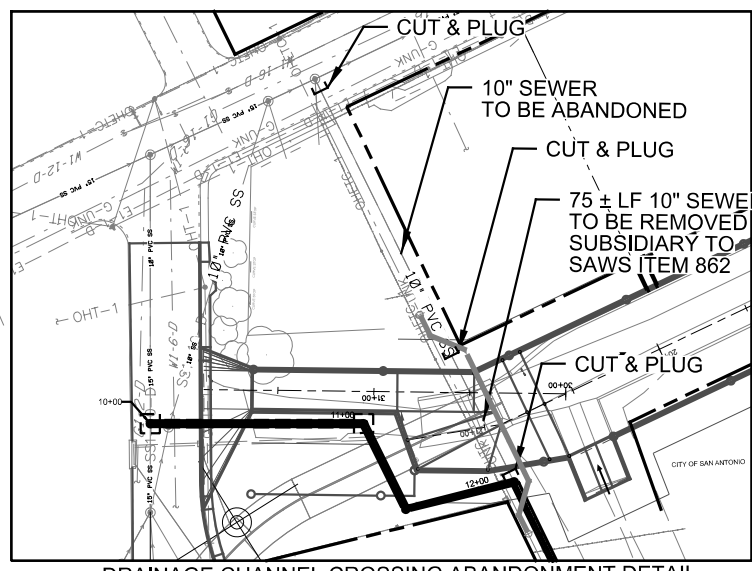
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TRENCH EXCAVATION SAFETY PROTECTION
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852	Sanitary Sewer Manhole (0' - 6')	EA	5	
852	Extra Depth Manhole	VF	4	
854.1	Sanitary Sewer Laterals	LF	8	
854.2	Two-Way Sanitary Sewer Clean-out	EA	1	
858	Concrete Encasements, Cradles, Saddles, and Collars	CY	45	
862	Abandonment of Sewer Mains	LF	158	
866	Sewer Main Pre-Television Inspection	LF	100	
866	Sewer Main Post-Television Inspection	LF	314	



DRAINAGE CHANNEL CROSSING ABANDONMENT DETAIL
NTS



2/7/2020

STATION	DESCRIPTION	INVERT ELEVATION
10+00	STA 10+00, BEGIN LINE B, PROP DOGHOUSE MH B1, RIM ELEV = 701.35, BEGIN CONCRETE ENCASUREMENT	694.85 (OUT) 694.85 (W IN) 694.96 (SW IN)
11+00	STA 11+11.04, PROP MH B2, RIM ELEV = 701.45	695.03 695.11 695.13 (OUT & IN)
12+00	STA 11+60.84, PROP MH B3, RIM ELEV = 702.16	695.18 695.20 (OUT & IN)
13+00	STA 12+19.00, PROP MH B4, RIM ELEV = 701.94	695.26 695.29 (OUT & IN)
13+00	STA 13+13.93, REMOVE & REPLACE MH 6198, RIM ELEV = 702.48, END CONCRETE ENCASUREMENT	695.33 695.41 695.43 (OUT) 695.53 (IN)

DEPTH	DESCRIPTION	INVERT ELEVATION
710	EXIST. GRADE @ PROP SEWER C	710
700	CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF EXIST. WATER MAIN (N.S.P.I.)	700
690	CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF EXIST. 10" SAN. SEWER PRIOR TO CONSTRUCTION	690

100% SUBMITTAL

LEGEND

- PROP. SAN SEWER LATERAL WITH TWO WAY CLEAN OUT: 8" line with cleanout symbol
- EXIST. WATER MAIN GAS MAIN: 6" C.I.W. 2" G
- SANITARY SEWER: 8" SA
- STORM SEWER: 24" ST
- UTILITY POLE LINE: OH TELE CABLE, OH ELECTRIC/TELE, TELEPHONE PED
- EXIST RIGHT OF WAY PROPERTY LINES
- EXIST. TOPO
- TREES
- DRIVEWAY & SIDEWALK REPAIR
- CONC ENCASUREMENT
- TREE PROTECTION FENCE LEVEL II

- NOTES**
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 (210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506

No.	Revision	Drawn	Approved	Date

REVISIONS

SEELING CHANNEL PHASE III
 SANITARY SEWER
 LINE B - SEELING BLVD
 STA. 10+00 TO 13+13.93
 SHEET 1 OF 1

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

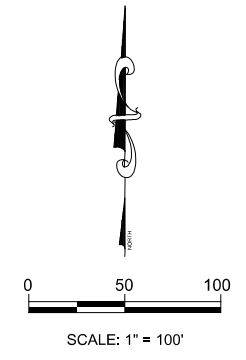
SUBMITTED _____
 APPROVED _____

MAP No. _____ SHEET 11
 SECT. No. _____ OF 12
 DR. CAD CK. ETM JOB No. 17-5559

2:52:12 PM

2/7/2020

Z:\Projects\109 Sealing Channel PH III Sewer\06 - CADD Files\109-SEELING FLOW DATA.dgn



NOTE:
 CAPACITY FLOW RATES SHOWN WERE CALCULATED BASED ON EXISTING SANITARY SEWER SIZE, SLOPE, AND MATERIAL. CAPACITIES ARE BASED ON MANNING'S EQUATION CALCULATIONS. CAPACITY FLOW RATES SHOWN DO NOT REPRESENT ACCUMULATING FLOWS.



100% SUBMITTAL

MAESTAS
 8122 DATAPoint DR., STE. 840 SAN ANTONIO, TX 78229
 (210) 366-1988 TBPE No.: F-333 TBPLS No.: 10194506

No.	Revision	Drawn	Approved	Date

REVISIONS	
	SEELING CHANNEL PHASE III SANITARY SEWER SANITARY SEWER BYPASS FLOW DATA SHEET 1 OF 1
DEVELOPER:	SAN ANTONIO WATER SYSTEM
CONT.	BUDGET PROJ. #
SUBMITTED	
APPROVED	
MAP No.	
SECT. No.	
DR. CAD	CK. ETM
JOB No.	17-5559
SHEET	12
OF	12