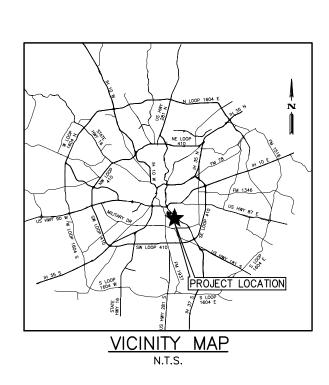
SAN ANTONIO WATER STEM

SAWS WATER JOB NO. 17-5113 2018 SMP REGINA FROM S PRESA TO S PINE

100% DESIGN SUBMITTAL





LOCATION MAP

BGE, Inc. 7330 San Pedro, Suite 202 San Antonio, Tx 78216 Tel: 210-581-3600 • www.bgeinc.com TBPE Registration No. F-1046

SHEET INDEX

1 COVER SHEET

2 CONSTRUCTION NOTES AND QUANTITY SUMMARY

3 OVERALL PROJECT LAYOUT AND SURVEY CONTROL

11 MISCELLANEOUS DETAILS

12 TREE PRESERVATION PLAN



F-1046

GENERAL SECTION

- 1. 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:
 - A.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.

 B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS
 - AND DRAINAGE."
 - COURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."

 D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."

 E.CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- 2. THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, HTTP://www.saws.org/business_center/specs. Unless otherwise noted within design
- 3. 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
- 4. 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.
- 5. 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
- 6. 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.
- 7. ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- 8. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- 9. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- 10. 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
- 11. 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.

- 12. 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).
- 13. 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 OBRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO THAT RESPECTIVE UTILITY COMPAN'S WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
- 14. CONSTRUCTION SEQUENCING: IT IS THE CONTRACTOR SOLE RESPONSIBILITY TO SCHEDULE SEQUENCING FOR REMOVAL AND INSTALLATION OF EXISTING AND PROPOSED SAWS UTILITIES IN CONJUNCTION WITH GENERAL PROJECT CONSTRUCTION. SEQUENCE OF CONSTRUCTION ACTIVITIES SHALL BE CONSIDERED IN ORDER TO MINIMIZE THE EXTENT AND DURATION OF DISTURBANCES.

WATER SECTION:

- 15. PRIOR TO TIE—INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS INSPECTION AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE—INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK SAWS PRODUCTION CONTROL CENTER 210-233-2016
- 16. ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS—CONTAINING MATERIAL (ACM), MAYBE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS, PAYMENT FOR SUCH WORK IS TO BE MADE UNDER ITEM NO. 3000, "HANDLING ASBESTOS CEMENT PIPE".
- 17 VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG.
- 18. REPLACEMENT OF WATER METER BOXES ARE TO BE AT THE DISCRETION OF THE SAWS INSPECTOR.
- 19. CONTRACTOR TO PLACE WATER METER BOXES WITHIN RIGHT-OF-WAY AT PROPERTY LINE.
- CONTRACTOR SHALL RESTRAIN ALL PROPOSED PIPES, VALVES, AND FITTINGS AT NO ADDITIONAL COST (RL=RESTRAIN LENGTH).
- 21. FLOWABLE FILL TO FOLLOW SAWS STD DD-858-01 DETAIL.
- 22. CONTRACTOR TO REMOVE ABANDONED EXISTING WATER VALVES.
- 23. CONTRACTOR TO PROTECT EXIST WATERLINE DURING CONSTRUCTION AT NO COST TO SAWS.

	HORIZONTAL ALIGNMENT DATA							
Line #	DISTANCE	BEARING	STARTING STATION	STARTING NORTHING & EASTING	ENDING STATION	ENDING NORTHING & EASTING		
L1	10.59	N67* 32' 38"E	1+00.00	N=13686129.75, E=2135026.12	1+10.59	N=13686133.80, E=2135035.91		
L2	2.38'	N66* 02' 10"E	1+10.59	N=13686133.80, E=2135035.91	1+12.97	N=13686134.76, E=2135038.08		
L3	4.12'	N67* 16' 04"E	1+12.97	N=13686134.76, E=2135038.08	1+17.08	N=13686136.35, E=2135041.88		
L4	21.95'	N89° 11' 36"E	1+17.08	N=13686136.35, E=2135041.88	1+39.03	N=13686136.66, E=2135063.83		
L5	20.93'	N45° 02' 18"E	1+39.03	N=13686136.66, E=2135063.83	1+59.97	N=13686151.45, E=2135078.64		
L6	244.72	N89° 59' 30"E	1+59.97	N=13686151.45, E=2135078.64	4+04.69	N=13686151.49, E=2135323.36		
L7	189.01	N89° 57' 28"E	4+04.69	N=13686151.49, E=2135323.36	5+93.70	N=13686151.63, E=2135512.37		
L8	6.37'	N89° 55' 44"E	5+93.70	N=13686151.63, E=2135512.37	6+00.07	N=13686151.63, E=2135518.74		
L9	24.21	N89* 55' 41"E	6+00.07	N=13686151.63, E=2135518.74	6+24.27	N=13686151.66, E=2135542.95		
L10	10.00'	N89° 55' 43"E	6+24.27	N=13686151.66, E=2135542.95	6+34.27	N=13686151.68, E=2135552.95		
L11	117.75	N89* 55' 41"E	6+34.27	N=13686151.68, E=2135552.95	7+52.03	N=13686151.82, E=2135670.70		
L12	350.00'	N89° 57' 06"E	7+52.03	N=13686151.82, E=2135670.70	11+02.03	N=13686152.12, E=2136020.70		
L13	111.05	N89° 57' 42"E	11+02.03	N=13686152.12, E=2136020.70	12+13.08	N=13686152.19, E=2136131.76		
L14	5.21	N45' 02' 05"E	12+13.08	N=13686152.19, E=2136131.76	12+18.29	N=13686155.87, E=2136135.44		
L15	6.50'	N89° 56' 08"E	12+18.29	N=13686155.87, E=2136135.44	12+24.79	N=13686155.88, E=2136141.94		
L16	35.02'	N89° 59' 44"E	12+24.79	N=13686155.88, E=2136141.94	12+59.81	N=13686155.88, E=2136176.96		
L17	11.75'	S89* 58' 48"E	12+59.81	N=13686155.88, E=2136176.96	12+71.56	N=13686155.88, E=2136188.71		
L18	130.65	N89° 49' 28"E	12+71.56	N=13686155.88, E=2136188.71	14+02.21	N=13686156.28, E=2136319.36		
L19	54.13	N89° 58' 51"E	14+02.21	N=13686156.28, E=2136319.36	14+56.34	N=13686156.30, E=2136373.49		
L20	4.50'	S45' 07' 29"E	14+56.34	N=13686156.30, E=2136373.49	14+60.84	N=13686153.12, E=2136376.68		
L21	164.59	S89* 59' 59"E	14+60.84	N=13686153.12, E=2136376.68	16+25.43	N=13686153.12, E=2136541.27		
L22	128.11	N89° 52' 15"E	16+25.43	N=13686153.12, E=2136541.27	17+53.55	N=13686153.41, E=2136669.38		
L23	129.57	N89° 53' 11"E	17+53.55	N=13686153.41, E=2136669.38	18+83.12	N=13686153.67, E=2136798.95		
L24	13.62'	N89° 44' 38"E	18+83.12	N=13686153.67, E=2136798.95	18+96.74	N=13686153.73, E=2136812.58		
L25	10.00'	N89° 52' 44"E	18+96.74	N=13686153.73, E=2136812.58	19+06.74	N=13686153.75, E=2136822.58		
L26	246.81	N89° 58' 42"E	19+06.74	N=13686153.75, E=2136822.58	21+53.55	N=13686153.84, E=2137069.39		
L27	333.66	N89° 58' 27"E	21+53.55	N=13686153.84, E=2137069.39	24+87.21	N=13686153.99, E=2137403.04		
L28	16.74	S44' 54' 14"E	24+87.21	N=13686153.99, E=2137403.04	25+03.95	N=13686142.14, E=2137414.86		
L29	7.39'	N89° 44' 14"E	25+03.95	N=13686142.14, E=2137414.86	25+11.34	N=13686142.17, E=2137422.25		

SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Curb	LF	36
103	Remove Sidewalks and Driveways	SF	819
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	1000
205	Hot Mix Asphaltic Pavement - Type D (2" Compacted Depth)	SY	271
208	Salvaging, Hauling, and Stockpiling Reclaimable Asphaltic Pavement (2")	SY	271
413	Flowable Fill	CY	40
500	Concrete Curb	LF	36
502	Concrete Sidewalks	SY	54
503	Portland Cement Concrete Driveways	SY	37
550	Trench Protection	LF	2455
818	8" PVC Waterline (Restrained)	LF	2423
818	12" PVC Waterline (Restrained)	LF	32
824	Relay 3/4" Long Service	EA	31
824	Relay 3/4" Short Service	EA	32
824	Relay 1/2" Long Service	EA	2
824	Relay 1" Long Service	EA	2
824	Relay 1" Short Service	EA	5
828	8" Gate Valve	EA	6
828	12" Gate Valve	EA	1
833	New Meter Box	EA	72
834	Fire Hydrant	EA	3
836	Pipe Fittings, All Sizes & Types	TN	2.11
840	6" Water Tie-Ins	EA	4
840	12" Water Tie-Ins	EA	2
841	Hydrostatic Testing	EA	1
844	2" Blow-off, Temporary	EA	6
858	Concrete Encasement, Cradles, Saddles and Collars	CY	9
1020	8" Water Main Break/Leak Repairs, all types	EA	2
3000	Removal, Transportation and Disposal of various sizes of A.C. Pipe	LF	13



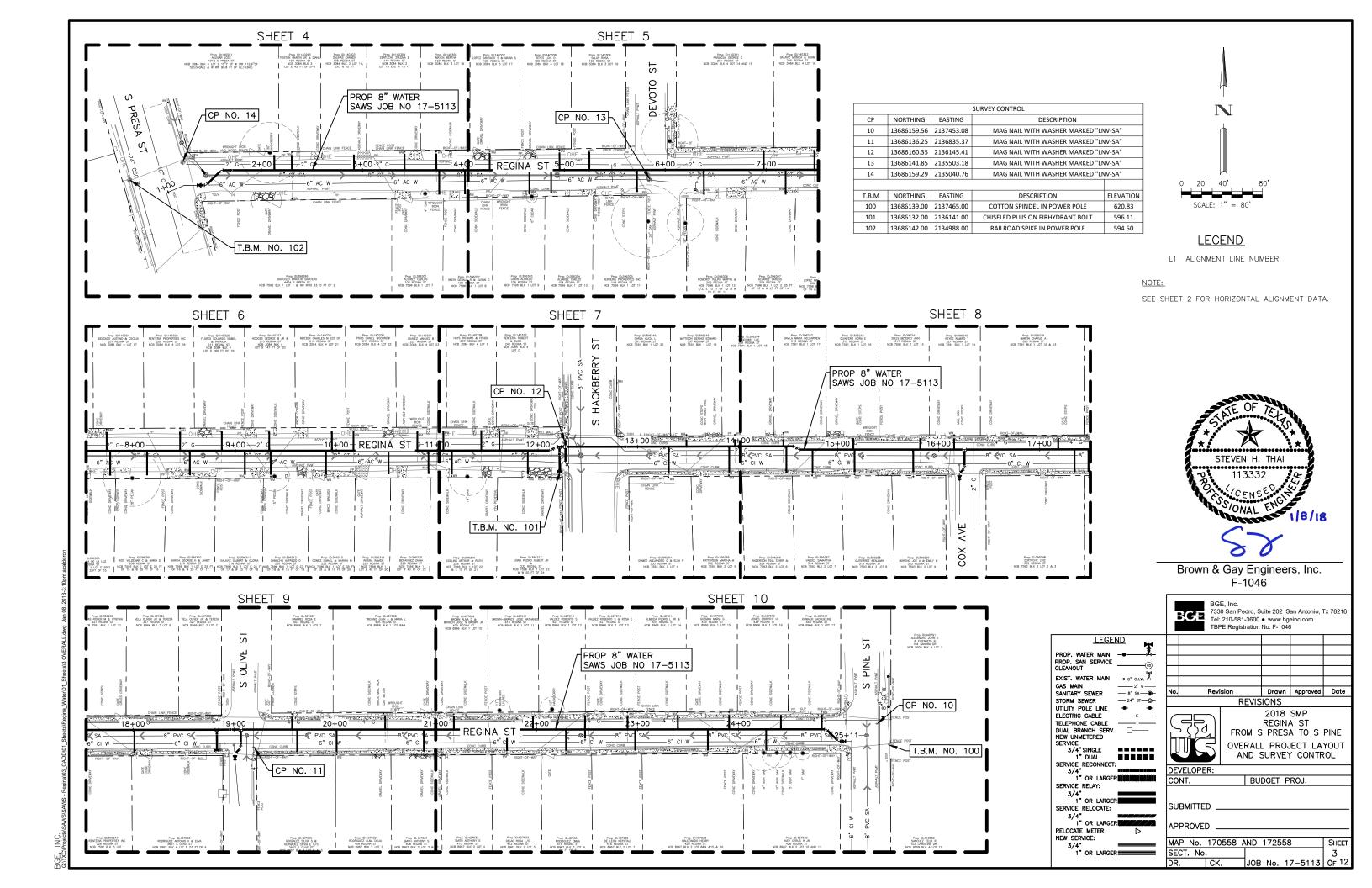
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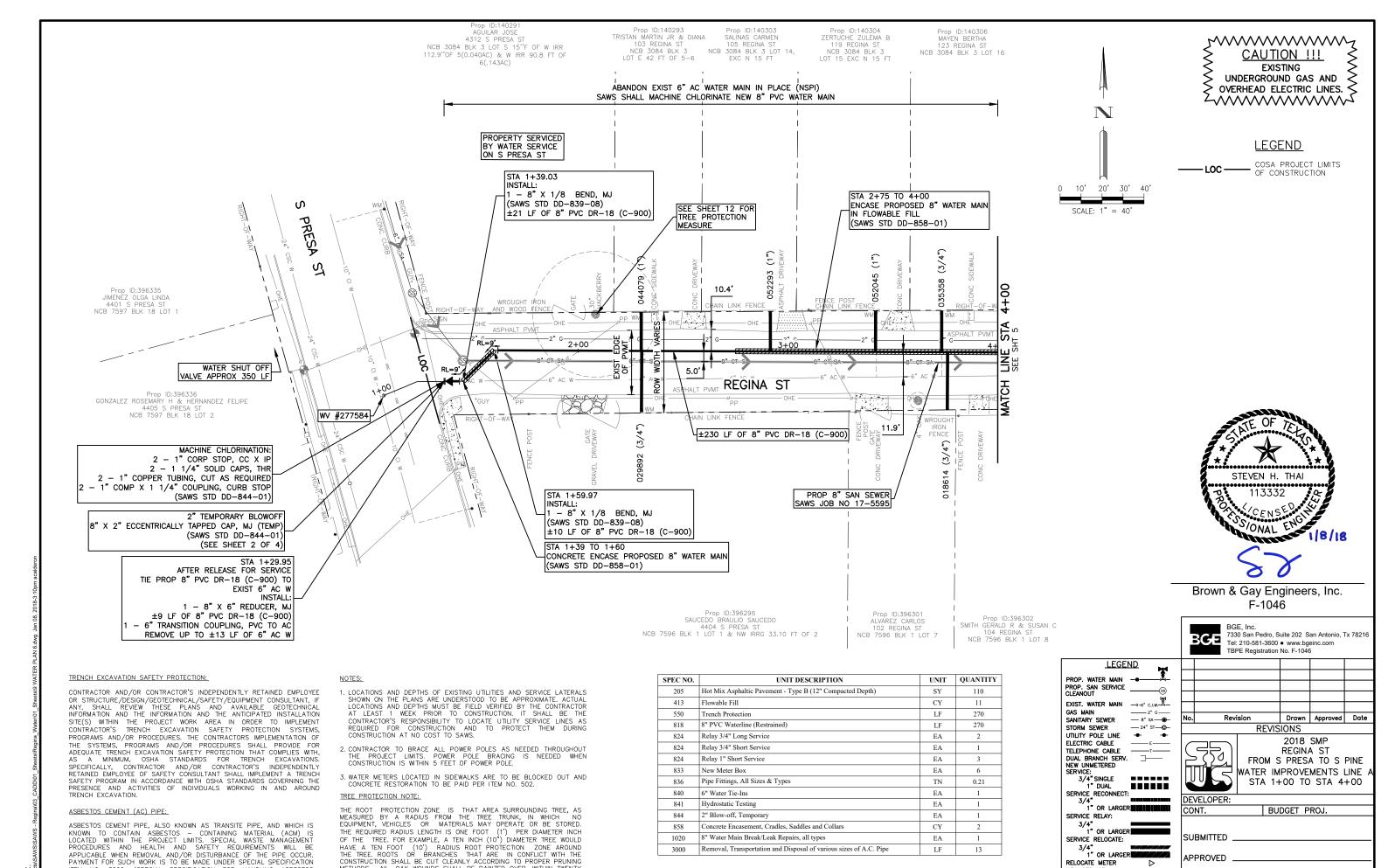
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No.	Rev	sion	Drawn	Approved	Date		
	REVISIONS						
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	FROM S PRESA TO S PINE
U 5	CONSTRUCTION NOTES AND QUANTITY SUMMARY
DEVELOPER:	
CONT.	BUDGET PROJ.
SUBMITTED _	

APPROVED MAP No. 170558 AND 172558 SHEET SECT. No. JOB No. 17-5113

F-1046





APPROVED

SECT. No.

MAP No. 170558 AND 172558

SHEET

JOB No. 17-5113

RELOCATE METER

3/4" ≡ 1" OR LARGER≣

NEW SERVICE:

ITEM NO. 3000. (SPECIAL SPECIFICATION FOR HANDLING ASBESTOS

METHODS. All OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY

STEVEN H. THAI YONAL ENG WAL EN 1/8/18

L CAUTION !!!

EXISTING UNDERGROUND GAS AND OVERHEAD ELECTRIC LINES.

LEGEND

10' 20' 30' 40'

SCALE: 1" = 40'

COSA PROJECT LIMITS

OF CONSTRUCTION

Brown & Gay Engineers, Inc. F-1046

7330 San Pedro, Suite 202 Sannan Tel: 210-581-3600 • www.bgeinc.com 7330 San Pedro, Suite 202 San Antonio, Tx 78216 TBPE Registration No. F-1046

Drawn Approved Date Revision REVISIONS 2018 SMP

LEGEND

— 8" SA——⊕—

— 24" ST—©-

7—

PROP. SAN SERVICE

EXIST. WATER MAIN GAS MAIN

SANITARY SEWER

ELECTRIC CABLE

TELEPHONE CABLE

NEW UNMETERED SERVICE: 3/4" SINGLE

1" DUAL SERVICE RECONNECT:

SERVICE RELAY:

SERVICE RELOCATE: 3/4"
1" OR LARGER

RELOCATE METER

3/4" ≡ 1" OR LARGER≣

NEW SERVICE:

3/4"

1" OR LARGER

1" OR LARGER

DUAL BRANCH SERV.

UTILITY POLE LINE -

STORM SEWER

CL FANOUT

REGINA ST FROM S PRESA TO S PINE WATER IMPROVEMENTS LINE STA 4+00 TO STA 7+50

DEVELOPER:

BUDGET PROJ.

CONT.

SUBMITTED APPROVED

MAP No. 170558 AND 172558 SHEET SECT. No. JOB No. 17-5113

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 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 CONTRACTORS 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 EXCAVATION, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS.

SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH SOLVETTIME.

ASBESTOS CEMENT (AC) PIPE:

ASBESTOS CEMENT PIPE, ALSO KNOWN AS TRANSITE PIPE, AND WHICH IS KNOWN TO CONTAIN ASBESTOS — CONTAINING MATERIAL (ACM) IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THE PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000. (SPECIAL SPECIFICATION FOR HANDLING ASBESTOS

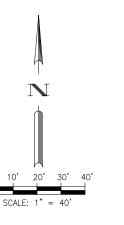
NOTES:

- 1. 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.
- 2. CONTRACTOR TO BRACE ALL POWER POLES AS NEEDED THROUGHOUT THE PROJECT LIMITS. POWER POLE BRACING IS NEEDED WHEN CONSTRUCTION IS WITHIN 5 FEET OF POWER POLE.
- 3. WATER METERS LOCATED IN SIDEWALKS ARE TO BE BLOCKED OUT AND CONCRETE RESTORATION TO BE PAID PER ITEM NO. 502.

TREE PROTECTION NOTE:

THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10") RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. All OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.

SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Sidewalks and Driveways	SF	99
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	143
413	Flowable Fill	CY	22
502	Concrete Sidewalks	SY	3
503	Portland Cement Concrete Driveways	SY	8
550	Trench Protection	LF	350
818	8" PVC Waterline (Restrained)	LF	350
824	Relay 3/4" Long Service	EA	5
824	Relay 3/4" Short Service	EA	3
824	Relay 1" Long Service	EA	1
824	Relay 1" Short Service	EA	2
828	8" Gate Valve	EA	1
833	New Meter Box	EA	11
834	Fire Hydrant	EA	1





7 CAUTION !!!

EXISTING

UNDERGROUND GAS AND OVERHEAD ELECTRIC LINES.

Brown & Gay Engineers, Inc. F-1046

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REVISIONS

W/

LEGEND

— 24" ST—⊚-

7-

PROP. SAN SERVICE

EXIST. WATER MAIN

SANITARY SEWER

ELECTRIC CABLE

TELEPHONE CABLE

NEW UNMETERED SERVICE: 3/4" SINGLE

SERVICE RELAY:

SERVICE RELOCATE:

RELOCATE METER

NEW SERVICE:

3/4* 1" OR LARGER

3/4" ≡ 1" OR LARGER≣

3/4"

DUAL BRANCH SERV.

1" DUAL SERVICE RECONNECT:

1" OR LARGER

1" OR LARGER

UTILITY POLE LINE -

2018 SMP REGINA ST FROM S PRESA TO S PINE ATER IMPROVEMENTS LINE

STA 7+50 TO STA 11+00 DEVELOPER:

CONT. BUDGET PROJ.

SUBMITTED APPROVED

MAP No. 170558 AND 172558 SHEET SECT. No. JOB No. 17-5113

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 INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION TRENCH EXCAVATION.

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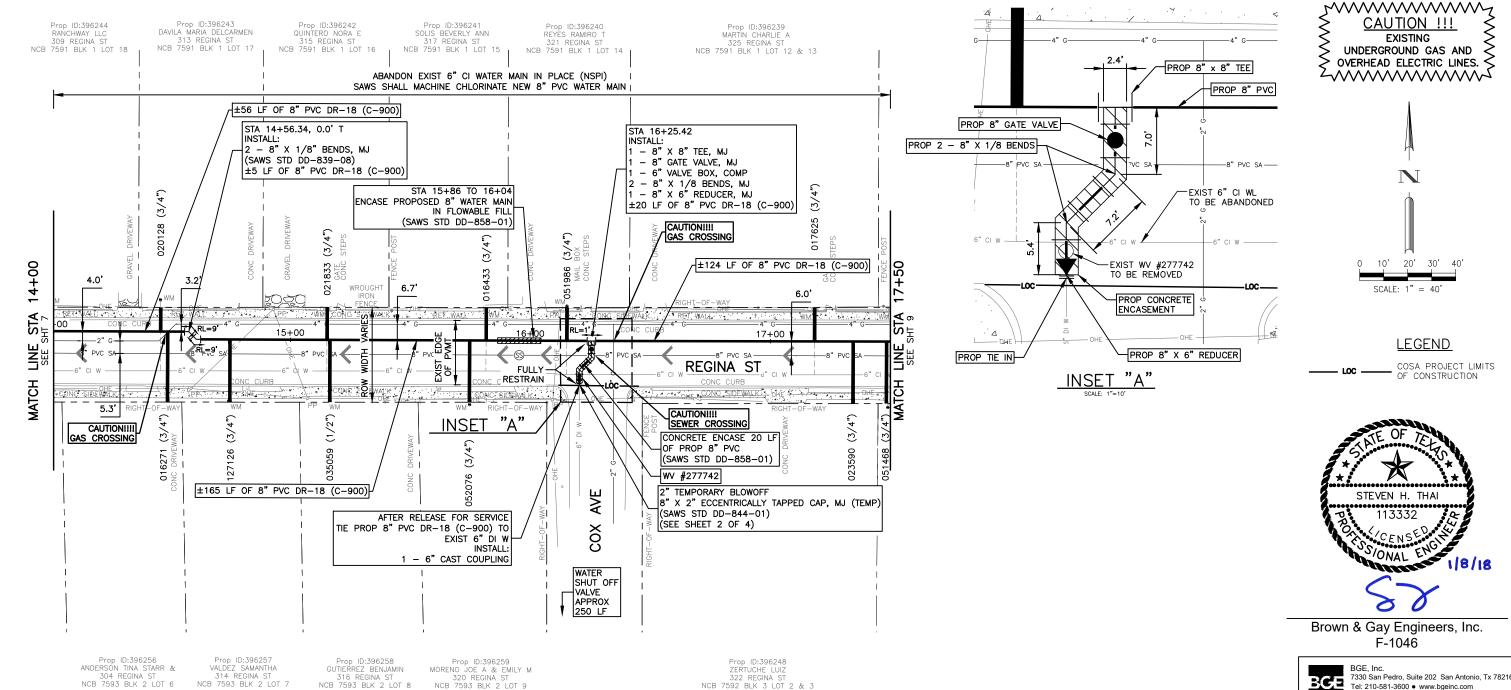
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- 2. CONTRACTOR TO BRACE ALL POWER POLES AS NEEDED THROUGHOUT THE PROJECT LIMITS. POWER POLE BRACING IS NEEDED WHEN CONSTRUCTION IS WITHIN 5 FEET OF POWER POLE.
- 3. WATER METERS LOCATED IN SIDEWALKS ARE TO BE BLOCKED OUT AND CONCRETE RESTORATION TO BE PAID PER ITEM NO. 502.

TREE PROTECTION NOTE:

THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1") PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10") RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTBUCTION SHALL BE CITED AND A COORDING TO REDEDINING. CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. All OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.

SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Sidewalks and Driveways	SF	189
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	143
413	Flowable Fill	CY	2
502	Concrete Sidewalks	SY	7
503	Portland Cement Concrete Driveways	SY	14
550	Trench Protection	LF	350
818	8" PVC Waterline (Restrained)	LF	350
824	Relay 3/4" Long Service	EA	8
824	Relay 3/4" Short Service	EA	7
833	New Meter Box	EA	15

MMMM Prop ID:140338 HAYS RICHARD & FONDA Prop ID:396246 GARZA ALICIA L 301 REGINA ST Prop ID:396245 MATTISON DENNIS EDWARD 307 REGINA ST Prop ID:396244 RANCHWAY LLC 309 REGINA ST & ELISA CAUTION !!! 241 REGINA ST NCB 3084 BLK 4 LOT C NCB 3084 BLK 4 LOT D **EXISTING** NCB 7591 BLK 1 LOT 20 NCB 7591 BLK 1 LOT 19 NCB 7591 BLK 1 LOT 18 UNDERGROUND GAS AND OVERHEAD ELECTRIC LINES. ABANDON EXIST 6" AC WATER MAIN IN PLACE (NSPI) ABANDON EXIST 6" CI WATER MAIN IN PLACE (NSPI) SAWS SHALL MACHINE CHLORINATE NEW 8" PVC WATER MAIN SAWS SHALL MACHINE CHLORINATE NEW 8" PVC WATER MAIN ~^^^^ TRENCH EXCAVATION SAFETY PROTECTION: NOTES: AFTER RELEASE FOR SERVICE TIE PROP 12" PVC TO 1. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE STA 12+25.74 OR STRUCTURE/DESIGN/SEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION WATER SHUT EXIST 12" CI W INSTALL: CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING OFF VALVE 1 - 8" GATE VALVE, MJ APPROX 265 LF 1 - 12" CAST COUPLING SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, - 6" VALVE BOX, COMP (SAWS STD DD-839-08) CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION. TEMPORARY BLOWDER 2. CONTRACTOR TO BRACE ALL POWER POLES AS NEEDED THROUGHOUT THE PROJECT LIMITS. POWER POLE BRACING IS NEEDED WHEN CONSTRUCTION IS WITHIN 5 FEET OF POWER POLE. 12" X 2" ECCENTRICALLY TAPPED CAP, MJ (TEMP) (SAWS STD DD-844-01) (SEE SHEET 2 OF 4) 3. WATER METERS LOCATED IN SIDEWALKS ARE TO BE BLOCKED OUT AND CONCRETE RESTORATION TO BE PAID PER ITEM NO. 502. STA 12+31.67, 11.0' LT TRENCH EXCAVATION. TREE PROTECTION NOTE: INSTALL: CAUTION!!!! 2 - 12" X 1/8" BENDS, MJ THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. ASBESTOS CEMENT (AC) PIPE: GAS CROSSING (SAWS STD DD-839-08) ASBESTOS CEMENT PIPE, ALSO KNOWN AS TRANSITE PIPE, AND WHICH IS ±4 LF OF 12" PVC DR-18 (C-900) KNOWN TO CONTAIN ASBESTOS — CONTAINING MATERIAL (ACM) IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE STA 12+18.3 THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD INSTALL OF THE TREE, FOR EXAMPLE, A TEN INCHT (ID) DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. All OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY 2 - 8" X 1/8" BEND, M. APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THE PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION CAUTION !!! SEWER CROSSING (SAWS STD DD-839-08) ISTA 12+35 TO STA 12+53 ±5 LF OF 8" PVC DR-18 (C-900) ITEM NO. 3000. (SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CONCRETE ENCASE PROPOSED 8" WATER (20) MINUTES TO PREVENT OAK WILT. (SAWS STD DD-858-01) PROP 8" SAN SEWER SAWS JOB NO 17-5595 PROPERTY SERVED SEE SHEET 12 FOR TREE FROM HACKBERRY ST 067272 (3/4") SPEC NO. UNIT DESCRIPTION UNIT QUANTITY FOR TREE ±112 LF OF 8" PVC DR-18 (C-900) 103 LF Remove Concrete Curb PROTECTION Remove Concrete Sidewalks and Driveways SF 234 MEASURE 5.0' 11+00 5.8 205 Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth) SY135 106291 Hot Mix Asphaltic Pavement - Type D (2" Compacted Depth) 271 LOC = CAUTION!!!! 4.7' 205 SY GAS CROSSING 208 Salvaging, Hauling, and Stockpiling Reclaimable Asphaltic Pavement (2") SY271 500 LF Concrete Curb STA 502 SY 11 Concrete Sidewalks = 1.3 + 00503 Portland Cement Concrete Driveways SY 15 12+00 Trench Protection \mathbb{N} 550 LF 332 8" PVC Waterline (Restrained 300 818 LF W∨ REGINA ST #277567 818 LF 32 MATCH Relay 3/4" Long Service EA 824 Relay 3/4" Short Service 824 EA 5 Relay 1/2" Long Service EA 824 ±113 LF OF 8" PVC DR-18 (C-900) 8" Gate Valve EA 828 2 10' 20' 30' 40' (3/4") 828 12" Gate Valve EA 833 New Meter Box EA 5 SCALE: 1" = 40Fire Hydrant EA 834 STA 12+88.48 Pipe Fittings, All Sizes & Types TN 0.96 836 INSTALL: LEGEND 840 12" Water Tie-Ins EA 1 - 8" GATE VALVE, MJ 844 2" Blow-off, Temporary EA - 6" VALVE BOX, COMP STA 12+22.70 (SAWS STD DD-839-08) COSA PROJECT LIMITS 858 Concrete Encasement, Cradles, Saddles and Collars CY-LOC-1 - 8" X 6" ANCHOR TEE, MJ ± 63 LF OF 8" PVC DR-18 (C-900) OF CONSTRUCTION 8" Water Main Break/Leak Repairs, all types EA 1 - 6" GATE VALVE, MJ MILL AND OVERLAY 1 - 6" VALVE BOX, COMP √wv #277565 6" DI PIPE CUT AS REQUIRED #277566 271 SY OF MILL BGE, Inc. 1 – STA FIRE HYDRANT 7330 San Pedro, Suite 202 San Antonio, Tx 78216 AND OVERLAY (SAWS STD DD-834-01) Tel: 210-581-3600 • www.bgeinc.com ±7 LF OF 8" PVC DR-18 (C-900) STA 12+28.68 TBPE Registration No. F-1046 INSTALL: REMOVE AND SALVAGE EXIST FH LEGEND - 12" X 8" CROSS, MJ Ŋ AND RETURN TO SAWS (NSPI) - 12" GATE VALVE, MJ - 6" VALVE BOX, COMP HACKBERRY AFTER RELEASE FOR SERVICE PROP. SAN SERVICE ±24 LF OF 12" PVC DR-18 (C-900) CL FANOUT TIF PROP 12" PVC TO EXIST. WATER MAIN EXIST 12" CI W STA 12+31.75, 19.1' RT INSTALL Drawn Approved Date INSTALL: SANITARY SEWER — 8" SA ——**⊕**— Revision 1 - 12" CAST COUPLING - 12" X 1/8" BENDS, MJ STORM SEWER — 24" ST—©-REVISIONS STEVEN H. THAI UTILITY POLE LINE + 2" TEMPORARY BLOWOFF (SAWS STD DD-839-08) 2018 SMP ELECTRIC CABLE 12" X 2" ECCENTRICALLY TAPPED CAP, MJ (TEMP) ±4 LF OF 12" PVC DR-18 (C-900) 113332 REGINA ST TELEPHONE CABLE (SAWS STD DD-844-01) DUAL BRANCH SERV. 7— FROM S PRESA TO S PINE (SEE SHEET 2 OF 4) WATER IMPROVEMENTS LINE WATER 3/4" SINGLE YONAL EM STA 11+00 TO STA 14+00 SHUT OFF 1" DUAL PONAL SERVICE RECONNECT: Prop ID:396316 COLLINS ARTHUR & RUTH Prop ID:396317 LINAN PEDRO ALBERT -IVAI VF DEVELOPER: 1" OR LARGER JR & 232 REGINA ST NCB 7596 BLK 1 LOT 23 & W 20 FT OF 24 Prop ID:396255 PATTERSON MARTHA M 302 REGINA ST 750 LF Prop ID:396254 CONT. BUDGET PROJ. 228 REGINA ST NCB 7596 BLK 1 LOT 22 & E 10 FT OF 21 GOMEZ ALEJANDRO G & ELVA P 300 REGINA ST SERVICE RELAY: 3/4° NCB 7593 BLK 2 LOT 4 NCB 7593 BLK 2 LOT 5 1" OR LARGER SUBMITTED SERVICE RELOCATE: 3/4" 1" OR LARGER Brown & Gay Engineers, Inc. APPROVED F-1046 RELOCATE METER NEW SERVICE: MAP No. 170558 AND 172558 SHEET SECT. No. JOB No. 17-5113 OF 12



TRENCH EXCAVATION SAFETY PROTECTION:

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

ASBESTOS CEMENT (AC) PIPE:

ASBESTOS CEMENT PIPE, ALSO KNOWN AS TRANSITE PIPE, AND WHICH IS ASBESTOS CEMENT PIPE, ALSO KNOWN AS IRANSITE PIPE, AND WHICH IS KNOWN TO CONTAIN ASBESTOS — CONTAINING MATERIAL (ACM) IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THE PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000. (SPECIAL SPECIFICATION FOR HANDLING ASBESTOS

- 1 LOCATIONS AND DEPTHS OF EXISTING LITILITIES 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.
- 2. CONTRACTOR TO BRACE ALL POWER POLES AS NEEDED THROUGHOUT THE PROJECT LIMITS. POWER POLE BRACING IS NEEDED WHEN CONSTRUCTION IS WITHIN 5 FEET OF POWER POLE.
- 3. WATER METERS LOCATED IN SIDEWALKS ARE TO BE BLOCKED OUT AND CONCRETE RESTORATION TO BE PAID PER ITEM NO. 502.

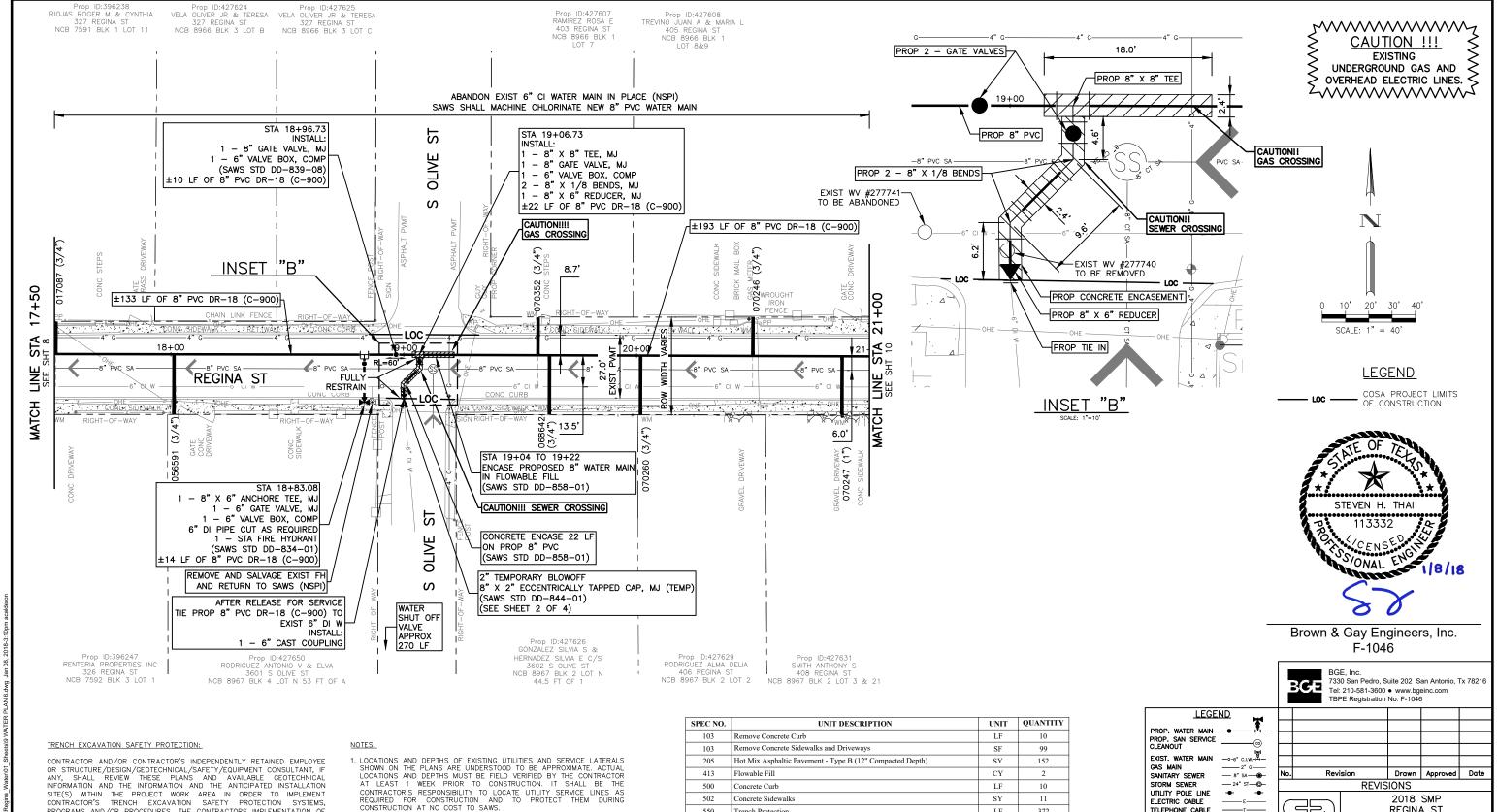
TREE PROTECTION NOTE:

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SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Curb	LF	10
103	Remove Concrete Sidewalks and Driveways	SF	99
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	151
413	Flowable Fill	CY	2
500	Concrete Curb	LF	10
502	Concrete Sidewalks	SY	11
550	Trench Protection	LF	370
818	8" PVC Waterline (Restrained)	LF	370
824	Relay 3/4" Long Service	EA	5
824	Relay 3/4" Short Service	EA	5
824	Relay 1/2" Long Service	EA	1
828	8" Gate Valve	EA	1
833	New Meter Box	EA	11
836	Pipe Fittings, All Sizes & Types	TN	0.42
840	6" Water Tie-Ins	EA	1
844	2" Blow-off, Temporary	EA	1
858	Concrete Encasement, Cradles, Saddles and Collars	CY	2

7330 San Pedro, Suite 202 San. ...
Tel: 210-581-3600 • www.bgeinc.com TBPE Registration No. F-1046 LEGEND PROP. SAN SERVICE EXIST. WATER MAIN Drawn Approved Date SANITARY SEWER Revision STORM SEWER — 24" ST—©-REVISIONS UTILITY POLE LINE + 2018 SMP ELECTRIC CABLE REGINA ST TELEPHONE CABLE DUAL BRANCH SERV. 7— FROM S PRESA TO S PINE NEW UNMETERED SERVICE: 3/4" SINGLE WATER IMPROVEMENTS LINE STA 14+00 TO STA 17+50 1" DUAL SERVICE RECONNECT: DEVELOPER: 1" OR LARGER BUDGET PROJ. CONT. SERVICE RELAY: 1" OR LARGER SUBMITTED SERVICE RELOCATE: 3/4" 1" OR LARGER APPROVED RELOCATE METER NEW SERVICE: MAP No. 170558 AND 172558 SHEET 3/4" = 1" OR LARGER! SECT. No. JOB No. 17-5113

1/8/18



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 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 INPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAMIN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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- 2. CONTRACTOR TO BRACE ALL POWER POLES AS NEEDED THROUGHOUT THE PROJECT LIMITS. POWER POLE BRACING IS NEEDED WHEN CONSTRUCTION IS WITHIN 5 FEET OF POWER POLE.
- 3. WATER METERS LOCATED IN SIDEWALKS ARE TO BE BLOCKED OUT AND CONCRETE RESTORATION TO BE PAID PER ITEM NO. 502.

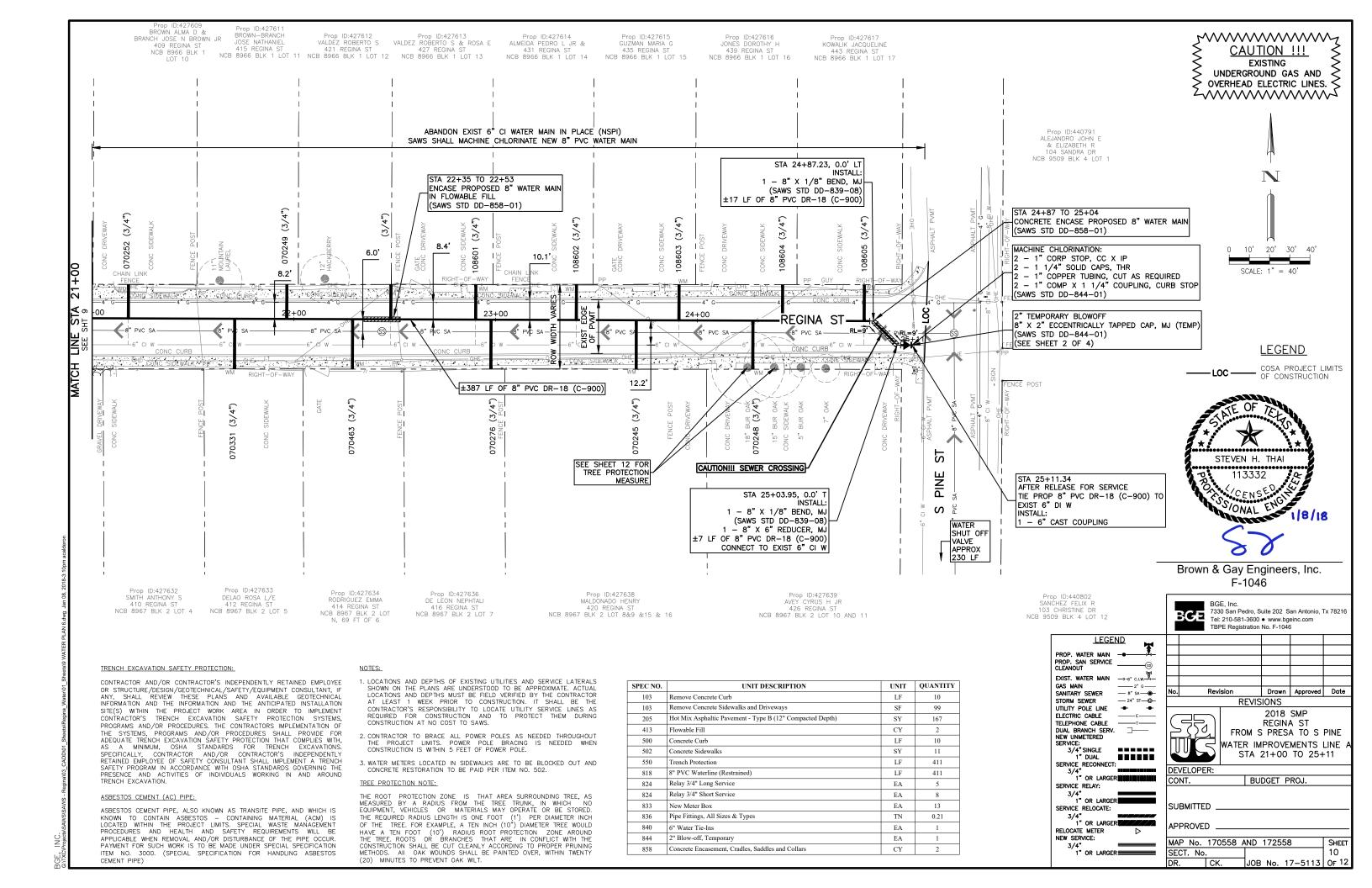
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SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Curb	LF	10
103	Remove Concrete Sidewalks and Driveways	SF	99
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	152
413	Flowable Fill	CY	2
500	Concrete Curb	LF	10
502	Concrete Sidewalks	SY	11
550	Trench Protection	LF	372
818	8" PVC Waterline (Restrained)	LF	372
824	Relay 3/4" Long Service	EA	3
824	Relay 3/4" Short Service	EA	3
824	Relay 1" Long Service	EA	1
828	8" Gate Valve	EA	2
833	New Meter Box	EA	7
834	Fire Hydrant	EA	1
836	Pipe Fittings, All Sizes & Types	TN	0.31
840	6" Water Tie-Ins	EA	1
844	2" Blow-off, Temporary	EA	1
858	Concrete Encasement, Cradles, Saddles and Collars	CY	2

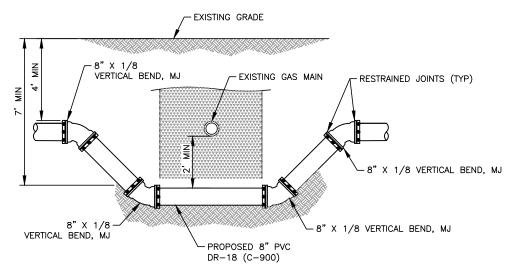
	B(Tel:	210-581	dro, Suite -3600 ● w ration No.	ww.bg		Ix 78216
<u>LEGEND</u>							
ROP. WATER MAIN -							
ROP. SAN SERVICE							
KIST. WATER MAIN -0-6" C.I.W-H-							
AS MAIN —— 2" G —— ANITARY SEWER — 8" SA —— —— —— —— —— —— —— —— —— ——————————	No.	Revi	sion	D	rawn	Approved	Date
TORM SEWER — 24" ST—⊕—			R	EVISIO	٧S		
TILITY POLE LINE E- LECTRIC CABLE E- ELEPHONE CABLE T-				_		SMP A ST	
UAL BRANCH SERV EW UNMETERED		() () ()	FRC			A TO S	PINE
ERVICE:			WATE	R IMPR	OVE	MENTS	LINE A
3/4"SINGLE	UUU		STA	17+50	OT C	STA 2	1+00
ERVICE RECONNECT:	DEVE	LOPER:					
1" OR LARGER	CONT			BUDG	ET P	ROJ.	
3/4"							
1" OR LARGER	SUBM	IITTED _					
3/4"							,
1" OR LARGER >	APPR	OVED _					
EW SERVICE:	MAD	No. 170	559 /	ND 17	2555	2	SHEET
3/4" ====================================	SECT.		1336 F	IND 17	2556		9
I ON LANGEN	DR.	l ck	_	JOB N	o. 1	7-5113	
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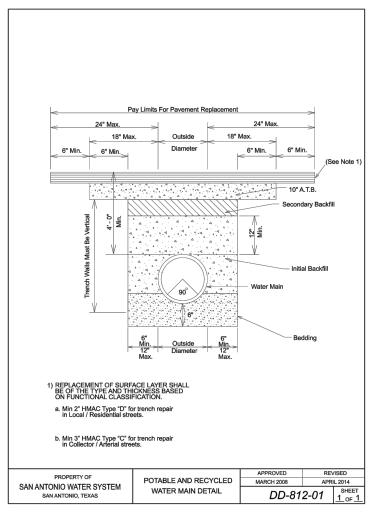
SANITARY MAIN CROSSING DETAIL*

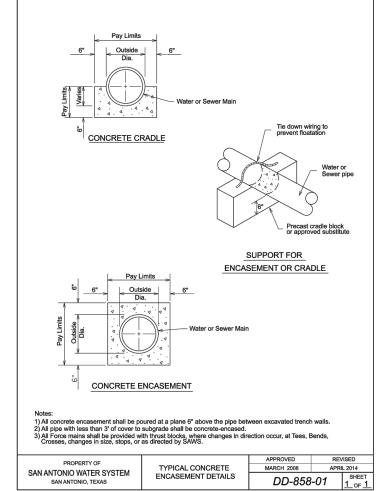
* USE WHEN PROPOSED WATER MAIN CANNOT CROSS OVER SEWER MAIN AT THE REQUIRED DEPTH AND ONLY WHEN DIRECTED BY SAWS INSPECTOR.



GAS MAIN CROSSING DETAIL*

* USE WHEN PROPOSED WATER MAIN CANNOT CROSS OVER GAS MAIN AT THE REQUIRED DEPTH AND ONLY WHEN DIRECTED BY SAWS INSPECTOR.







Brown & Gay Engineers, Inc. F-1046

\vdash					
No.	Revi	sion	Drawn	Approved	Date
		REVIS	IONS		
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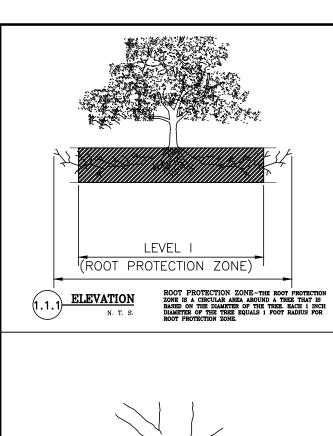
MAP No. 170558 AND 172558

SECT. No.

SHEET

JOB No. 17-5113 OF 12

BGE, INC.



ROOT PROTECTION ZONE (RPZ) ZONE (RPZ) TREE CANOPY 6" MULCH INSIDE RPZ 1. THE FENCING SHOWN ABOVE IS DIAGRAMMATIC ONLY WHEN THERE IS NO EXISTING UNDERSTORY OR TURF AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY. 2. FOR ACCEPTABLE FENCING MATERIALS SEE (1.1.2) LEVEL I & FENCE PROTECTION

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS TROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE BORING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO BORE WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE CITY.

BORES SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.

ZONE (RPZ) ROOT PROTECTION ZONE (RPZ) 6" MULCH INSIDE RPZ WHEN THERE IS NO EXISTING 1. OPTION USED FOR TIGHT CONSTRUCTION AREAS UNDERSTORY OR TURF OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE. 8" MUICH OUTSIDE RP7 2. FOR ACCEPTABLE FENCING MATERIALS SEE AND UNDER DRIP LINE AS
MINIMAL PROTECTION FOR ROOTS
FROM CONSTRUCTION ACTIVITIES SPECIFICATIONS. 1.1.3 LEVEL II A FENCE PROTECTION

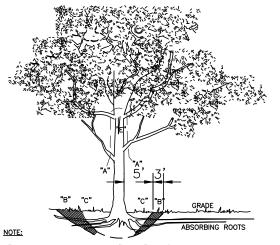
A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.

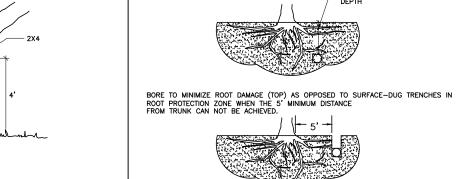
"B" BEGIN EXCAVATION APPROX. 8' FROM THE TRUNK - CUT THRU ANCHOR ROOTS AT AN ANGLE - 3' TO 4' DEEP

"C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)

"D" BACKFILL HOLE AND CLEAN UP.

TREE REMOVAL DIAGRAM 1.3





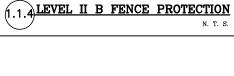
1.2



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

BORING THRU TREE ROOT ZONE

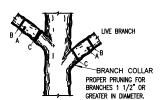
N. T. S.



WRAP TREE TRUNK WITH 2"X4" STUDS AND ROPE OR BAND IN PLACE

AS NEEDED TO PROTECT TREES IN WORK AREAS.

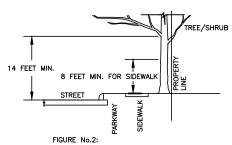
6" MULCH WITH IN DRIP LINE AS MINIMAL PROTECTION FOR ROOTS FROM CONSTRUCTION ACTIVITIES



- A. FIRST CUT TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
- B. SECOND CUT TO REDUCE THE WEIGHT OF BRANCH.
- C. FINAL CUT ALLOW FOR HEALING COLLAR BUT NO STUBS

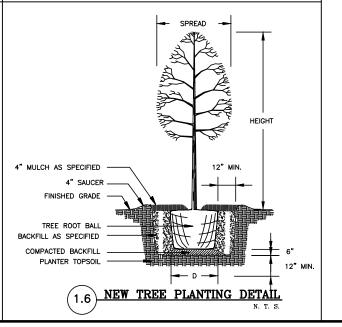
FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.

1.4 BRANCH PRUNING DETAIL



A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

BRANCH CLEARANCE DETAIL



- ALL PROTECTED SIZE TREES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802. (TREE PRUNING, SOIL AMENDING AND FERTILIZATION), UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 801. (TREE AND LANDSCAPE PROTECTION) AND AS DETAILED IN 1.1.2.
- 3. NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND PROTECTION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY THE CITY ARBORIST OFFICE.
- TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- HAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR S LENGTH IS ONE FOOT (1) PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A THEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10") RADIUS THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. All
- NO DISTURBANCE SHALL OCCUR CLOSER TO THE TRUNK THAN HALF THE ROOT PROTECTION ZONE AREA
- TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND.
- 9. TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
- 10. EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
- 11. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST OFFICE PRIOR TO ITS REMOVAL.



TREE PROTECTION TABLE

PROTECTION MEASURE									
TREE SHEET #	TREE/CALIPER	STATION OR NUMBER	LOCATION	ITEM 801	ITEM 802 MAINTENANCE/ TREATMENTS/ PROTECTION	REMOVAL SEE GENERAL NOTE No. 2			
4	HACKBERRY/30"	2+08	WITHIN ROW	PROTECTED	II A				
4	OAK/4"	3+62	WITHIN ROW						
5	CEDAR/6"	4+68	WITHIN ROW	PROTECTED	II A				
5	OAK/36"	5+83	WITHIN ROW	PROTECTED	II A				
5	ELM/28"	6+05	WITHIN ROW	PROTECTED	II A				
5	PECAN/18"	6+20	WITHIN ROW						
6	PECAN/28"	7+98	WITHIN ROW	PROTECTED	II A				
6	PECAN/15"	9+38	WITHIN ROW	PROTECTED	II A				
7	OAK/19"	11+30	WITHIN ROW	PROTECTED	II A				
10	MT LAUREL/11"	21+63	OUTSIDE ROW						
10	HACKBERRY/12"	22+15	WITHIN ROW						
10	BUR OAK/18"	24+25	WITHIN ROW	PROTECTED	II A				
10	BUR OAK/15"	24+38	WITHIN ROW	PROTECTED	II A				
10	BUR OAK/5"	24+51	WITHIN ROW						
10	0AK/7"	24+63	WITHIN ROW						
			•						

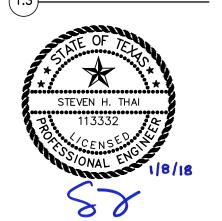
TREE PROTECTION TABLE

TREE INVENTORY SUMMARY (8" DIAMETER AND LARGER)

241 TOTAL DIAMETER INCHES, R.O.W. ____ TOTAL DIAMETER INCHES REMOVED 241

TOTAL DIAMETER INCHES PRESERVED 100% TOTAL PERCENTAGE INCHES PRESERVED

TOTAL INCHES TO BE MITIGATED TREE INVENTORY SUMMARY



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No.	Revision		Drawn	Approved	Date		
	REVISIONS						
	2018 SMP REGINA ST FROM S PRESA TO S PINE						

TREE PRESERVATION PLAN

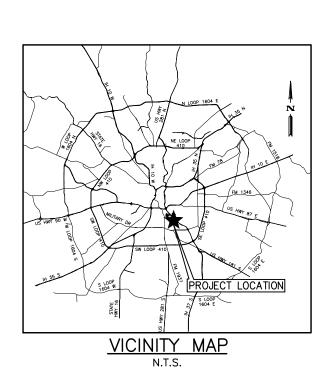
DEVELOPER: CONT. BUDGET PROJ. SUBMITTED APPROVED

MAP No. 170558 AND 172558 SHEET SECT. No. JOB No. 17-5113

SAN ANTONIO WATER STEM

SAWS SEWER JOB NO. 17-5595 2018 SMP REGINA FROM S PRESA TO S PINE

100% DESIGN SUBMITTAL





SHEET INDEX SHEET DESCRIPTION

1 COVER SHEET

GENERAL CONSTRUCTION NOTES AND QUANTITY SUMMARY

OVERALL PROJECT LAYOUT AND SURVEY CONTROL

SANITARY SEWER - LINE A STA 1+00 TO STA 4+00

SANITARY SEWER - LINE A STA 4+00 TO STA 8+00

SANITARY SEWER - LINE A STA 8+00 TO STA 11+00

SANITARY SEWER - LINE A STA 11+00 TO STA 11+97

TREE PRESERVATION PLAN



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SAWS GENERAL CONSTRUCTION NOTES

GENERAL SECTION

- 1.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
- A.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.

 B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
- C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR
- CORRENT SAIN ANTONIO WATER STATUM STATUMENT SPECIFICATIONS FOR CORSTRUCTION."

 CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."
- E.CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- 2.THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, http://www.saws.org/business_center/specs. unless WEBSITE, HTTP://WWW.SAWS.ORG/BUSIN OTHERWISE NOTED WITHIN DESIGN PLANS.
- 3.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
- 4.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.
- 5.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

- 6.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
- 7.ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT—OF—WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- 8.THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- 9.THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- 10. 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.
- 11.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
- 12.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).
- 13. POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD PURTHER 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 THAT RESPECTIVE UTILITY COMPANY'S WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
- 14. CONSTRUCTION SEQUENCING: IT IS THE CONTRACTOR 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. DISTURBANCES

SEWER SECTION:

- 15. 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
- A.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.
- ESTIMATED VOLUME OF THE SOURCE OF THE SSO.

 C.CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
- D.CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED
- SYSTEM IF POSSIDELY FAIR
 SOIL/MATERIALS.
 E.CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
 F.MEET ALL POST—SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE,
 INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED SEWER MAINS

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
- 16.THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, IN ACCORDANCE WITH SAWS SPECIAL SPECIFICATION ITEM NO. 864-S1, "BYPASS PUMPING SMALL DIAMETER SANITARY SEWERS" AND ITEM NO. 864-S2, "BYPASS PUMPING LARGE DIAMETER SANITARY SEWERS". PAYMENT FOR SUCH WORK WILL BE MADE UNDER THE BID ITEM "SANITARY SEWER (BYPASS PUMPING)" (LUMP SUM) AS PER SAWS SPECIAL
- 17.PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 210-233-3500 AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
- 18.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 (NSPI)
- 19. SMART MANHOLE COVERS: THE CONTRACTOR SHALL NOTIFY JUAN C. RAMIREZ 9. SMART MANHOLE COVERS: THE CONTRACTOR SHALL NOTIFY JOAN C. RAMINEY AT 210-233-33558 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.

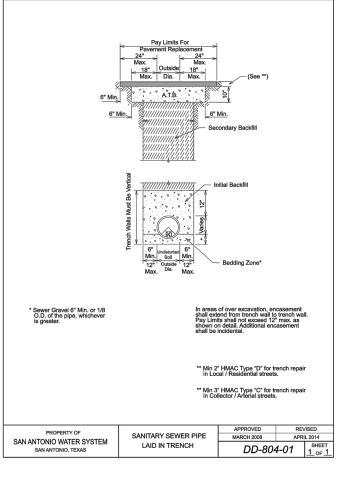
CPS ENERGY NOTES:

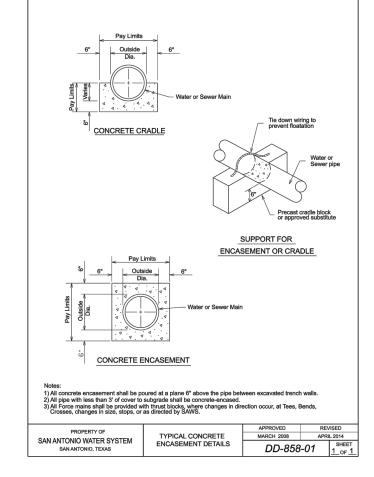
- 1.DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- 2.THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREA.

- 1.TRENCH EXCAVATION SAFETY PROTECTION SHALL BE ACCOMPLISHED AS REQUIRED BY THE MOST RECENT PROVISIONS OF PART 1926, SUBPART P-EXCAVATIONS. TRENCHING AND SHORING OF THE OSHA STANDARDS AND INTERPRETATIONS, AS MAY BE AMENDED.
- 2.MAINTAIN MINIMUM VERTICAL CLEARANCE OF 2 FT WHERE SEWER MAIN CROSSES EXISTING AND PROPOSED UTILITIES, UNLESS OTHERWISE SHOWN OF PLANS. PROVIDE TEMPORARY SUPPORT OF EXISTING UTILITY AS REQUIRED.
 WHEN SEWER MAIN PARALLELS WATER MAIN, MAINTAIN MINIMUM 4 FT HORIZONTAL CLEARANCE.
- 3.THE CONTRACTOR SHOULD CALL FOR LOCATES THROUGH "ONE CALL" UTILITY LOCATE SERVICE (1-800-545-6005) 48 HOURS PRIOR TO CONSTRUCTION/EXCAVATION WORK, CONTRACTORS HAVE THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
- 4.SEPARATION DISTANCE BETWEEN PARALLEL WATER MAIN AND SEWER MAINS ARE IN ACCORDANCE WITH SAWS VARIANCES TO SECTIONS OF TCEQ RULES.
- 5.FLOWABLE FILL TO FOLLOW SAWS STD DD-858-01 DETAIL.
- 6.ALL TREE WORK SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST.
- 7.CONTRACTOR SHALL INDICATE TO THE CITY OF SAN ANTONIO DSD PROPOSED LIMITS OF CLEARANCE WITH TREES DURING PRE-CONSTRUCTION MEETING AND WITH PROJECT SUBMITTALS.
- 8.CONTRACTOR SHALL MAINTAIN FLOWS IN EXISTING SEWER MAIN.

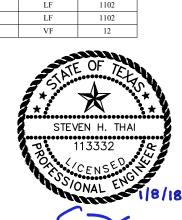
CITY OF SAN ANTONIO NOTES:

1. ALL LIMITS FOR CURB, SIDEWALK, AND TREE PREP BEYOND WHAT IS CONSIDERED INCIDENTAL TO NORMAL UTILITY CONSTRUCTION WILL BE ADDRESSED BY THE SAWS INSPECTOR. ALL COMMUNICATION FROM THE CITY WILL BE COORDINATED THROUGH THE SAWS INSPECTOR. SAWS INSPECTOR WILL ALSO DETERMINE IN ADDITIONAL COMPENSATION IS WARRANTED IF LIMITS EXCEED INCIDENTALS.





SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Sidewalks and Driveways	SF	378
205	Hot Mix Asphaltic Pavement, Type B (12" Compacted Depth)	SY	449
413	Flowable Fill	CY	6
502	Concrete Sidewalks	SY	6
503	Portland Cement Concrete Driveways	SY	36
550	Trench Protection	LF	1102
848	6" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (0'-6' cut)	LF	5
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (0'-6' cut)	LF	88
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (6'-14' cut)	LF	1009
852	Sanitary Sewer Manhole (0'-6')	EA	2
852	Sanitary Sewer Drop Manhole	EA	1
852	Extra Depth Manholes (greater than 6')	VF	7
854	Sanitary Sewer Laterals, (SDR 26, ASTM 2241, 160 psi)	LF	1147
854	Two-Way Sanitary Sewer Clean-out	EA	48
860	Vertical Stacks	VF	140
864	Small Diameter - Bypass Pumping System	EA	1
866	Pre Sewer Main Television Inspection (6"-12")	LF	1102
866	Post Sewer Main Television Inspection (8"-12")	LF	1102
910	Manhole Rehabilitation	VF	12



Brown & Gay Engineers, Inc. F-1046

	Tel:	0 San Pedro, S 210-581-3600 E Registration	• www.bg	einc.com	Гх 78216	
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2018 SMF REGINA S' FROM S PRESA TO GENERAL CONSTE NOTES AND QU SUMMARY				A ST A TO S NSTRUCT QUANTI	ION	
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	BMITTED _					
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JOB No. 17-5595

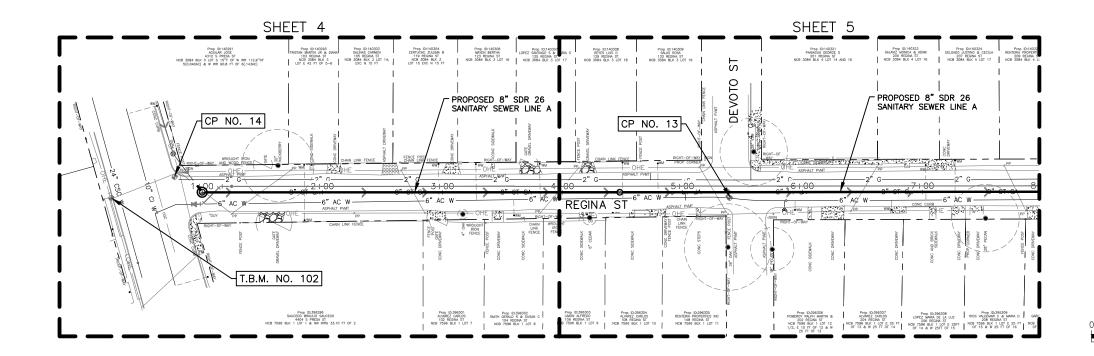
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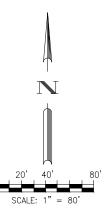
MAP No. 170558 AND 172558

SECT. No.

BGE, Inc.

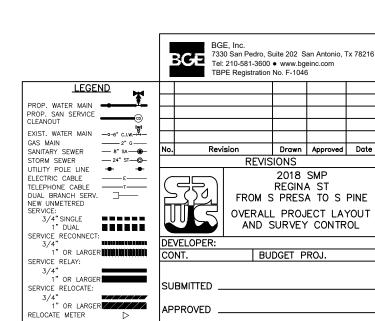


SURVEY CONTROL							
CP	NORTHING	EASTING	DESCRIPTION				
10	13686159.56	2137453.08	MAG NAIL WITH WASHER MARKED "LNV-SA"				
11	13686136.25	2136835.37	MAG NAIL WITH WASHER MARKED "LNV-SA"				
12	13686160.35	2136145.41	MAG NAIL WITH WASHER MARKED "LNV-SA"				
13	13686141.85	2135503.18	MAG NAIL WITH WASHER MARKED "LNV-SA"				
14	13686159.29	2135040.76	MAG NAIL WITH WASHER MARKED "LNV-SA"				
T.B.M	NORTHING	EASTING	DESCRIPTION	ELEVATION			
100	13686139.00	2137465.00	COTTON SPINDLE IN POWER POLE	620.83			
101	13686132.00	2136141.00	CHISELED PLUS ON FIRE HYDRANT BOLT	596.11			
102	13686142.00	2134988.00	RAILROAD SPIKE IN POWER POLE	594.50			





Brown & Gay Engineers, Inc. F-1046



RELOCATE METER NEW SERVICE:

APPROVED

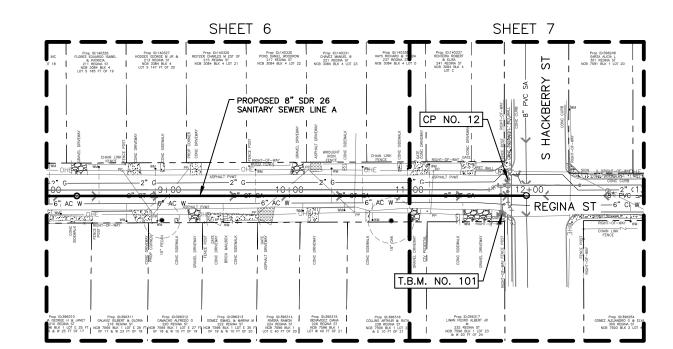
SECT. No.

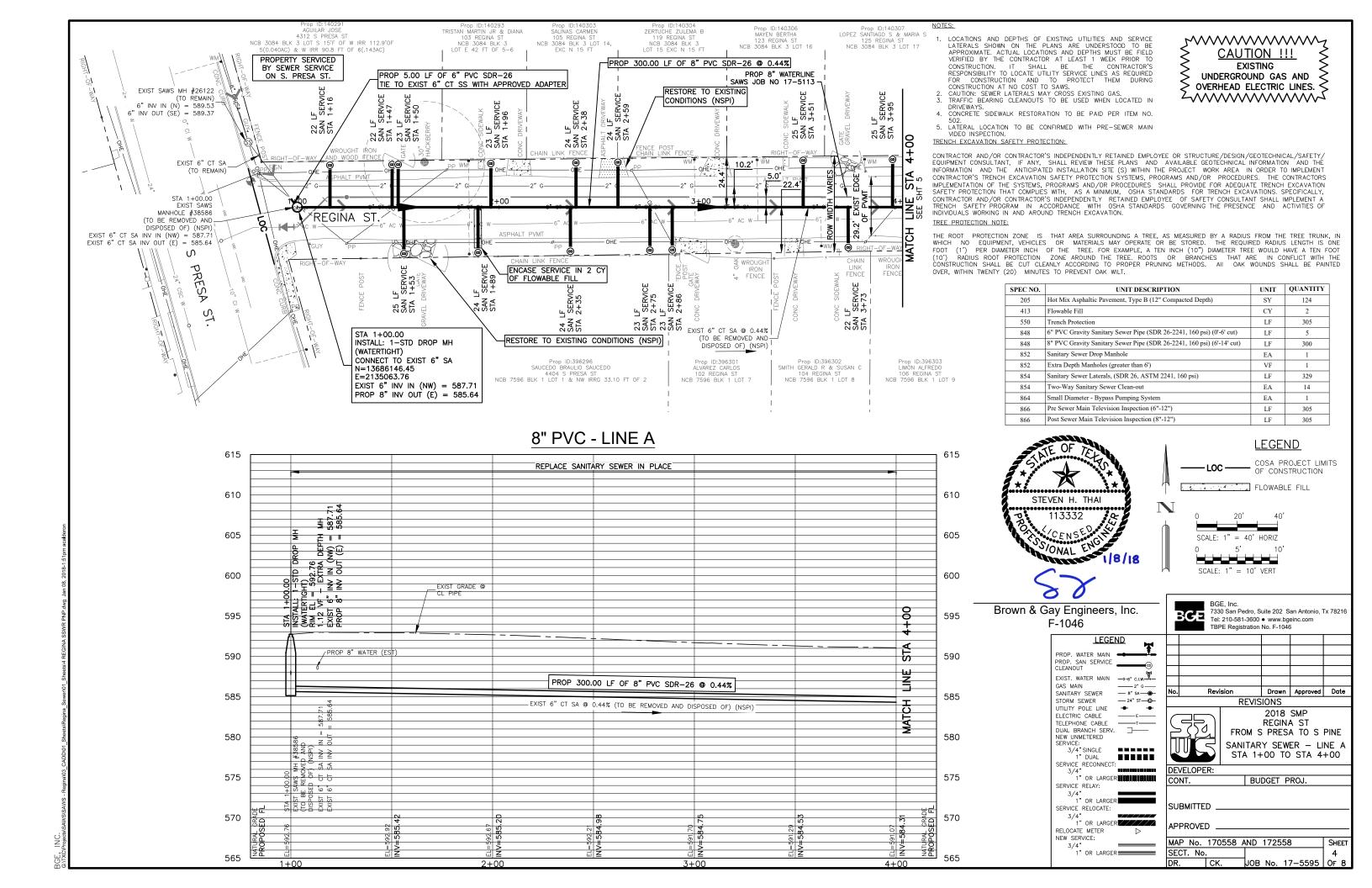
MAP No. 170558 AND 172558

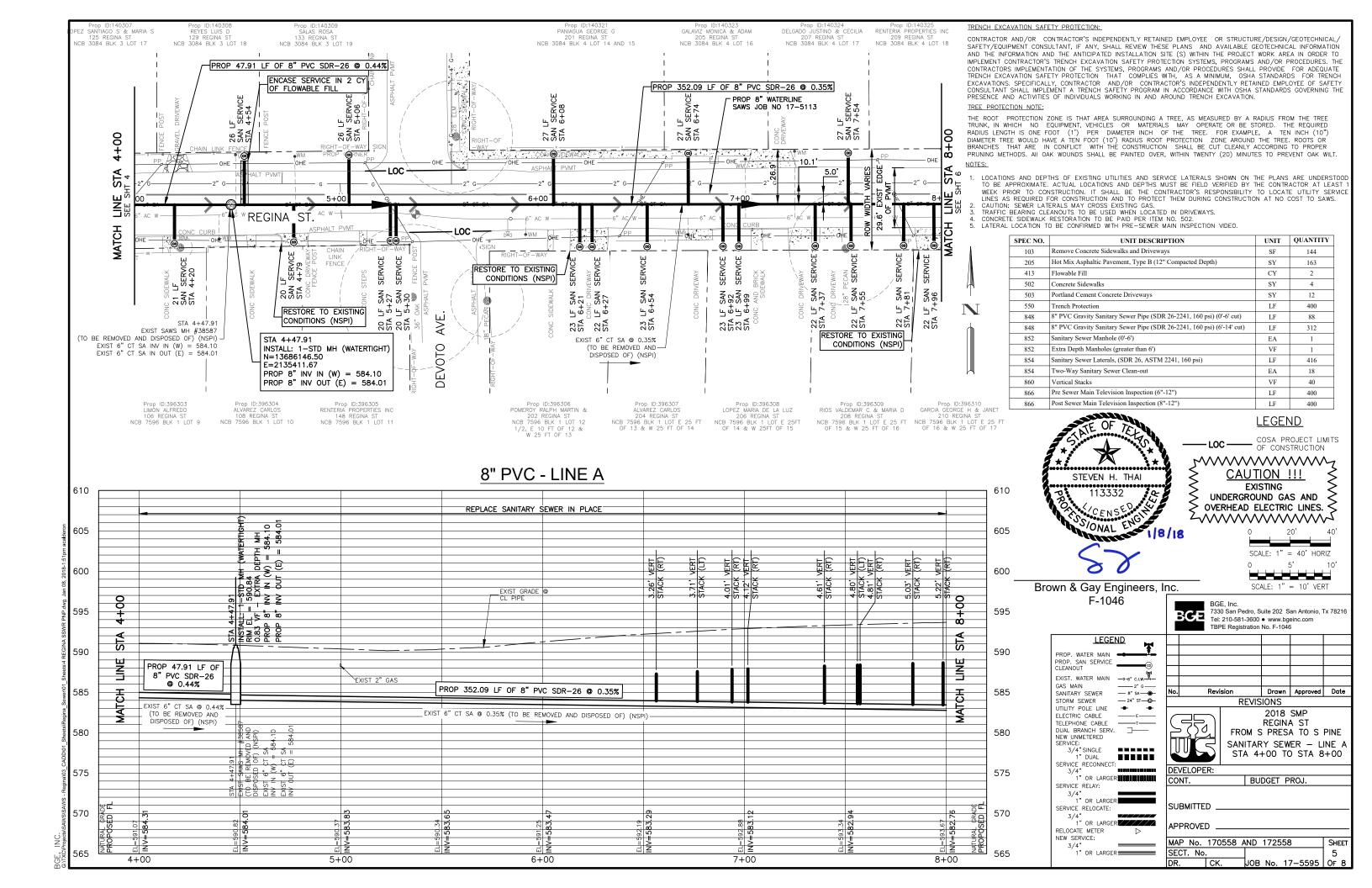
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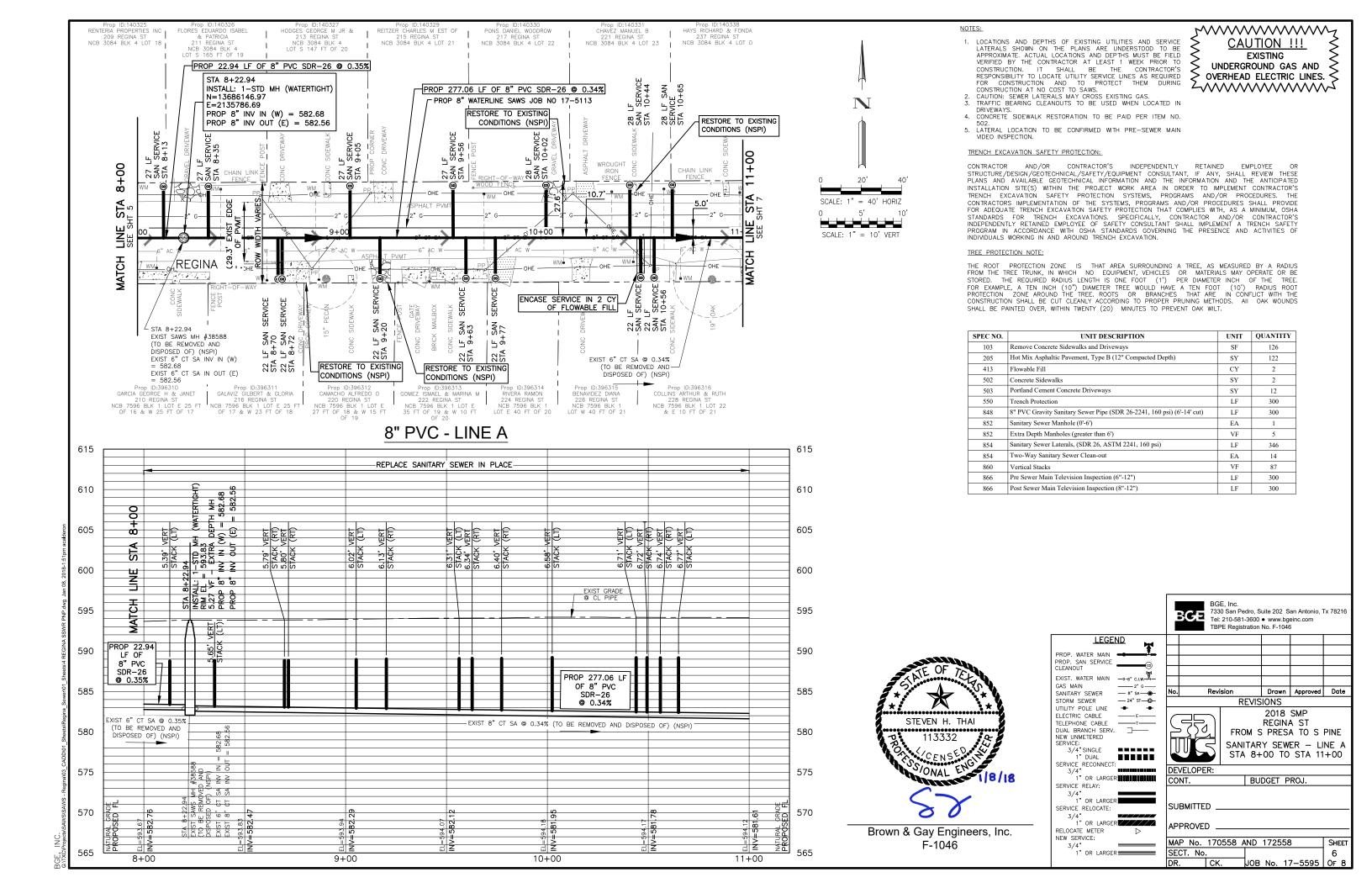
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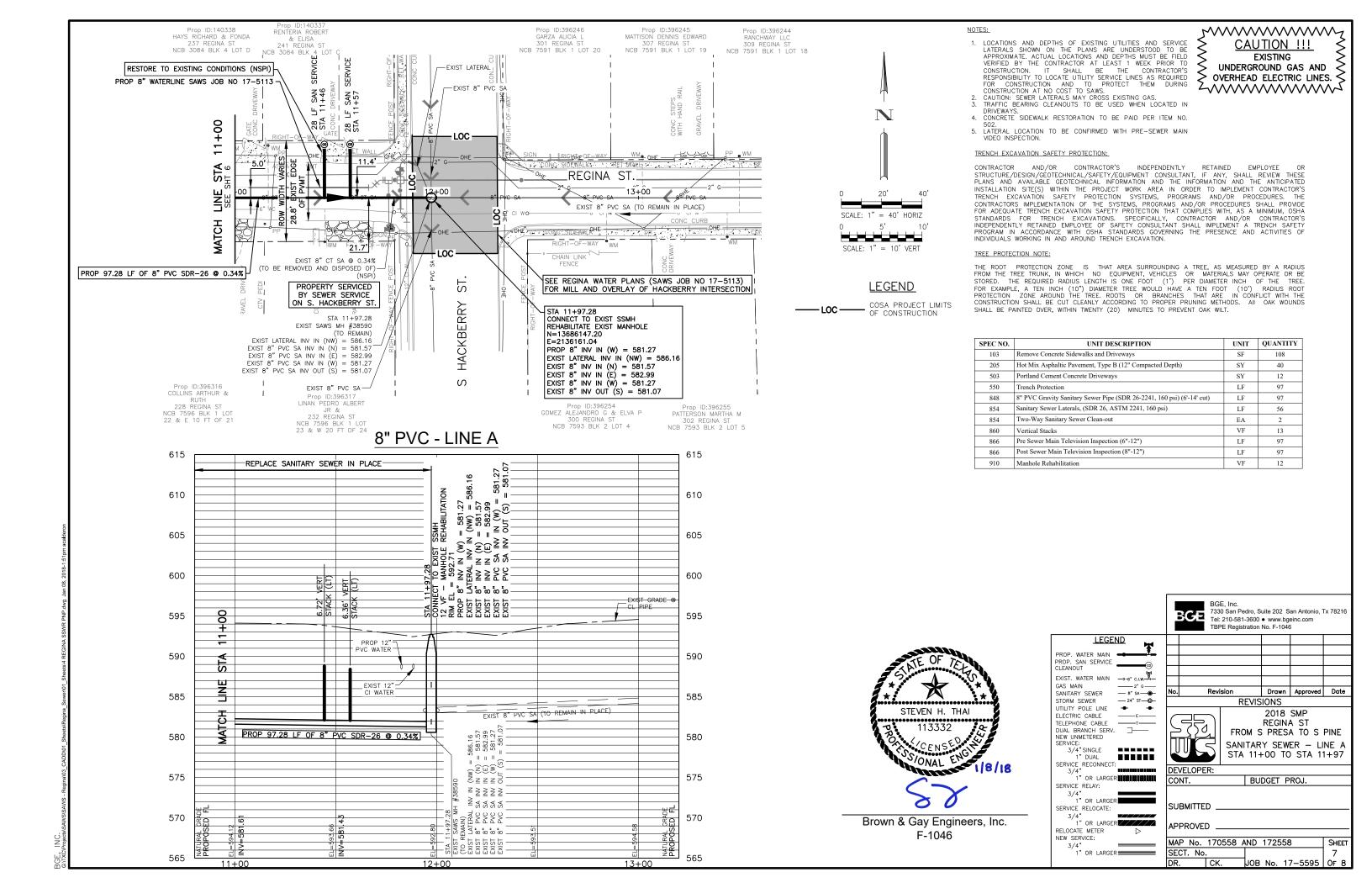
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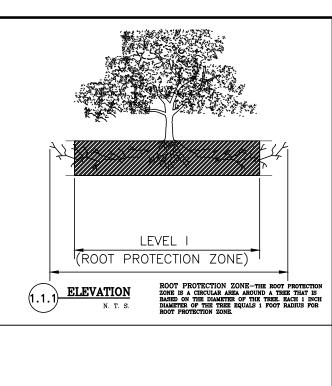












ROOT PROTECTION
ZONE (RPZ)

TREE CANOPY

6" MULCH INSIDE RPZ
WHEN THERE IS NO EXISTING
UNDERSTORY OR TURF

NOTE:

1. THE FENCING SHOWN ABOVE IS DIAGRAMMATIC ONLY
AND WILL CONFORM TO THE DRIP LINE AND LIMITED
TO PROTECTION
2. FOR ACCEPTABLE FENCING MATERIALS SEE
SPECIFICATIONS.

1.1.2 LEVEL I & FENCE PROTECTION

ROOT PROTECTION
ZONE (RPZ)
SIDEWALK

6" MULCH INSIDE RPZ
WHEN THERE IS NO EXISTING
UNDERSTORY OR TURF

8" MULCH UNSIDE RPZ
AND UNDER DRIP LINE AS
MINIMAL PROTECTION FOR ROOTS
FROM CONSTRUCTION ACTIVITIES

1. OPTION USED FOR TIGHT CONSTRUCTION AREAS
OR WHEN CONSTRUCTION OCCURS IN ROOT
PROTECTION ZONE
2. FOR ACCEPTABLE FENCING MATERIALS SEE
SPECIFICATIONS.

1. A TLEVEL II A FENCE PROTECTION

1.1.3 LEVEL II A FENCE PROTECTION
N. T. S.

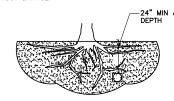
6" MULCH WITH IN DRIP LINE AS MINIMAL PROTECTION FOR ROOTS FROM CONSTRUCTION ACTIVITIES WHEN THERE IS NO EXISTING UNDERSTORY OR TURF

Note Wrap tree trunk with 2"x4" studs and rope or band in place as needed to protect trees in work areas.

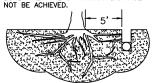
1.1.4 LEVEL II B FENCE PROTECTION

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS TROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE BORING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO BORE WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE CITY.

BORES SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.

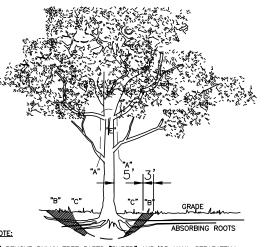


BORE TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

(1.2) BORING THRU TREE ROOT ZONE



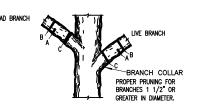
A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.

"B" BEGIN EXCAVATION APPROX. 8' FROM THE TRUNK — CUT THRU ANCHOR ROOTS AT AN ANGLE — 3' TO 4' DEEP

"C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)

"D" BACKFILL HOLE AND CLEAN UP.

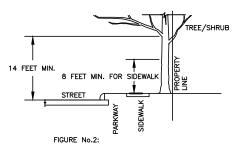
1.3 TREE REMOVAL DIAGRAM N. T. S.



- A. FIRST CUT TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
- B. SECOND CUT TO REDUCE THE WEIGHT OF BRANCH.
- C. FINAL CUT ALLOW FOR HEALING COLLAR BUT NO STUBS

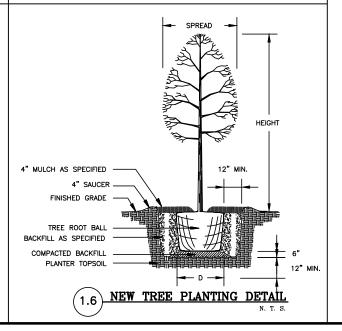
FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.

1.4 BRANCH PRUNING DETAIL



A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

BRANCH CLEARANCE DETAIL
N. T. S.



GENERAL NOT

- 1. ALL PROTECTED SIZE TREES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802. (TREE PRUNING, SOIL AMENDING AND FERTILIZATION), UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 801. (TREE AND LANDSCAPE PROTECTION) AND AS DETAILED IN 1.1.2.
- 2. ALL TREES SHALL REMAIN UNLESS NOTED ON THE CITY APPROVED PLANS.
- 3. NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND PROTECTION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY THE CITY ARBORIST OFFICE
- 4. TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- 6. THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OBE. STOKED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1) PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN NOH. (10) DIAMETER TREE WOULD HAVE A TEN FOOT (10) RADIUS.
- 7. NO DISTURBANCE SHALL OCCUR CLOSER TO THE TRUNK THAN HALF THE ROOT PROTECTION ZONE AREA.
- 8. TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND.
- 9. TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
- 10. EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
- 11. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST OFFICE PRIOR TO ITS REMOVAL.



TREE PROTECTION TABLE

PROTECTION MEASURE							
TREE SHEET #	TREE/CALIPER	STATION OR NUMBER	LOCATION	ITEM 801	ITEM 802 MAINTENANCE/ TREATMENTS/ PROTECTION	REMOVAL SEE GENERAL NOTE No. 2	
4	HACKBERRY/30"	1+63	WITHIN ROW	PROTECTED	II A		
4	OAK/4"	3+17	WITHIN ROW				
5	CEDAR/6"	4+22	WITHIN ROW	PROTECTED	II A		
5	OAK/36"	5+38	WITHIN ROW	PROTECTED	II A		
5	ELM/28"	5+59	WITHIN ROW	PROTECTED	II A		
5	PECAN/18"	5+75	WITHIN ROW				
5	PECAN/28"	7+53	WITHIN ROW	PROTECTED	II A		
6	PECAN/15"	8+94	WITHIN ROW				
6	OAK/19"	10+85	WITHIN ROW	PROTECTED	II A		
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1.3 TREE PROTECTION TABLE

TREE INVENTORY SUMMARY

(8" DIAMETER AND LARGER)

TOTAL INCHES TO BE MITIGATED

TOTAL DIAMETER INCHES, R.O.W 174

TOTAL DIAMETER INCHES REMOVED 0

TOTAL PERCENTAGE INCHES PRESERVED 100%

1.3 TREE INVENTORY SUMMARY



Brown & Gay Engineers, Inc. F-1046

	BGE, Inc. 7330 San Pedro, Suite 202 San Antonio, Tx 78216 Tel: 210-581-3600 • www.bgeinc.com TBPE Registration No. F-1046							
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Revision

REVISIONS

2018 SMP
REGINA ST
FROM S PRESA TO S PINE
TREE PRESERVATION PLAN

Drawn Approved Date

DEVELOPER:

CONT. | BUDGET PROJ.

SUBMITTED ______

MAP No. 170558 AND 172558 SHEET
SECT. No. 8
DR. CK. JOB No. 17-5595 OF 8

BGE, INC.