

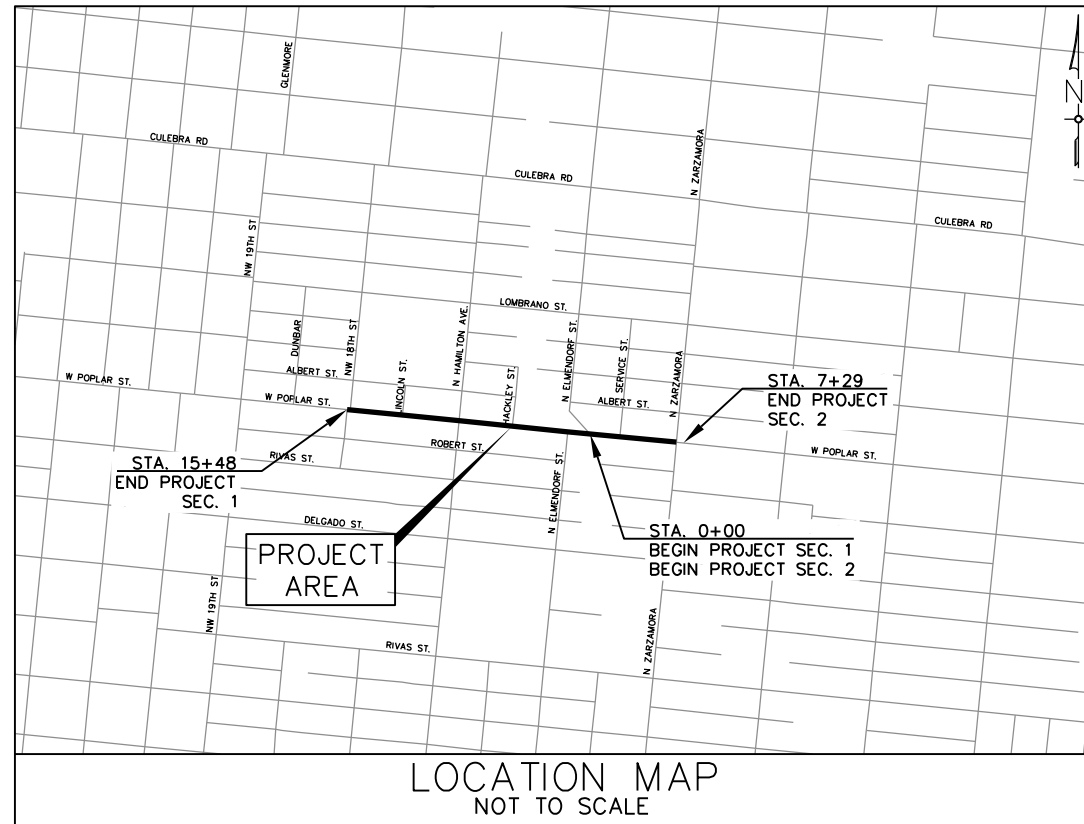
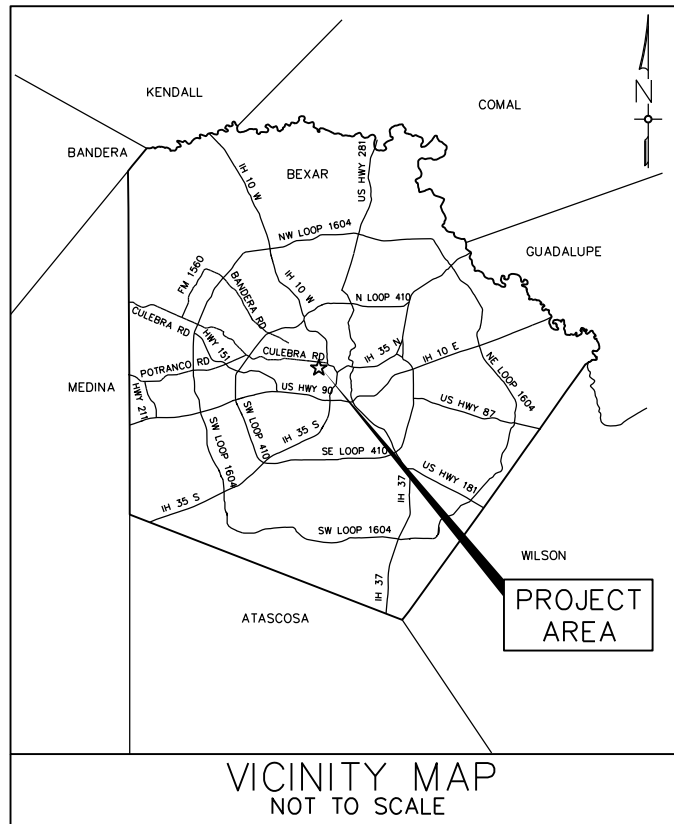
SAN ANTONIO

WATER SYSTEM

JOB NO: 17-5117

W POPLAR ST (N ZARZAMORA TO NW 18TH ST)

WATER PLANS



SHEET INDEX

- 1 OF 10 COVER SHEET
- 2 OF 10 GENERAL NOTES AND QUANTITIES
- 3 OF 10 HORIZONTAL AND VERTICAL CONTROL PLAN
- 4 OF 10 WATERLINE IMPROVEMENTS STA. 0+00 TO STA. 4+50
- 5 OF 10 WATERLINE IMPROVEMENTS STA. 4+50 TO STA. 8+50
- 6 OF 10 WATERLINE IMPROVEMENTS STA. 8+50 TO STA. 12+50
- 7 OF 10 WATERLINE IMPROVEMENTS STA. 12+50 TO STA. 15+48
- 8 OF 10 WATERLINE IMPROVEMENTS STA. 0+00 TO STA. 4+00
- 9 OF 10 WATERLINE IMPROVEMENTS STA. 4+00 TO STA. 7+29
- 10 OF 10 TREE PRESERVATION PLAN



1/10/18



TBPE Firm No. F-8038

8400 Blanco Road, Ste. 201, San Antonio, Texas 78216
Office: (210) 493-9200 Fax: (210) 493-9205
TBPE Firm No. F-8038

SAWS GENERAL CONSTRUCTION NOTES
GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
 - CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
 - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
 - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."
 - CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, [HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS](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](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 OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.
- HOLIDAY WORK: 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 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.

WATER SECTION

15. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS INSPECTOR 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 WORK ACCORDINGLY.
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. 30000, "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. (NSPI).

VIA METROPOLITAN TRANSIT NOTE

- CONTRACTOR SHALL NOTIFY MARK SPAULDING VIA TRANSPORTATION ADMINISTRATION (210) 441-9078 TWO (2) WEEKS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL PROTECT BUS SHELTERS, SIGNS, AND OTHER VIA APPURTENANCES DURING CONSTRUCTION.

AT&T NOTE

- CONTRACTOR SHALL COORDINATE AND REQUEST AT&T LOCATES AND ADHERE TO UTILITY EXCAVATION PRACTICES PRIOR TO COMMENCING CONSTRUCTION.

CPS ENERGY CLEARANCE NOTE

- CONTRACTOR SHALL MAINTAIN ADEQUATE WORKING CLEARANCE FROM OVERHEAD UTILITIES IN COMPLIANCE WITH C.P.S. REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE AND REQUEST CPS GAS AND ELECTRIC LOCATES AND ADHERE TO UTILITY EXCAVATION PRACTICES PRIOR TO COMMENCING CONSTRUCTION.

CITY OF SAN ANTONIO FLATWORK NOTE

- 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 IF ADDITIONAL COMPENSATION IS WARRANTED IF LIMITS EXCEED INCIDENTALS.

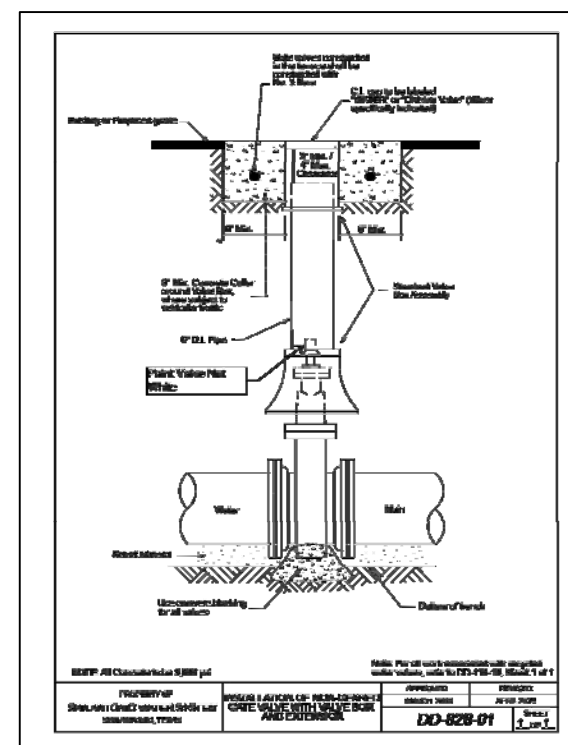
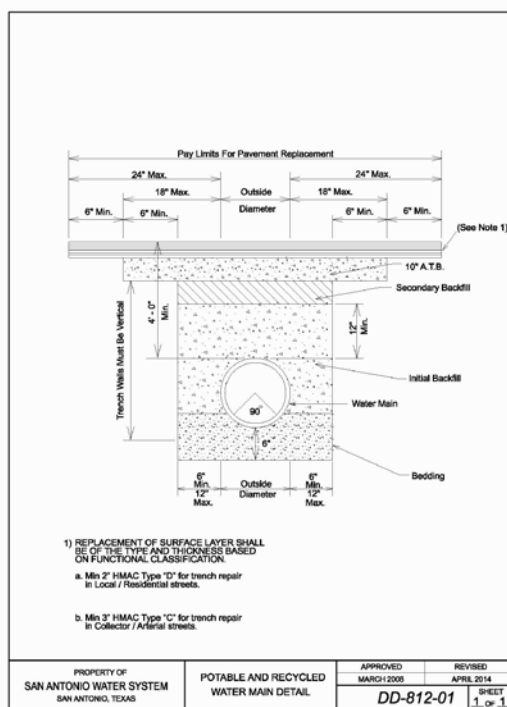
GENERAL UTILITY NOTES

LOCATOR NOTE:
CALL THE STATE WIDE "ONE CALL LOCATOR" AT 1-800-344-8377, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.

CABLE T.V. NOTE:
CONTRACTOR TO CONTACT THE TIME WARNER CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 352-4672. CONTRACTOR HAS RESPONSIBILITY TO PROTECT AND SUPPORT CABLE T.V. PLANT DURING CONSTRUCTION.

TELEPHONE NOTE:
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-828-5127. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

CPS ENERGY NOTES:
DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, C.P.S. ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT.



Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	230
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	2208
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	230
502	CONCRETE SIDEWALK	SY	248
202	PRIME COAT	GAL	295
203	TACK COAT	GAL	118
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2\"/>		



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST)
WATER IMPROVEMENTS
GENERAL NOTES AND
QUANTITIES**

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
APPROVED _____

MAP No. 148-584, 150-584 SHEET 2
SECT. No. _____ Of 10
DR. CK. JOB No. 17-5117

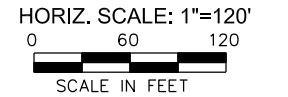


1/10/18
Javier Garcia

11/29/2017 11:29:00 AM PROJ:SAWS_5559-POPLAR DRIVE WINGS SHEETS 5559-S-WTR-GN.DWG S: CAD:V:CD PROJ:SAWS_5559-POPLAR DRIVE WINGS SHEETS 5559-S-WTR-GN.DWG

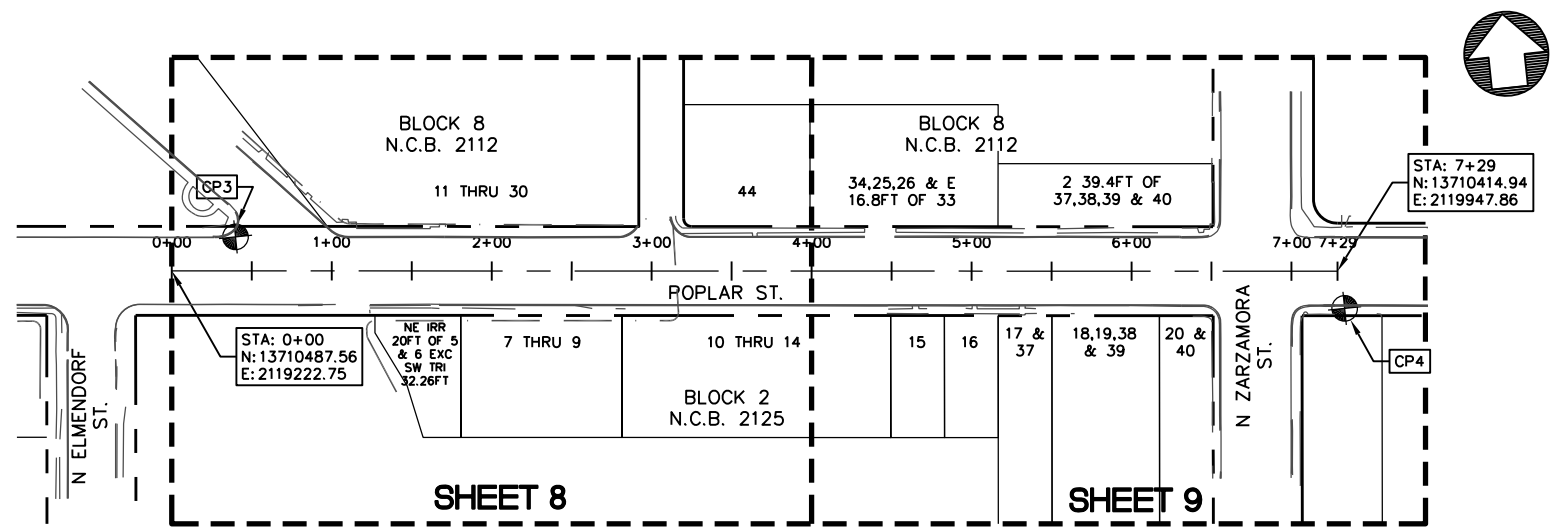
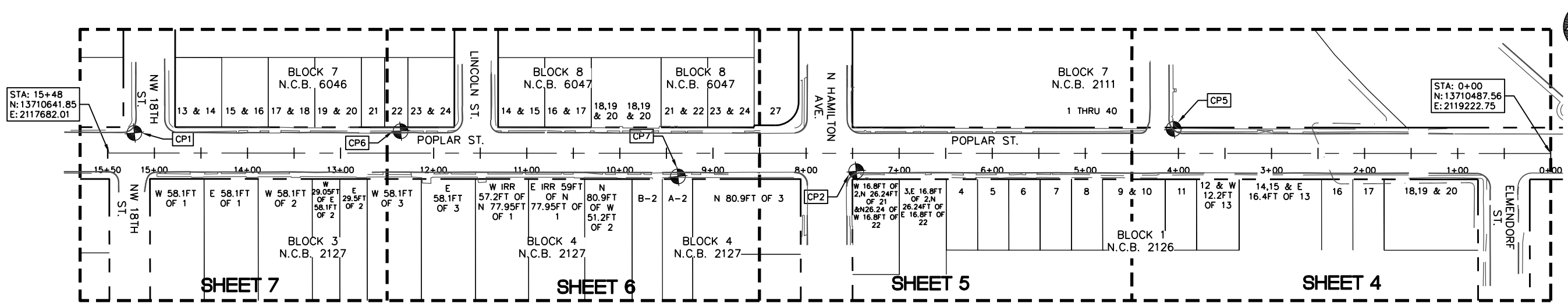
T.B.M. COORDINATE DATUM				
T.B.M.	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	13710660.67	2117710.86	687.28	MAGNAIL
CP2	13710542.77	2118478.44	673.81	MAGNAIL
CP3	13710504.73	2119264.47	662.41	MAGNAIL
CP4	13710391.40	2119950.05	666.23	1/2" IRON ROD
CP5	13710554.13	2118822.31	666.35	CHISELED X
CP6	13710634.12	2117995.71	684.46	CHISELED X
CP7	13710556.17	2118287.29	678.46	CHISELED X

NOTES:
 1. COORDINATE AND ELEVATIONS BASED ON NORTH AMERICAN DATUM 1983, TEXAS STATE PLANE COORDINATES, TEXAS SOUTH CENTRAL ZONE-4204 AND NORTH AMERICAN VERTICAL DATUM 1988.



LEGEND

- TEMPORARY BENCH MARK/CONTROL POINT
- RIGHT-OF-WAY LINE



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST)
WATER IMPROVEMENTS
HORIZONTAL AND VERTICAL
CONTROL PLAN**

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

MAP No. 148-584, 150-584 SHEET 3
 SECT. No. _____ OF 10
 DR. CK. JOB No. 17-5117



1/10/18



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

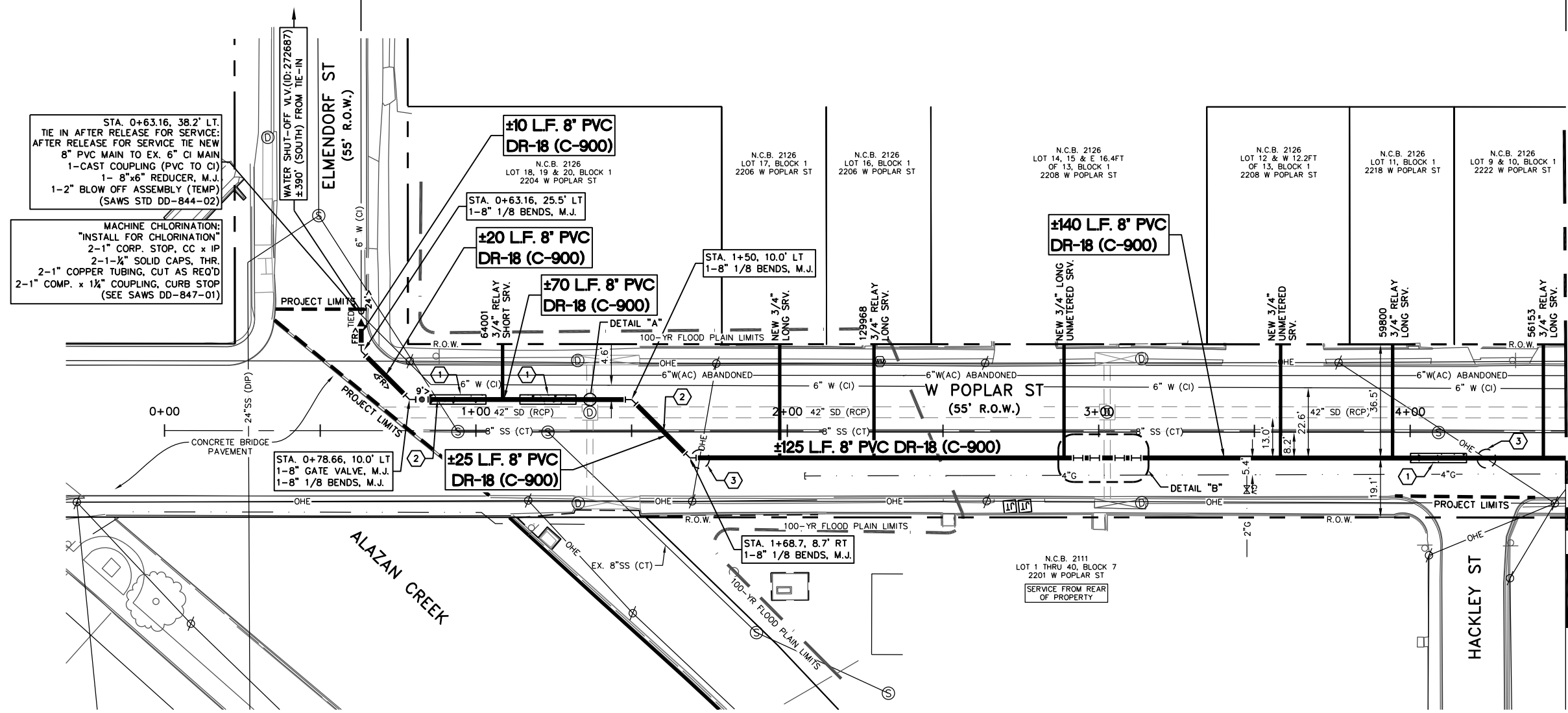
KEY NOTES

- ① CENTER 2-C.Y. OF FLOWABLE FILL ON THE PROPOSED WATER MAIN, PERPENDICULAR TO SANITARY SEWER MANHOLE.
- ② CAUTION SEWER CROSSING AT WATER MAIN.
- ③ CAUTION OVERHEAD ELECTRIC CROSSING AT WATER MAIN.

LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SRV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER
- BURIED TEL
- OH ELEC/OH TEL
- CHAINLINK FENCE
- FLOWABLE FILL
- LANDSCAPED AREA
- IRON FENCE
- WATER METER
- TELE PEDESTAL/BOX
- LIGHT POLE
- POWER POLE/GUY WIRE
- SIGN
- MAIL BOX
- CLEAN OUT
- GAS @ WATER CROSSING

**ABANDON EXISTING 6" AC MAIN IN PLACE (N.S.P.I.)
MACHINE CHLORINATE BY SAWS NEW 8" PVC MAIN**



MATCH LINE STA. 4+50

STA. 0+63.16, 38.2' LT.
TIE IN AFTER RELEASE FOR SERVICE:
AFTER RELEASE FOR SERVICE TIE NEW
8" PVC MAIN TO EX. 6" CI MAIN
1-CAST COUPLING (PVC TO CI)
1- 8"x6" REDUCER, M.J.
1-2" BLOW OFF ASSEMBLY (TEMP)
(SAWS STD DD-844-02)

MACHINE CHLORINATION:
"INSTALL FOR CHLORINATION"
2-1" CORP. STOP, CC x IP
2-1-1/2" SOLID CAPS, THR.
2-1" COPPER TUBING, CUT AS REQ'D
2-1" COMP. x 1-1/2" COUPLING, CURB STOP
(SEE SAWS DD-847-01)

STA. 0+78.66, 10.0' LT
1-8" GATE VALVE, M.J.
1-8" 1/8 BENDS, M.J.

±25 L.F. 8" PVC
DR-18 (C-900)

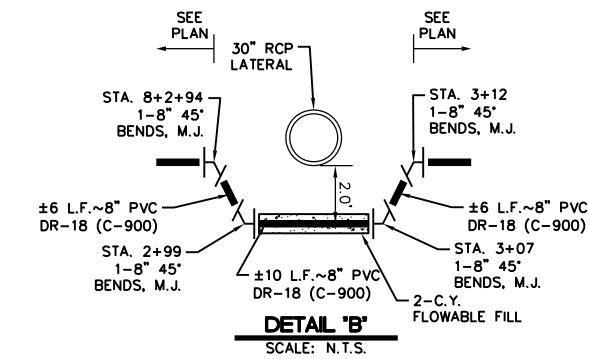
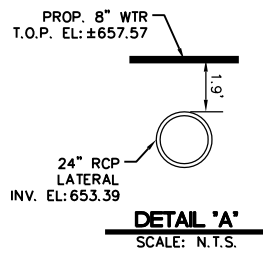
±10 L.F. 8" PVC
DR-18 (C-900)

±20 L.F. 8" PVC
DR-18 (C-900)

±70 L.F. 8" PVC
DR-18 (C-900)

±140 L.F. 8" PVC
DR-18 (C-900)

±125 L.F. 8" PVC DR-18 (C-900)



SHEET NOTES

1. PIPE RESTRAINT
 - 1.1. #> = RESTRAINED LENGTH (FT)/DIRECTION FROM FITTING.
 - 1.2. FR = FULLY RESTRAINED BETWEEN FITTINGS
2. USE CAUTION DURING CONSTRUCTION OHE ELECTRIC LINE CROSSING W. POPLAR ST.

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

Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	15
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	144
202	PRIME COAT	GAL	54
203	TACK COAT	GAL	22
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2" COMPACTED DEPTH)	SY	217
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	171
413	FLOWABLE FILL	CY	8
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	15
502	CONCRETE SIDEWALK	SY	16
550	TRENCH EXCAV. SAFETY PROTECTION	LF	412
818	8" PVC WATERLINE	LF	412
824	RELAY 3/4", SHORT	EA	1
824	RELAY 3/4", LONG	EA	4
824	NEW 3/4", LONG, UNMETERED	EA	2
828	8" GATE VALVE, COMPLETE W/ BOX	EA	1
833	EXISTING METER AND NEW METER BOX RELOCATION	EA	7
833	NEW METER BOX	EA	7
836	PIPE FITTINGS, ALL SIZES AND TYPES	TON	0.38
840	6" WATER TIE-IN	EA	1
841	HYDROSTATIC TESTING	EA	1
844	2" BLOW-OFF, TEMPORARY	EA	1



1/10/18
[Signature]



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST)
WATER IMPROVEMENTS**

STA. 0+00 TO STA. 4+50

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
APPROVED _____

MAP No. 148-584, 150-584
SECT. No. _____
DR. CK. JOB No. 17-5117

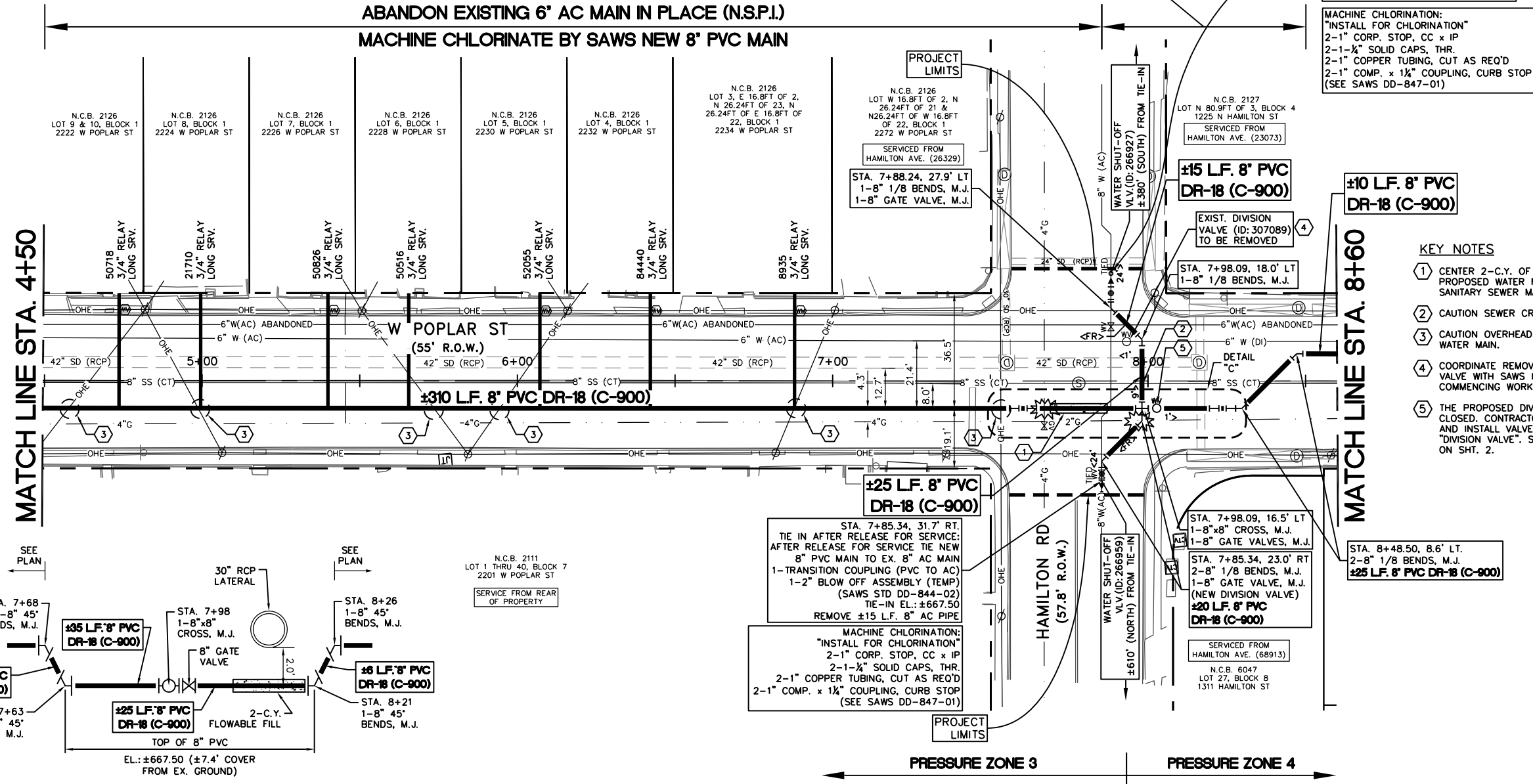
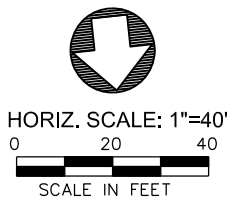
SHEET 4
Of 10

ABANDON EXISTING 6' D.I. MAIN IN PLACE (N.S.P.I.)
MACHINE CHLORINATE BY SAWS NEW 8' PVC MAIN

ABANDON EXISTING 6' AC MAIN IN PLACE (N.S.P.I.)
MACHINE CHLORINATE BY SAWS NEW 8' PVC MAIN

STA. 7+88.24, 32.4' LT.
TIE IN AFTER RELEASE FOR SERVICE:
AFTER RELEASE FOR SERVICE TIE NEW
8" PVC MAIN TO EX. 8" AC MAIN
1-TRANSITION COUPLING (PVC TO AC)
1-2" BLOW OFF ASSEMBLY (TEMP)
(SAWS STD DD-844-02)
TIE-IN EL.: ±667.50
REMOVE ±15 L.F. 8" AC PIPE

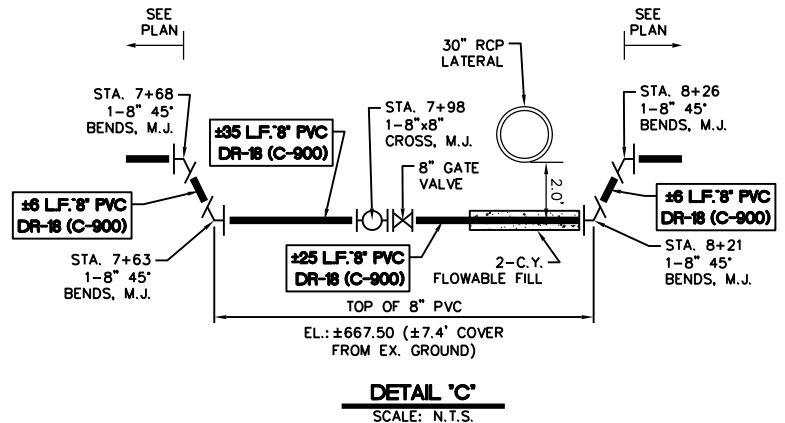
MACHINE CHLORINATION:
"INSTALL FOR CHLORINATION"
2-1" CORP. STOP, CC x IP
2-1 1/4" SOLID CAPS, THR.
2-1" COPPER TUBING, CUT AS REQ'D
2-1" COMP. x 1 1/4" COUPLING, CURB STOP
(SEE SAWS DD-847-01)



- KEY NOTES**
- 1 CENTER 2-C.Y. OF FLOWABLE FILL ON THE PROPOSED WATER MAIN, PERPENDICULAR TO SANITARY SEWER MANHOLE.
 - 2 CAUTION SEWER CROSSING AT WATER MAIN.
 - 3 CAUTION OVERHEAD ELECTRIC CROSSING AT WATER MAIN.
 - 4 COORDINATE REMOVAL OF EXISTING DIVISION VALVE WITH SAWS INSPECTOR PRIOR TO COMMENCING WORK.
 - 5 THE PROPOSED DIVISION VALVE TO REMAIN CLOSED. CONTRACTOR TO PAINT NUT WHITE AND INSTALL VALVE COVER WITH LETTERING "DIVISION VALVE". SEE SAWS SPEC 828-01 ON SHT. 2.

LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—○—
SANITARY SEWER	—○—
STORM SEWER	—○—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—○—
TELEPHONE CABLE	—○—
DUAL BRANCH SERV.	—○—
NEW UNMETERED SERVICE:	
3/4" SINGLE	—
1" DUAL	—
SERVICE RECONNECT:	
3/4"	—
1" OR LARGER	—
SERVICE RELAY:	
3/4"	—
1" OR LARGER	—
SERVICE RELOCATE:	
3/4"	—
1" OR LARGER	—
RELOCATE METER	—
NEW SERVICE:	
3/4"	—
1" OR LARGER	—
BURIED TEL	—UGT—
OH ELEC/OH TEL	—OHE/OT—
CHAINLINK FENCE	—○—
FLOWABLE FILL	—
LANDSCAPED AREA	L/S
IRON FENCE	—
WATER METER	—
TELE PEDESTAL/BOX	—
LIGHT POLE	—
POWER POLE/GUY WIRE	—
SIGN	—
MAIL BOX	—
CLEAN OUT	—
GAS @ WATER CROSSING	—

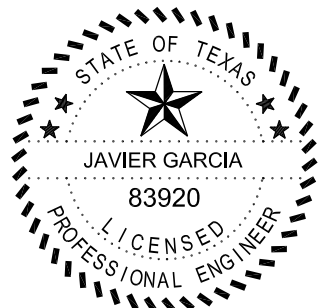


SHEET NOTES

1. BURIED AT&T CABLES EXIST AT INTERSECTION OF POPLAR ST. AND HAMILTON ST.. CONTRACTOR SHALL COORDINATE AND REQUEST AT&T LOCATES PRIOR TO COMMENCING CONSTRUCTION AT THE INTERSECTION.
2. PIPE RESTRAINT
 - 2.1. #> = RESTRAINED LENGTH (FT)/DIRECTION FROM FITTING.
 - 2.2. FR = FULLY RESTRAINED BETWEEN FITTINGS
3. USE CAUTION DURING CONSTRUCTION OHE ELECTRIC LINE CROSSING W. POPLAR ST.

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

Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	35
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	336
202	PRIME COAT	GAL	63
203	TACK COAT	GAL	25
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2" COMPACTED DEPTH)	SY	251
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	198
413	FLOWABLE FILL	CY	4
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	35
502	CONCRETE SIDEWALK	SY	38
550	TRENCH EXCAV. SAFETY PROTECTION	LF	477
818	8" PVC WATERLINE	LF	477
824	RELAY 3/4", LONG	EA	7
828	8" GATE VALVE, COMPLETE w/ BOX	EA	3
833	EXISTING METER AND NEW METER BOX RELOCATION	EA	7
833	NEW METER BOX	EA	7
836	PIPE FITTINGS, ALL SIZES AND TYPES	TON	0.78
840	8" WATER TIE-IN	EA	2
841	HYDROSTATIC TESTING	EA	1
844	2" BLOW-OFF, TEMPORARY	EA	2
3000	REMOVAL, TRNSPORT, DISPOSAL of AC PIPE	LF	30



1/10/18
[Signature]



No.	Revision	Drawn	Approved	Date
REVISIONS				
W POPLAR ST (N ZARZAMORA TO NW 18TH ST) WATER IMPROVEMENTS STA. 4+50 TO STA. 8+60				
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM				
CONT. BUDGET PROJ. 00-00-00				
SUBMITTED _____				
APPROVED _____				
MAP No.	148-584, 150-584	SHEET		
SECT. No.		5		
DR.	CK.	JOB No. 17-5117	Of 10	

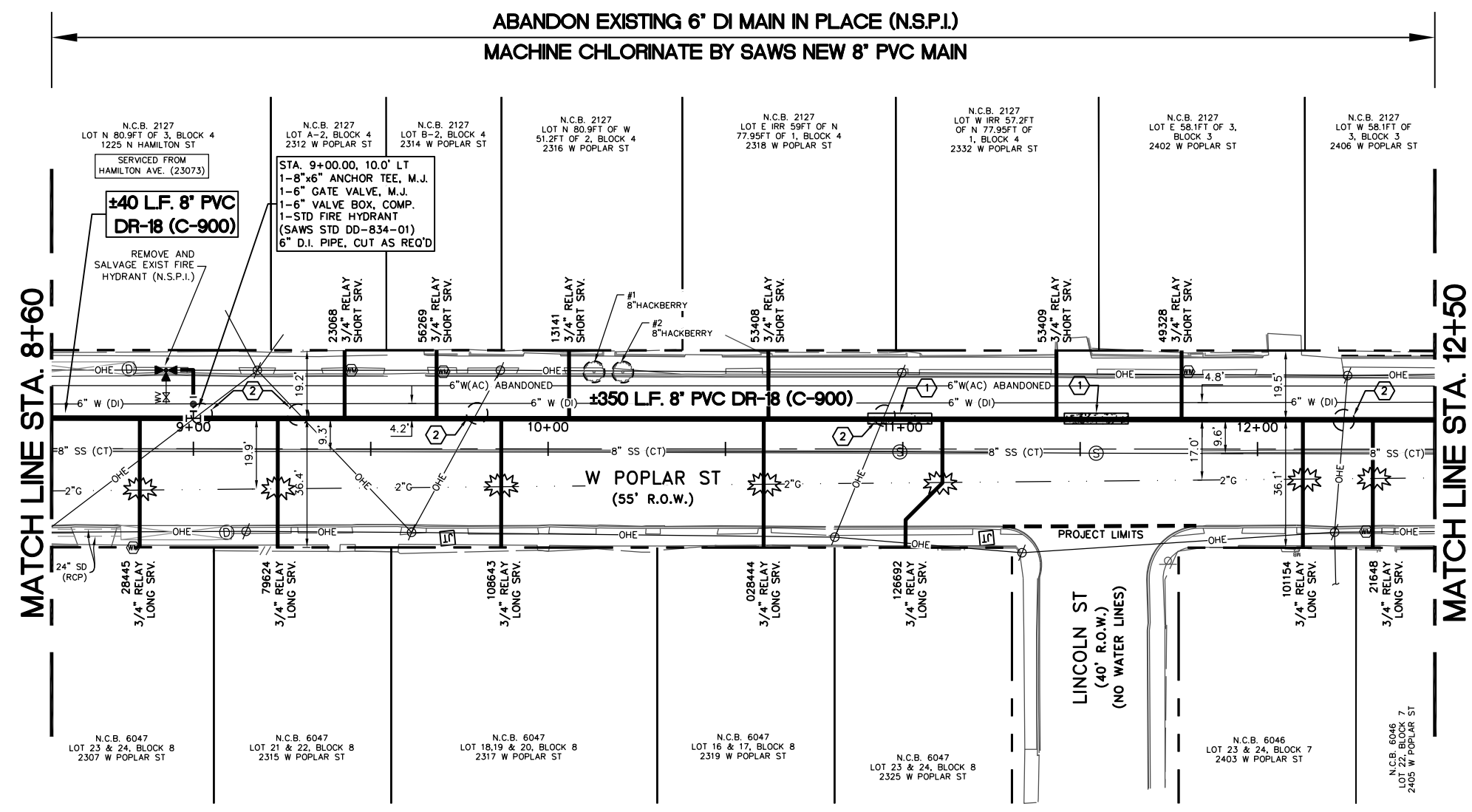
1/9/2018 S:\CAD\CAD-PROD\S&GE\5559-POPLAR\DRAWINGS\SHEETS\5559-S-WR-02.DWG



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

KEY NOTES

- ① CENTER 18'-L.F. OF FLOWABLE FILL ON THE PROPOSED WATER MAIN, PERPENDICULAR TO SANITARY SEWER MANHOLE.
- ② CAUTION OVERHEAR ELECTRIC CROSSING AT WATER MAIN.



LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—2" G—
SANITARY SEWER	—8" SS—
STORM SEWER	—24" SD—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—E—
TELEPHONE CABLE	—T—
DUAL BRANCH SERV.	—□—
NEW UNMETERED SERVICE:	
3/4" SINGLE	—■■■■■—
1" DUAL	—■■■■■—
SERVICE RECONNECT:	
3/4"	—■■■■■—
1" OR LARGER	—■■■■■—
SERVICE RELAY:	
3/4"	—■■■■■—
1" OR LARGER	—■■■■■—
SERVICE RELOCATE:	
3/4"	—■■■■■—
1" OR LARGER	—■■■■■—
RELOCATE METER	—▷—
NEW SERVICE:	
3/4"	—■■■■■—
1" OR LARGER	—■■■■■—
BURIED TEL	—UGT—
OH ELEC/OH TEL	—OHE/OT—
CHAINLINK FENCE	—○—
FLOWABLE FILL	—■■■■■—
LANDSCAPED AREA	L/S
IRON FENCE	—□—
WATER METER	—M—
TELE PEDESTAL/BOX	—TJB—
LIGHT POLE	—L—
POWER POLE/GUY WIRE	—P—
SIGN	—S—
MAIL BOX	—MB—
CLEAN OUT	—CO—
GAS @ WATER CROSSING	—X—



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST)
WATER IMPROVEMENTS**

STA. 8+60 TO STA. 12+50

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
APPROVED _____

MAP No. 148-584, 150-584 SHEET 6
SECT. No. 6 OF 10
DR. CK. JOB No. 17-5117



1/10/18
[Signature]

Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	65
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	624
202	PRIME COAT	GAL	51
203	TACK COAT	GAL	21
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2" COMPACTED DEPTH)	SY	205
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	162
413	FLOWABLE FILL	CY	4
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	65
502	CONCRETE SIDEWALK	SY	70
550	TRENCH EXCAV. SAFETY PROTECTION	LF	390
818	8" PVC WATERLINE	LF	390
824	RELAY 3/4", SHORT	EA	6
824	RELAY 3/4", LONG	EA	7
833	EXISTING METER AND NEW METER BOX RELOCATION	EA	13
833	NEW METER BOX	EA	13
834	FIRE HYDRANT, COMPLETE	EA	1
836	PIPE FITTINGS, ALL SIZES AND TYPES	TON	0.09

SHEET NOTES

- 1. PIPE RESTRAINT
 - 1.1. #> = RESTRAINED LENGTH (FT)/DIRECTION FROM FITTING.
 - 1.2. FR = FULLY RESTRAINED BETWEEN FITTINGS
- 2. USE CAUTION DURING CONSTRUCTION OHE ELECTRIC LINE CROSSING W. POPLAR ST.

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

12/4/2017 S:\CADD\C3D PROJ\SAWS\5559-POPLAR\DRAWINGS\SHEETS\5559-S-WTR-03.DWG

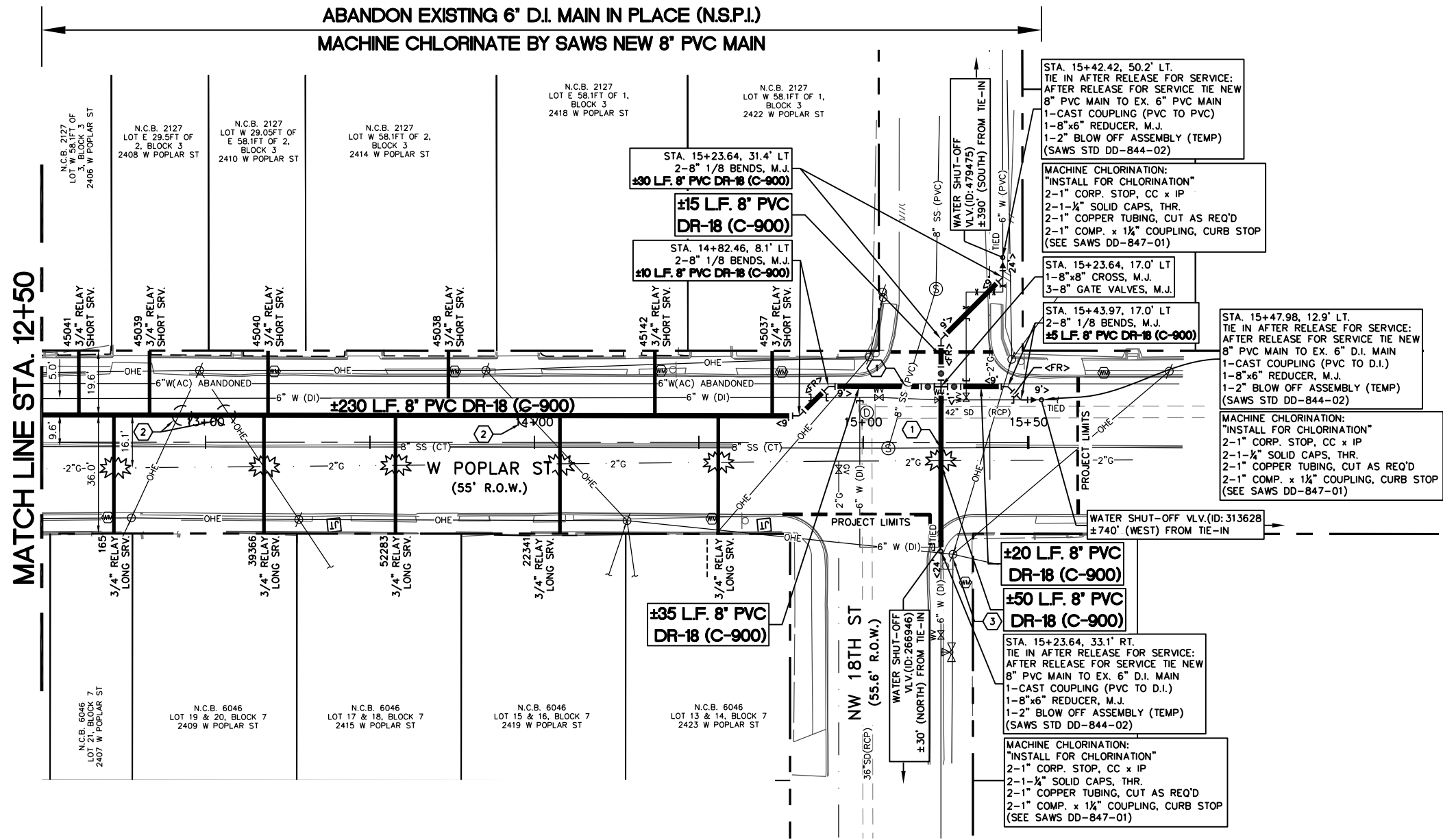


HORIZ. SCALE: 1"=40'
 0 20 40
 SCALE IN FEET

- KEY NOTES**
- CAUTION SEWER CROSSING AT WATER MAIN.
 - CAUTION OVERHEAD ELECTRIC CROSSING AT WATER MAIN.
 - THE UTILITY POLE IS IN CLOSE PROXIMITY TO THE EXISTING 8" SANITARY SEWER MAIN. CONTRACTOR SHALL COORDINATE WITH SAWS INSPECTOR AND CPS ENERGY REPRESENTATIVE TO DETERMINE IF RELOCATION WILL BE NECESSARY TO MAINTAIN MINIMUM TRENCH EXCAVATION LIMITS.

LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—2"G—
SANITARY SEWER	—8"SS—
STORM SEWER	—24"SD—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—E—
TELEPHONE CABLE	—T—
DUAL BRANCH SRV.	—D—
NEW UNMETERED SERVICE:	
3/4" SINGLE	—
1" DUAL	—
SERVICE RECONNECT:	
3/4"	—
1" OR LARGER	—
SERVICE RELAY:	
3/4"	—
1" OR LARGER	—
SERVICE RELOCATE:	
3/4"	—
1" OR LARGER	—
RELOCATE METER	—
NEW SERVICE:	
3/4"	—
1" OR LARGER	—
BURIED TEL	—UGT—
OH ELEC/OH TEL	—OHE/OT—
CHAINLINK FENCE	—○—
FLOWABLE FILL	—
LANDSCAPED AREA	L/S
IRON FENCE	—
WATER METER	—
TELE PEDESTAL/BOX	—
LIGHT POLE	—
POWER POLE/GUY WIRE	—
SIGN	—
MAIL BOX	—
CLEAN OUT	—
GAS @ WATER CROSSING	—



MATCH LINE STA. 12+50

Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	55
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	528
202	PRIME COAT	GAL	50
203	TACK COAT	GAL	20
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2" COMPACTED DEPTH)	SY	200
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	158
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	55
502	CONCRETE SIDEWALK	SY	59
550	TRENCH EXCAV. SAFETY PROTECTION	LF	395
818	8" PVC WATERLINE	LF	395
824	RELAY 3/4", SHORT	EA	6
824	RELAY 3/4", LONG	EA	5
828	8" GATE VALVE, COMPLETE w/ BOX	EA	3
833	EXISTING METER AND NEW METER BOX RELOCATION	EA	11
833	NEW METER BOX	EA	11
836	PIPE FITTINGS, ALL SIZES AND TYPES	TON	0.45
840	6" WATER TIE-IN	EA	3
841	HYDROSTATIC TESTING	EA	1
844	2" BLOW-OFF, TEMPORARY	EA	1

SHEET NOTES

- PIPE RESTRAINT
 - #> = RESTRAINED LENGTH (FT)/DIRECTION FROM FITTING.
 - FR = FULLY RESTRAINED BETWEEN FITTINGS
- USE CAUTION DURING CONSTRUCTION OHE ELECTRIC LINE CROSSING W. POPLAR ST.

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



1/10/18
[Signature]



No.	Revision	Drawn	Approved	Date

REVISIONS

W POPLAR ST
 (N ZARZAMORA TO NW 18TH ST)
 WATER IMPROVEMENTS

STA. 12+50 TO STA. 15+48

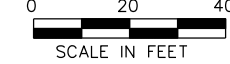
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

MAP No. 148-584, 150-584 SHEET 7
 SECT. No. _____ OF 10
 DR. CK. JOB No. 17-5117

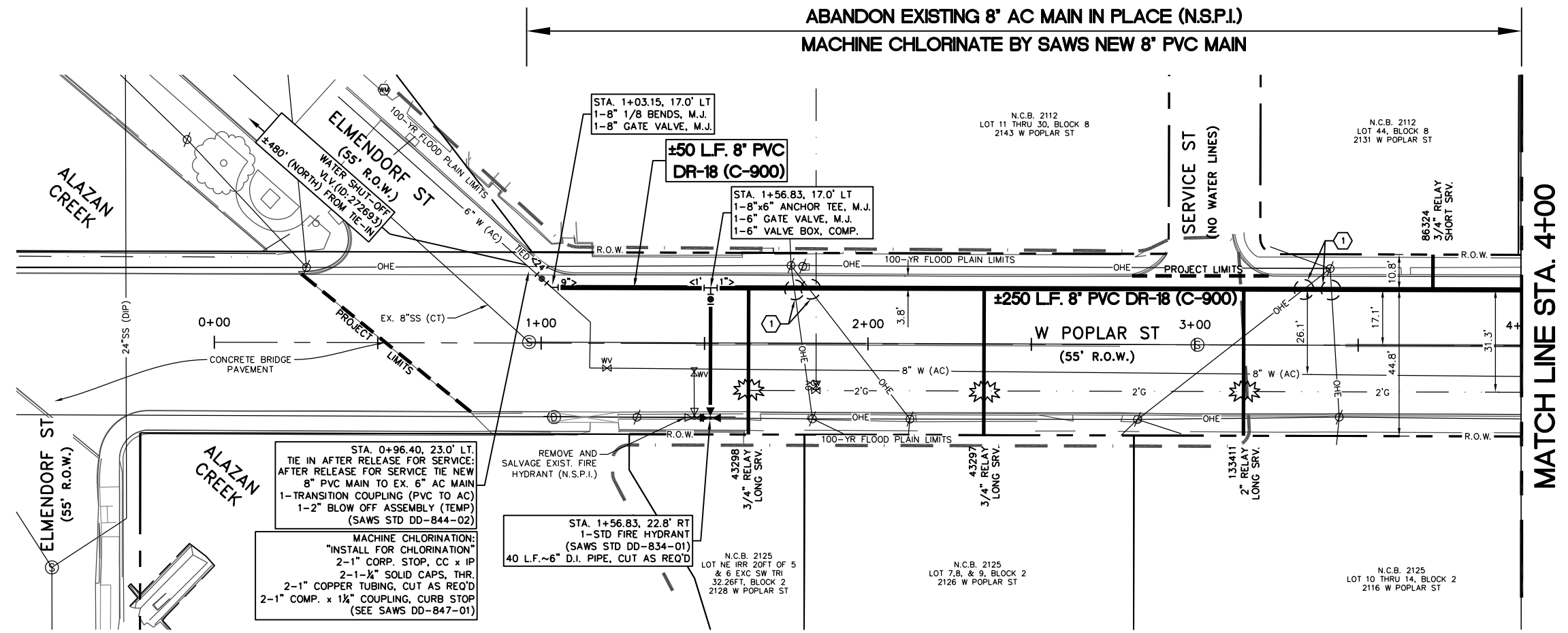


HORIZ. SCALE: 1"=40'



KEY NOTES

- ① CAUTION OVERHEAD ELECTRIC CROSSING AT WATER MAIN.



LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—2"G—
SANITARY SEWER	—8"SS—
STORM SEWER	—24"SD—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—E—
TELEPHONE CABLE	—T—
DUAL BRANCH SERV.	—T—
NEW UNMETERED SERVICE:	
3/4" SINGLE	—
1" DUAL	—
SERVICE RECONNECT:	
3/4"	—
1" OR LARGER	—
SERVICE RELAY:	
3/4"	—
1" OR LARGER	—
SERVICE RELOCATE:	
3/4"	—
1" OR LARGER	—
RELOCATE METER	—
NEW SERVICE:	
3/4"	—
1" OR LARGER	—
BURIED TEL	—UGT—
OH ELEC/OH TEL	—OHE/OT—
CHAINLINK FENCE	—○—
FLOWABLE FILL	—
LANDSCAPED AREA	L/S
IRON FENCE	—
WATER METER	—
TELE PEDESTAL/BOX	—
LIGHT POLE	—
POWER POLE/GUY WIRE	—
SIGN	—
MAIL BOX	—
CLEAN OUT	—
GAS @ WATER CROSSING	—



Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	25
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	240
202	PRIME COAT	GAL	41
203	TACK COAT	GAL	16
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2" COMPACTED DEPTH)	SY	163
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	129
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	25
502	CONCRETE SIDEWALK	SY	27
550	TRENCH EXCAV. SAFETY PROTECTION	LF	310
818	8" PVC WATERLINE	LF	310
824	RELAY 3/4", SHORT	EA	1
824	RELAY 3/4", LONG	EA	2
824	RELAY 2", LONG	EA	1
828	8" GATE VALVE, COMPLETE w/ BOX	EA	1
833	EXISTING METER AND NEW METER BOX RELOCATION	EA	4
833	NEW METER BOX	EA	4
834	FIRE HYDRANT, COMPLETE	EA	1
836	PIPE FITTINGS, ALL SIZES AND TYPES	TON	0.19
840	6" WATER TIE-IN	EA	1
841	HYDROSTATIC TESTING	EA	1
844	2" BLOW-OFF, TEMPORARY	EA	1
3000	REMOVAL, TRNSPORT, DISPOSAL of AC PIPE	LF	10

SHEET NOTES

- PIPE RESTRAINT
 - #> = RESTRAINED LENGTH (FT)/DIRECTION FROM FITTING.
 - FR = FULLY RESTRAINED BETWEEN FITTINGS
- USE CAUTION DURING CONSTRUCTION OHE ELECTRIC LINE CROSSING W. POPLAR ST.

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



1/10/18

No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST)
WATER IMPROVEMENTS**

STA. 0+00 TO STA. 4+00

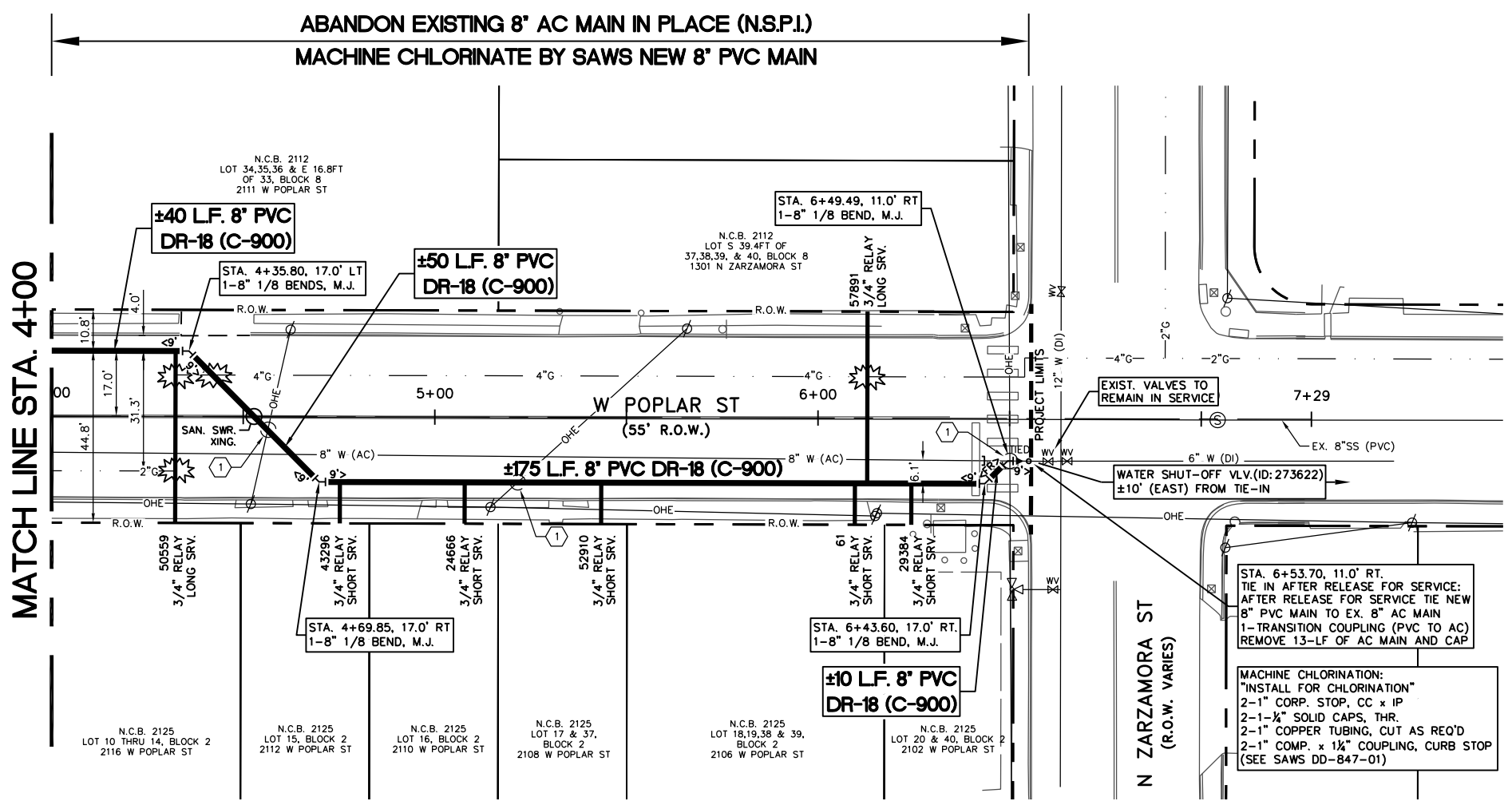
DEVELOPER:	SAN-ANTONIO-WATER-SYSTEM
CONT.	BUDGET PROJ. 00-00-00
SUBMITTED	
APPROVED	
MAP No.	148-584, 150-584
SECT. No.	8
DR.	CK.
JOB No.	17-5117
SHEET	8
Of 10	

12/4/2017 S:\CADD\C3D PROJ\SAWS\5559-POPLAR\DRAWINGS\SHEETS\5559-S-WTR-05.DWG



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

KEY NOTES
 ① CAUTION OVERHEAD ELECTRIC CROSSING AT WATER MAIN.



LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—2" G—
SANITARY SEWER	—8" SS—
STORM SEWER	—24" SD—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—E—
TELEPHONE CABLE	—T—
DUAL BRANCH SERV.	—
NEW UNMETERED SERVICE:	
3/4" SINGLE	—
1" DUAL	—
SERVICE RECONNECT:	
3/4"	—
1" OR LARGER	—
SERVICE RELAY:	
3/4"	—
1" OR LARGER	—
SERVICE RELOCATE:	
3/4"	—
1" OR LARGER	—
RELOCATE METER	—
NEW SERVICE:	
3/4"	—
1" OR LARGER	—
BURIED TEL	—UGT—
OH ELEC/OH TEL	—OHE/OT—
CHAINLINK FENCE	—○—
FLOWABLE FILL	—
LANDSCAPED AREA	L/S
IRON FENCE	—□—
WATER METER	—
TELE PEDESTAL/BOX	—TUB—
LIGHT POLE	—
POWER POLE/GUY WIRE	—
SIGN	—
MAIL BOX	—MB—
CLEAN OUT	—CO—
GAS @ WATER CROSSING	—

MATCH LINE STA. 4+00

**ABANDON EXISTING 8" AC MAIN IN PLACE (N.S.P.I.)
 MACHINE CHLORINATE BY SAWS NEW 8" PVC MAIN**



1/10/18
[Signature]

SHEET NOTES

1. PIPE RESTRAINT
 - 1.1. #> = RESTRAINED LENGTH (FT)/DIRECTION FROM FITTING.
 - 1.2. FR = FULLY RESTRAINED BETWEEN FITTINGS
2. USE CAUTION DURING CONSTRUCTION OHE ELECTRIC LINE CROSSING

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

Item #	Description	Units	Est. Qty.
103	REMOVE CONCRETE CURB	LF	35
103	REMOVE SIDEWALKS & DRIVEWAYS	SF	336
202	PRIME COAT	GAL	36
203	TACK COAT	GAL	15
205	HOT MIX ASPHALTIC PAVEMENT-TYPE D (2" COMPACTED DEPTH)	SY	145
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	114
500	CONCRETE CURB, GUTTER, AND CONCRETE CURB AND GUTTER	LF	35
502	CONCRETE SIDEWALK	SY	38
550	TRENCH EXCAV. SAFETY PROTECTION	LF	275
818	8" PVC WATERLINE	LF	275
824	RELAY 3/4", SHORT	EA	5
824	RELAY 3/4", LONG	EA	2
828	8" GATE VALVE, COMPLETE w/ BOX	EA	1
833	EXISTING METER AND NEW METER BOX RELOCATION	EA	7
833	NEW METER BOX	EA	7
836	PIPE FITTINGS, ALL SIZES AND TYPES	TON	0.22
3000	REMOVAL, TRANSPORT, DISPOSAL OF AC PIPE	LF	15



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
 (N ZARZAMORA TO NW 18TH ST)
 WATER IMPROVEMENTS**

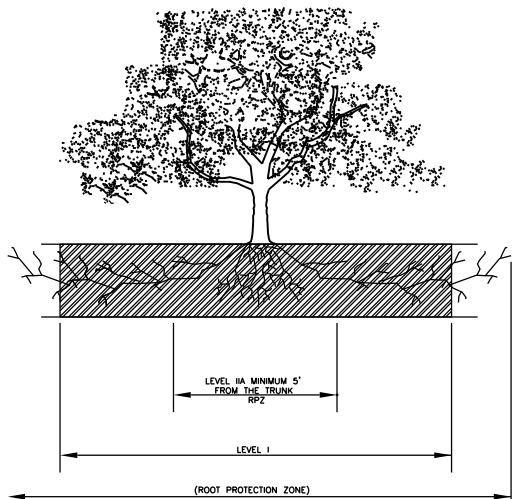
STA. 4+00 TO STA. 7+29

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

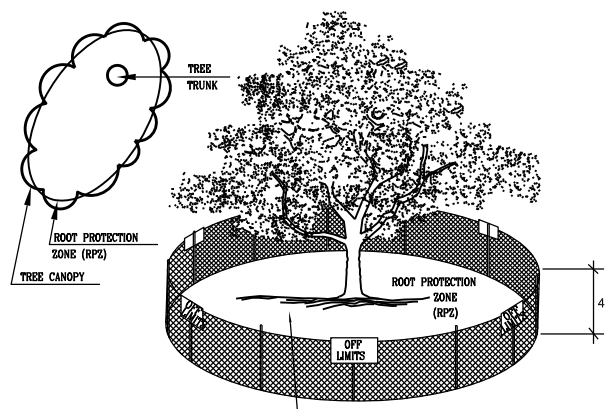
MAP No. 148-584, 150-584 SHEET 9
 SECT. No. 9
 DR. CK. JOB No. 17-5117 Of 10

1/2/2018 S:\CAD\CAD-PROJ\S&GE\POPLAR\DRAWINGS\SHEETS\5559-S-WTR-06.DWG



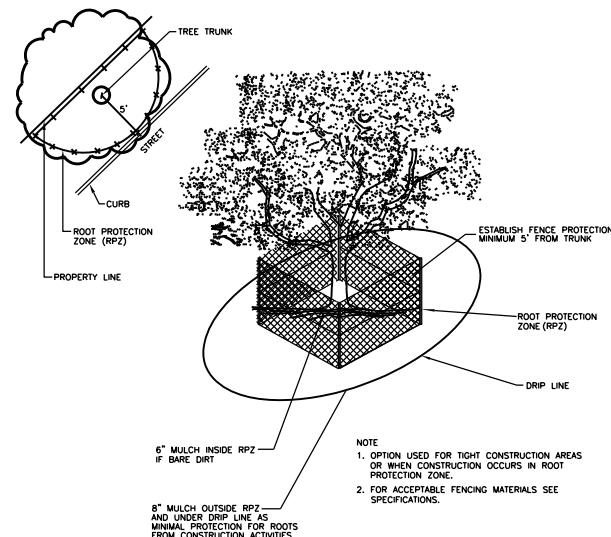
1 ELEVATION
N.T.S.

ROOT PROTECTION ZONE - THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR



2 LEVEL I & FENCE PROTECTION
N.T.S.

NOTE:
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.



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

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

GENERAL NOTES

1. ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES 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 2 PROTECTION AS PER ITEM NO. 802. TREES TO RECEIVE LEVEL 1 PROTECTION AS PER ITEM NO. 802 ARE SHOWN ON TREE PROTECTION TABLE ON THIS SHEET.
2. ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
3. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
4. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.

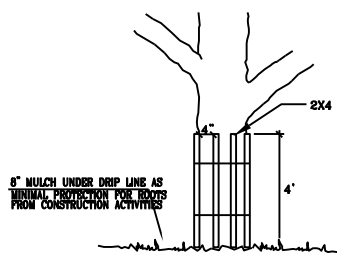
PRESERVATION NOTES

1. ALL TREES SHOWN AS "PRESERVED" WITHIN CONSTRUCTION LIMITS SHALL BE PROTECTED AT ALL TIMES.
2. CONTRACTOR SHALL TAKE EXTRA PROTECTION MEASURES FOR ALL TREES IN CLOSE PROXIMITY TO THE PROPOSED WATER MAIN, WATER SERVICES, WATER METERS AND SANITARY SEWER LATERALS IN ACCORDANCE TO THE DETAILS PROVIDED.
3. BRANCH PRUNING SHALL BE ACCOMPLISHED AS REQUIRED IN ACCORDANCE TO THE STANDARD DETAIL ON THIS SHEET.

TREE PROTECTION NOTES

1. A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR ANY VEGETATION TO BE PRESERVED TO MEET THE LANDSCAPE OR TREE PRESERVATION ORDINANCES. THE ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE (1) LINEAR FOOT FOR EACH INCH DIAMETER INCH AT BREAST HEIGHT (4.5') OF THE TREE. A 10-INCH DIAMETER TREE WILL HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE.
2. NO WORK SHALL BEGIN WHERE TREE PROTECTION FENCING HAS NOT BEEN COMPLETED AND APPROVED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING CONSTRUCTION. THE FENCING WILL BE A MINIMUM OF 4' HEIGHT.
3. ALL ROOTS LARGER THAN ONE-INCH IN DIAMETER ARE TO BE CUT CLEANLY AND OAK WOUNDS PAINTED WITHIN 30 MINUTES.
4. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE WORK DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
5. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE. NO CLEAN-OUT AREAS WILL BE CONSTRUCTED SO THAT THE MATERIAL WILL BE IN OR MIGRATE TO THE ROOT PROTECTION ZONE.
6. NO GRADE CHANGE MORE THAN 3" IS ALLOWED WITHIN THE ROOT PROTECTION ZONE.
7. ROOTS OR BRANCHES IN CONFLICT WITH CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED WITHIN 30 MINUTES TO PREVENT OAK WILT INFECTION.
8. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST (207-8053).
9. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
10. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE WATERING THE ROOT PROTECTION ZONE AND OR WASHING FOLIAGE.
11. NO WIRES, NAILS OR OTHER MATERIALS MAY BE ATTACHED TO PROTECTED TREES.

TREE PROTECTION TABLE					
SHEET NUMBER	TREE/CALIPER	STATION/NUMBER	LOCATION	MAINTENANCE/TREATMENTS/PROTECTION	REMOVAL SEE GENERAL NOTE No. 2
6	HACKBERRY / 8"	1	WITHIN R.O.W.	LEVEL II	
6	HACKBERRY / 8"	2	WITHIN R.O.W.	LEVEL II	

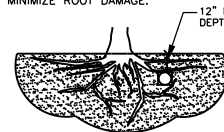


4 LEVEL II B FENCE PROTECTION
N.T.S.

NOTE:
WRAP TREE TRUNK WITH 2"x4" STUDS AND ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

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

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

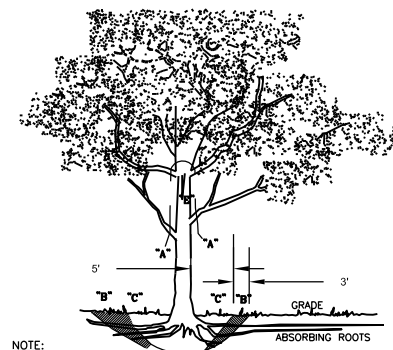


TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



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

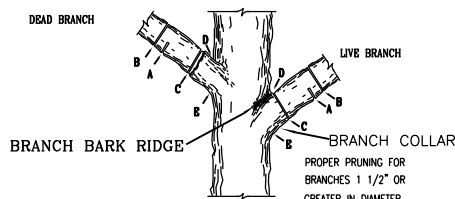
5 BORING THRU TREE ROOT ZONE
N.T.S.



NOTE:

- "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.

6 TREE REMOVAL DIAGRAM
N.T.S.



NOTE: DO NOT CUT FROM D to E.

- FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
- SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.
- FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS
- BRANCH RIDGES - IDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

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

7 BRANCH PRUNING DETAIL
N.T.S.

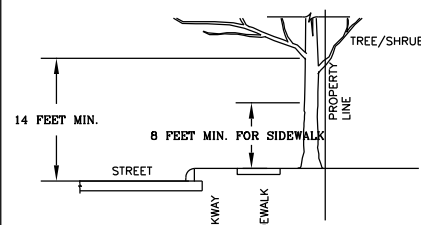
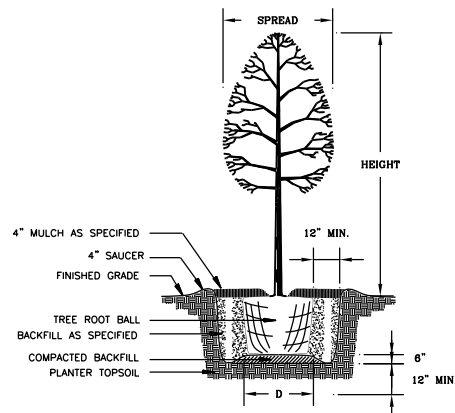


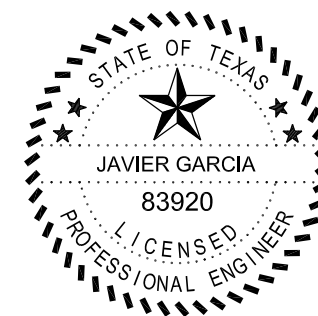
FIGURE No. 2:

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.

8 BRANCH CLEARANCE DETAIL
N.T.S.



9 NEW TREE PLANTING DETAIL
N.T.S.



1/10/18
Javier Garcia



No.	Revision	Drawn	Approved	Date

REVISIONS	
W POPLAR ST (N ZARZAMORA TO NW 18TH ST) WATER IMPROVEMENTS TREE PRESERVATION PLAN	
DEVELOPER:	SAN-ANTONIO-WATER-SYSTEM
CONT.	BUDGET PROJ. 00-00-00
SUBMITTED	_____
APPROVED	_____
MAP No.	148-584, 150-584
SECT. No.	_____
DR.	CK.
JOB No.	17-5117
SHEET	10
OF	10

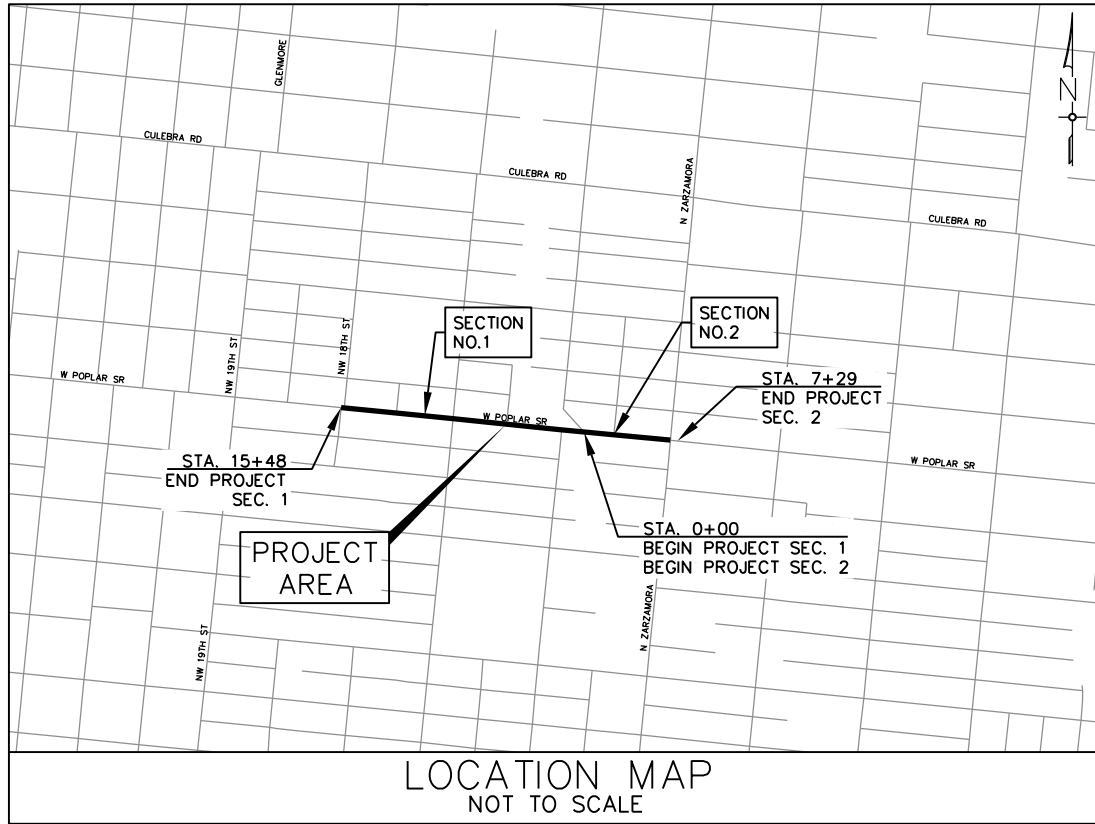
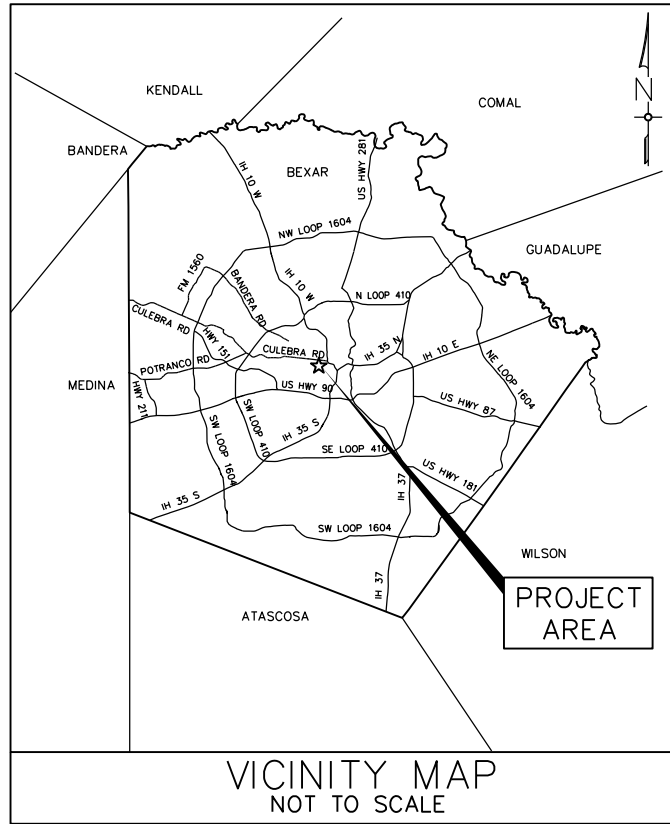
SAN ANTONIO

WATER SYSTEM

JOB NO: 17-5599

W POPLAR ST (N ZARZAMORA TO NW 18TH ST)

SEWER PLANS



SHEET INDEX

- 1 OF 10 COVER SHEET
- 2 OF 10 GENERAL NOTES AND QUANTITIES
- 3 OF 10 HORIZONTAL AND VERTICAL CONTROL SHEET
- 4 OF 10 SEWER IMPROVEMENTS STA. 0+00 TO STA. 4+50
- 5 OF 10 SEWER IMPROVEMENTS STA. 4+50 TO STA. 8+50
- 6 OF 10 SEWER IMPROVEMENTS STA. 8+50 TO STA. 12+50
- 7 OF 10 SEWER IMPROVEMENTS STA. 12+50 TO STA. 15+48
- 8 OF 10 SEWER IMPROVEMENTS STA. 0+00 TO STA. 4+00
- 9 OF 10 SEWER IMPROVEMENTS STA. 4+00 TO STA. 7+29
- 10 OF 10 TREE PRESERVATION PLAN



1/10/18
Javier Garcia



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TBPE Firm No. F-8038

12/4/2017 S:\CADD\CAD PROJ\SA\WB\1559-POPLAR\DRAWINGS\SHEETS\1559-S-SWR-COV.DWG

SAWS GENERAL CONSTRUCTION NOTES
GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
 - CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
 - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
 - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR CONSTRUCTION."
 - CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, [HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS](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](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 OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.
- HOLIDAY WORK: 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 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.

- 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

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS INSPECTOR 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 WORK ACCORDINGLY.
SAWS PRODUCTION CONTROL CENTER (210)-233-2016

- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), 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. 30000, "HANDLING ASBESTOS CEMENT PIPE".

- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI).

SEWER SECTION

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
 - IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT 210-704-SAWS (210-704-7297). PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME 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 TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

- 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.
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- CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
- MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

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

CITY OF SAN ANTONIO FLATWORK NOTE

- 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 IF ADDITIONAL COMPENSATION IS WARRANTED IF LIMITS EXCEED INCIDENTALS.

LOCATOR NOTE:
CALL THE STATE WIDE "ONE CALL LOCATOR" AT 1-800-344-8377, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.

CABLE T.V. NOTE:
CONTRACTOR TO CONTACT THE TIME WARNER CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 352-4672. CONTRACTOR HAS RESPONSIBILITY TO PROTECT AND SUPPORT CABLE T.V. PLANT DURING CONSTRUCTION.

TELEPHONE NOTE:
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-828-5127. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

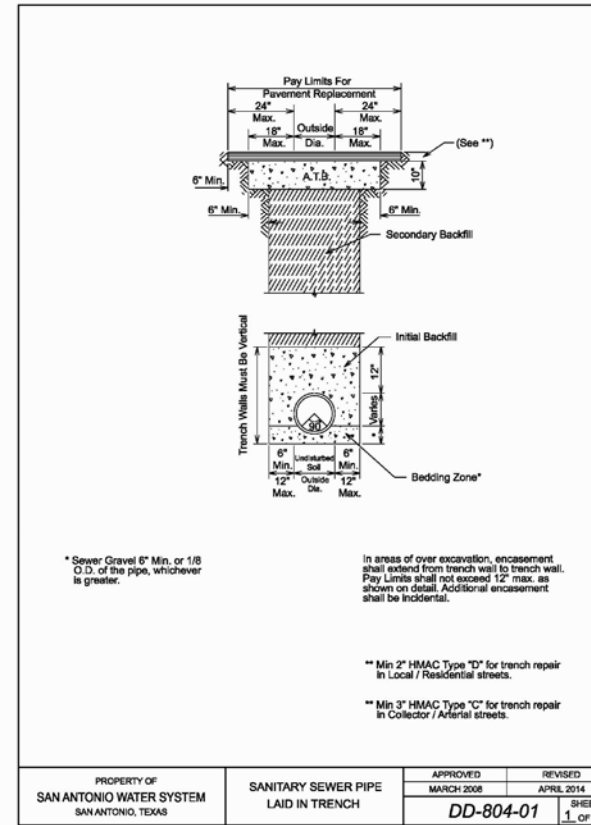
CPS ENERGY CLEARANCE NOTE

- CONTRACTOR SHALL MAINTAIN ADEQUATE WORKING CLEARANCE FROM OVERHEAD UTILITIES IN COMPLIANCE WITH C.P.S. REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE AND REQUEST CPS GAS AND ELECTRIC LOCATES AND ADHERE TO UTILITY EXCAVATION PRACTICES PRIOR TO COMMENCING CONSTRUCTION.

MANHOLE NOTE

- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL MANHOLES AT ALL TIMES UNTIL STREET IS CUT DOWN TO FINAL GRADE.

C.P.S. NOTES:
DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, C.P.S. ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT.



SUMMARY OF SANITARY SEWER QUANTITIES			
ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	235
103	REMOVE SIDEWALK & DRIVEWAY	SF	2,665
202	PRIME COAT	GAL	273
203	TACK COAT	GAL	109
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	1,086
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	858
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	235
502	CONCRETE SIDEWALK	SY	251
503	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	63
506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	3
530.1	BARRICADES, SIGNS, AND TRAFFIC HANDLING	LS	1
535.7	24 INCH WIDE WHITE LINE (<1500 LF)	LF	110
550	TRENCH EXCAV. SAFETY PROTECTION	LF	2,062
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6')	LF	2,062
852	SANITARY SEWER MANHOLE (0'-6')	EA	8
852	SANITARY SEWER DROP MANHOLE (0'-6')	EA	1
852	EXTRA DEPTH MAHOLES (>6')	VF	13
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	1,528
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	55
858	CONCRETE ENCASUREMENT, CRADLES, SADDLES AND COLLARS	CY	16
860	VERTICAL STACKS	VF	49.5
864	BY-PASS PUMPING	EA	1
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	2,062
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	2,062

EXISTING UTILITY PROTECTION NOTE

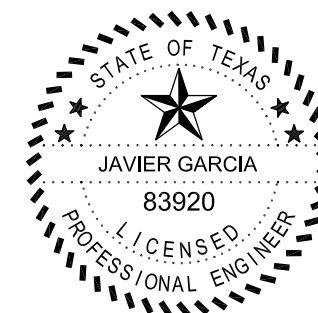
THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS WAS OBTAINED BY AVAILABLE RECORDS AND TO THE BEST OF THE DESIGN ENGINEER'S KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITIES OR STRUCTURES NOT SHOWN, OR IN A DIFFERENT LOCATION FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL EXISTING UTILITIES SHOWN ON THE PLANS AND OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN AND MAINTAIN THE RESPECTIVE UTILITY TRENCH INTEGRITY DURING SANITARY SEWER CONSTRUCTION.

VIA METROPOLITAN TRANSIT NOTE

- CONTRACTOR SHALL NOTIFY MARK SPAULDING VIA TRANSPORTATION ADMINISTRATION (210) 441-9078 TWO (2) WEEKS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL PROTECT BUS SHELTERS, SIGNS, AND OTHER VIA APPURTENANCES DURING CONSTRUCTION.

AT&T NOTE

- CONTRACTOR SHALL COORDINATE AND REQUEST AT&T LOCATES AND ADHERE TO UTILITY EXCAVATION PRACTICES PRIOR TO COMMENCING CONSTRUCTION.



1/10/18

[Handwritten Signature]

S&GE, L.L.C.
TBPE Firm No. F-8038

No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST))
SEWER IMPROVEMENTS**

GENERAL NOTES AND QUANTITIES

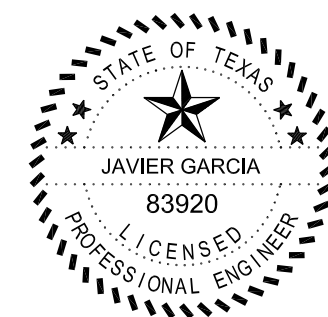
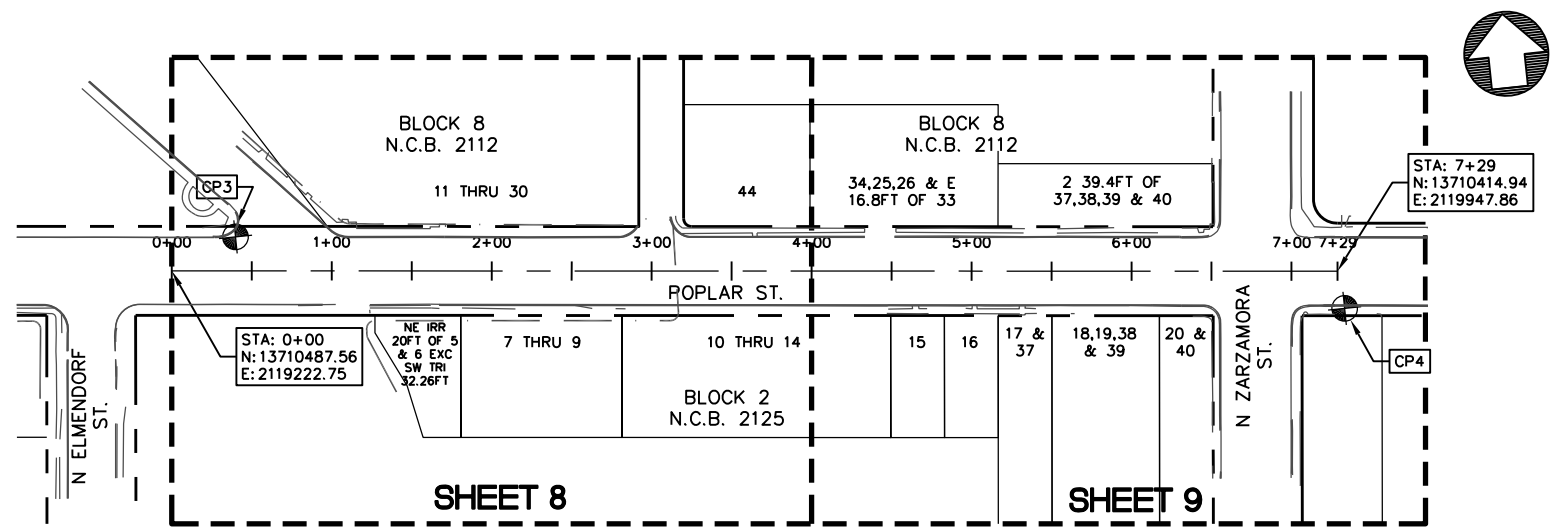
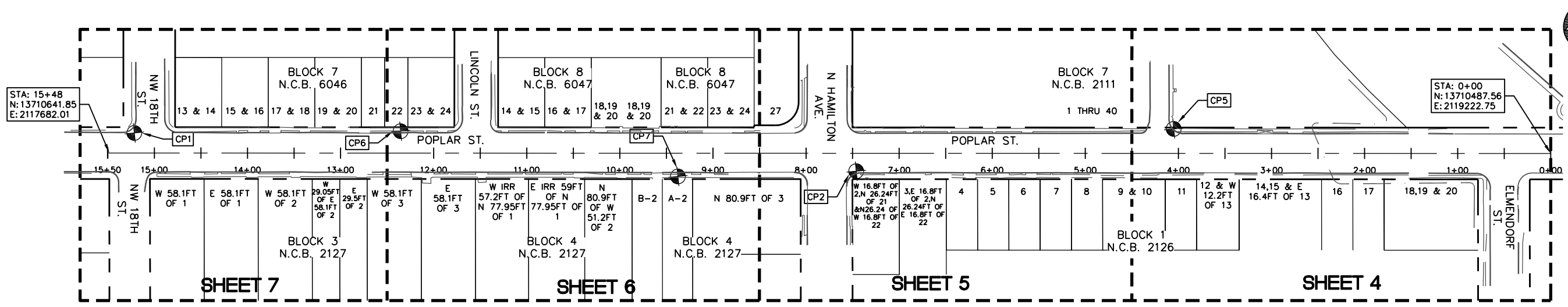
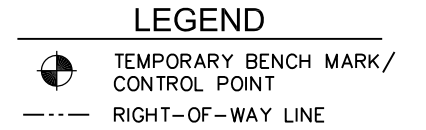
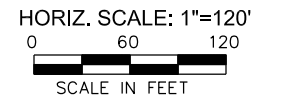
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
APPROVED _____

MAP No. 148-584, 150-584	SHEET 2
SECT. No. _____	2
DR. CK. _____	JOB No. 17-5599
	Of 10

T.B.M. COORDINATE DATUM				
T.B.M.	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	13710660.67	2117710.86	687.28	MAGNAIL
CP2	13710542.77	2118478.44	673.81	MAGNAIL
CP3	13710504.73	2119264.47	662.41	MAGNAIL
CP4	13710391.40	2119950.05	666.23	1/2 IRON ROD
CP5	13710554.13	2118822.31	666.35	CHISELED X
CP6	13710634.12	2117995.71	684.46	CHISELED X
CP7	13710556.17	2118287.29	678.46	CHISELED X

NOTES:
 1. COORDINATE AND ELEVATIONS BASED ON NORTH AMERICAN DATUM 1983, TEXAS STATE PLANE COORDINATES, TEXAS SOUTH CENTRAL ZONE-4204 AND NORTH AMERICAN VERTICAL DATUM 1988.



1/10/19
[Signature]

S&GE, L.L.C.
 TBPE Firm No. F-8038

No.	Revision	Drawn	Approved	Date

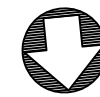
REVISIONS

**W POPLAR ST
 (N ZARZAMORA TO NW 18TH ST))
 SEWER IMPROVEMENTS
 HORIZONTAL AND VERTICAL
 CONTROL PLAN**

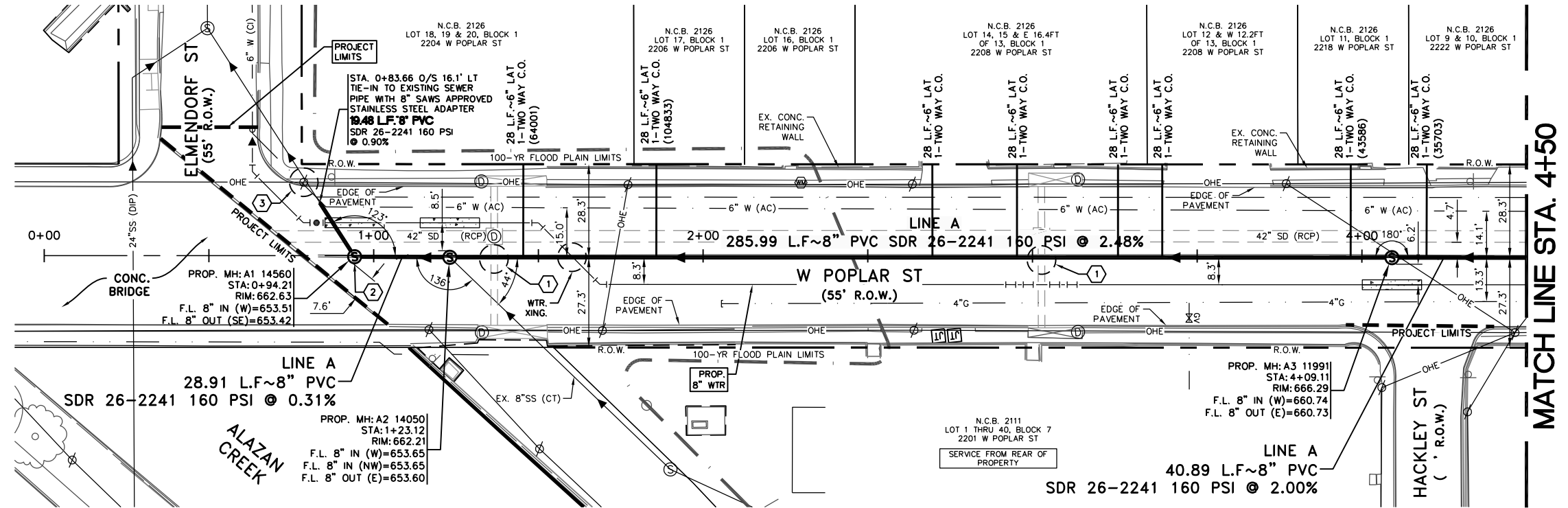
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

MAP No. 148-584, 150-584 SHEET 3
 SECT. No. _____ OF 10
 DR. CK. JOB No. 17-5599

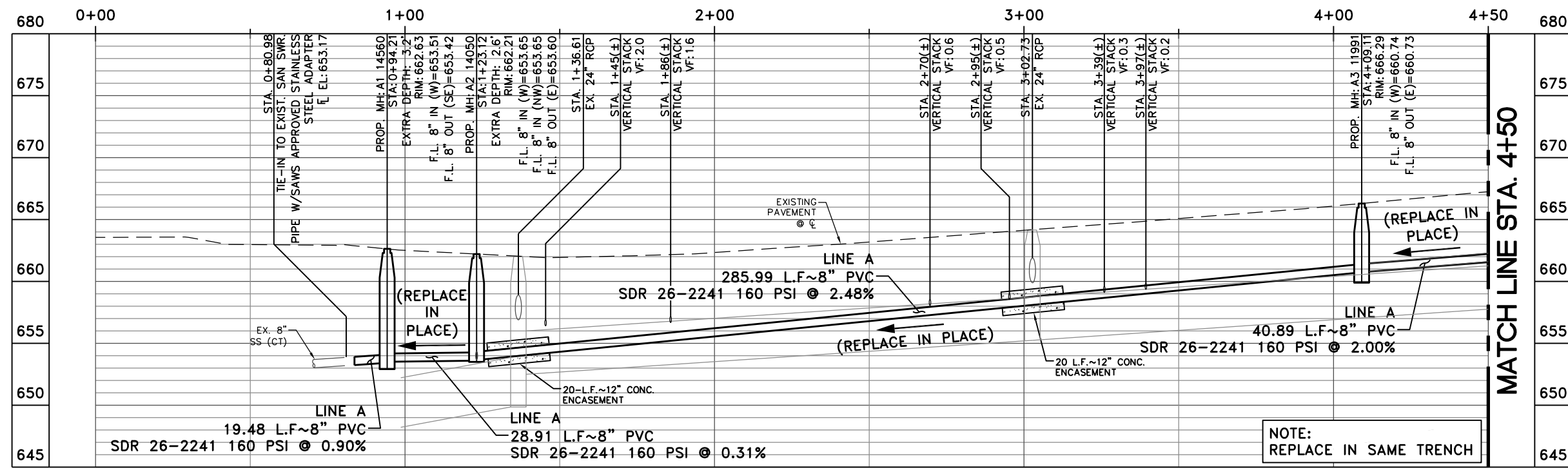


VERT. SCALE: 1"=10'
 HORIZ. SCALE: 1"=40'
 0 20 40
 SCALE IN FEET



LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—○—
SANITARY SEWER	—○—
STORM SEWER	—○—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—○—
TELEPHONE CABLE	—○—
DUAL BRANCH SERV.	—○—
NEW UNMETERED SERVICE:	
3/4" SINGLE	
1" DUAL	
SERVICE RECONNECT:	
3/4"	
1" OR LARGER	
SERVICE RELAY:	
3/4"	
1" OR LARGER	
SERVICE RELOCATE:	
3/4"	
1" OR LARGER	
RELOCATE METER	▷
NEW SERVICE:	
3/4"	
1" OR LARGER	
BURIED TEL	—UT—
OH ELEC/OH TEL	—OHE/OT—
EXIST FENCE	—○—
FLOWABLE FILL	
WATER METER	⊗
TELE PEDESTAL	⊗
LIGHT POLE	⊗
POWER POLE/GUY WIRE	⊗
SIGN	⊗
MAIL BOX	⊗
EXIST CLEAN OUT	⊗
IRRIGATION CONTROL VALVE	⊗
SANITARY SEWER SERV.	⊗
EXISTING GAS & SEWER CROSSING	⊗



NOTE:
REPLACE IN SAME TRENCH

INVERT ELEV.	663.55	662.97	653.53	662.51	654.32	661.94	655.55	662.33	656.79	663.18	658.03	664.13	659.27	665.07	660.50	666.09	661.56	667.25
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ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	30
103	REMOVE SIDEWALK & DRIVEWAY	SF	493
202	PRIME COAT	GAL	50
203	TACK COAT	GAL	20
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	200
206	ASPHALT TREATED BASE (10' COMPACTED DEPTH)	SY	158
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	30
502	CONCRETE SIDEWALK	SY	32
503	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	23
506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	0.7
550	TRENCH EXCAV. SAFETY PROTECTION	LF	376
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6")	LF	376
852	SANITARY SEWER MANHOLE (0'-6")	EA	3
852	EXTRA DEPTH MAHOLES (-6")	VF	6
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	224
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	8
858	CONCRETE ENCASMENT, CRADLES, SADDLES AND COLLARS	CY	4
860	VERTICAL STACKS	VF	5.2
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	376
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	376

- KEY NOTES**
- CONTRACTOR TO SUPPORT EXISTING 24" STORM R.C.P. LATERAL DURING SANITARY SEWER CONSTRUCTION, ANY DAMAGE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE (N.S.P.I.).
 - EXISTING MANHOLE 14560 IS EQUIPPED WITH A SMART COVER. THE CONTRACTOR SHALL NOTIFY JUAN C. RAMIREZ AT (210) 233-3558 AND SAWS E.O.C. AT (210) 233-2015 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.
 - THE UTILITY POLE AS FIELD LOCATED IS IN CLOSE PROXIMITY TO THE EXISTING 8" SANITARY SEWER MAIN. CONTRACTOR SHALL COORDINATE WITH SAWS INSPECTOR AND CPS ENERGY REPRESENTATIVE TO DETERMINE IF RELOCATION WILL BE NECESSARY TO MAINTAIN MINIMUM TRENCH EXCAVATION LIMITS.



1/10/19
[Signature]

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



No.	Revision	Drawn	Approved	Date

REVISIONS

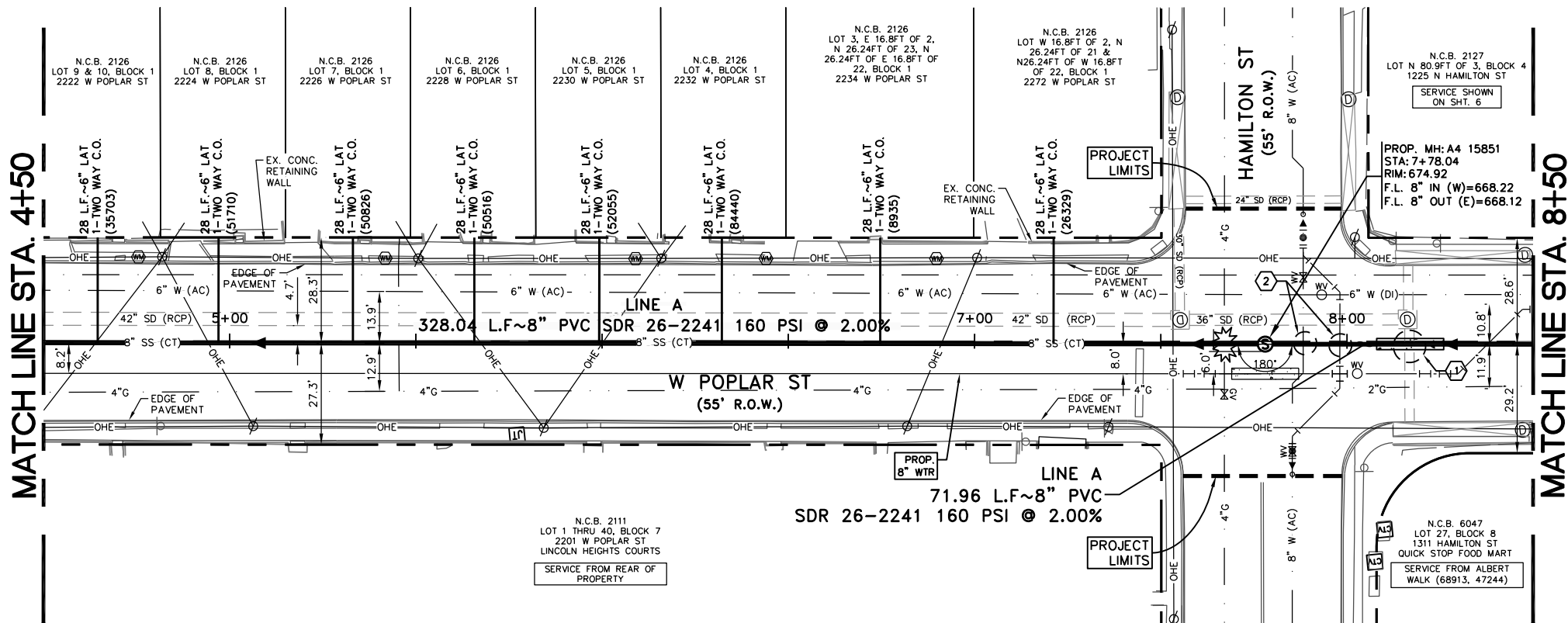
**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST))
SEWER IMPROVEMENTS**

STA. 0+00 TO STA. 4+50

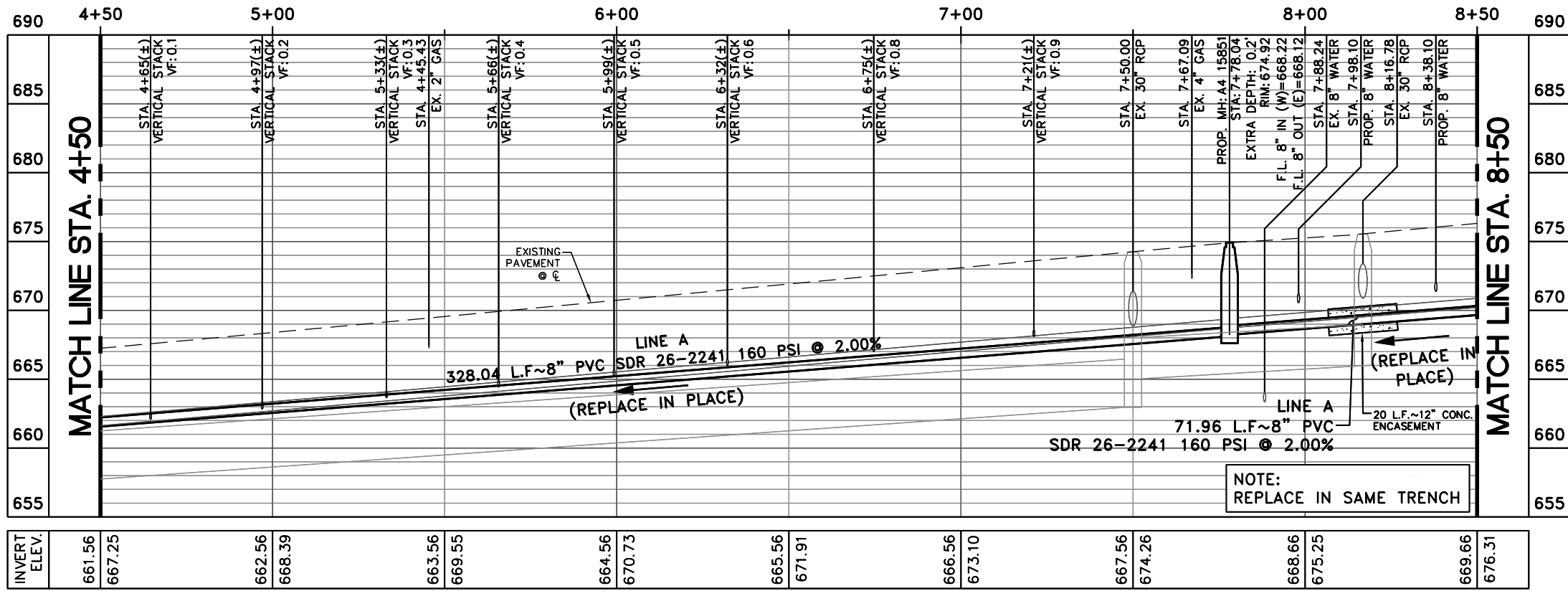
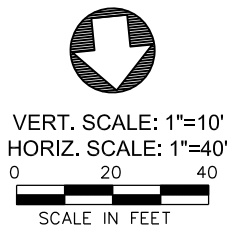
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

MAP No. 148-584, 150-584 SHEET 4
 SECT. No. _____ OF 10
 DR. CK. JOB No. 17-5599



ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	40
103	REMOVE SIDEWALK & DRIVEWAY	SF	384
202	PRIME COAT	GAL	53
203	TACK COAT	GAL	21
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	210
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	166
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	40
502	CONCRETE SIDEWALK	SY	43
506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	0.7
535.7	24 INCH WIDE WHITE LINE (< 1500 LF)	LF	20
550	TRENCH EXCAV. SAFETY PROTECTION	LF	400
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6')	LF	400
852	SANITARY SEWER MANHOLE (0'-6')	EA	1
852	EXTRA DEPTH MAHOLES (>6')	VF	1
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	224
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	8
858	CONCRETE ENCASUREMENT, CRADLES, SADDLES AND COLLARS	CY	4
860	VERTICAL STACKS	VF	3.8
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	400
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	400



LEGEND

- PROP. WATER MAIN: —○—
- EXIST. WATER MAIN: —○—
- GAS MAIN: —○—
- SANITARY SEWER: —○—
- STORM SEWER: —○—
- UTILITY POLE LINE: —○—
- ELECTRIC CABLE: —○—
- TELEPHONE CABLE: —○—
- DUAL BRANCH SERV.: —○—
- NEW UNMETERED SERVICE: —○—
- 1" DUAL: —○—
- SERVICE RECONNECT: —○—
- 3/4": —○—
- 1" OR LARGER: —○—
- SERVICE RELAY: —○—
- 3/4": —○—
- 1" OR LARGER: —○—
- SERVICE RELOCATE: —○—
- 3/4": —○—
- 1" OR LARGER: —○—
- RELOCATE METER: —○—
- NEW SERVICE: —○—
- 3/4": —○—
- 1" OR LARGER: —○—
- BURIED TEL: —○—
- OH ELEC/OH TEL: —○—
- EXIST FENCE: —○—
- FLOWABLE FILL: —○—
- WATER METER: —○—
- TELE PEDESTAL: —○—
- LIGHT POLE: —○—
- POWER POLE/GUY WIRE: —○—
- SIGN: —○—
- MAIL BOX: —○—
- EXIST CLEAN OUT: —○—
- IRRIGATION CONTROL VALVE: —○—
- SANITARY SEWER SERV.: —○—
- EXISTING GAS & SEWER CROSSING: —○—

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

- KEY NOTES**
- CONTRACTOR TO SUPPORT EXISTING 30" STORM R.C.P. LATERAL DURING SANITARY SEWER CONSTRUCTION, ANY DAMAGE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE (N.S.P.I.).
 - CAUTION WATER CROSSING AT SEWER MAIN
- SHEET NOTES**
- BURIED AT&T CABLES EXIST AT THE INTERSECTION OF POPLAR ST AND HAMILTON ST, CONTRACTOR SHALL COORDINATE AND REQUEST AT&T LOCATES PRIOR TO COMMENCING CONSTRUCTION AT THE INTERSECTION.



1/10/19
[Signature]



No.	Revision	Drawn	Approved	Date

REVISIONS

W POPLAR ST (N ZARZAMORA TO NW 18TH ST)) SEWER IMPROVEMENTS

STA. 4+50 TO STA. 8+50

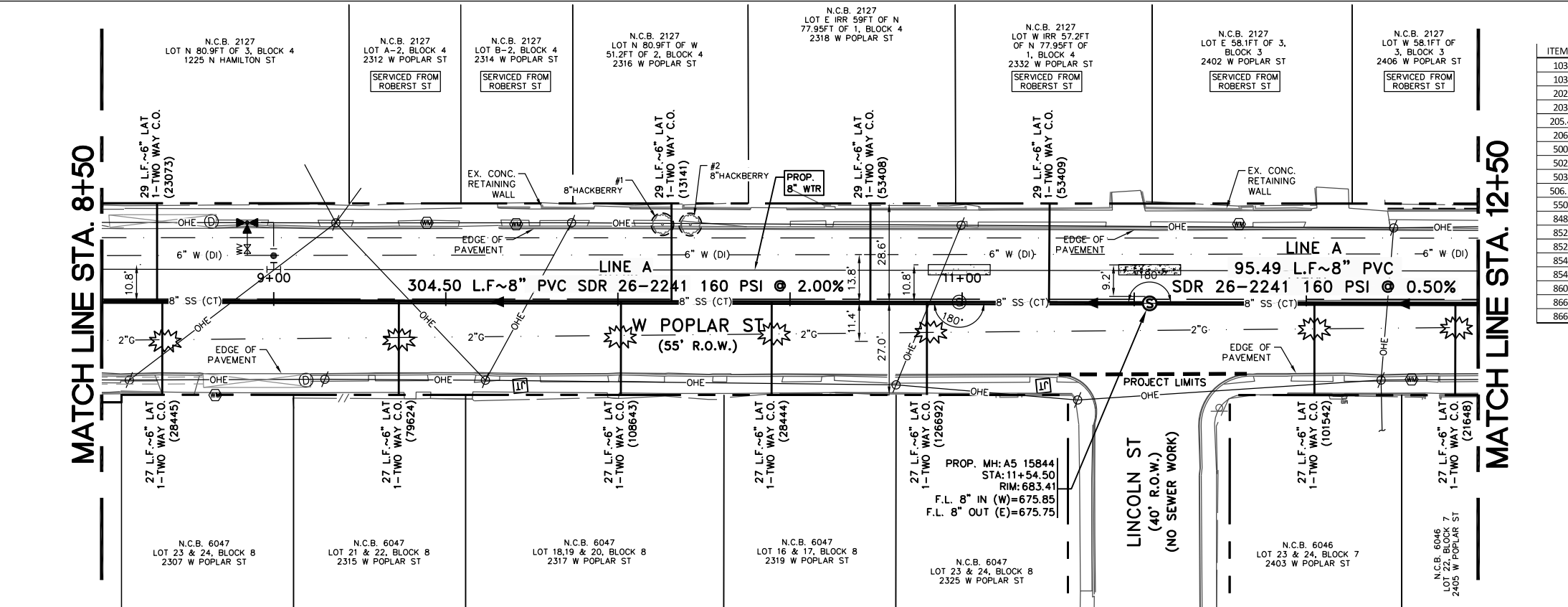
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

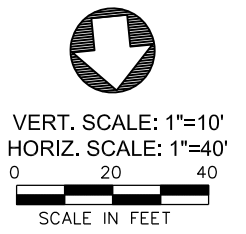
MAP No. 148-584, 150-584
 SECT. No. 5
 DR. CK. JOB No. 17-5599 OF 10

MATCH LINE STA. 8+50

MATCH LINE STA. 12+50

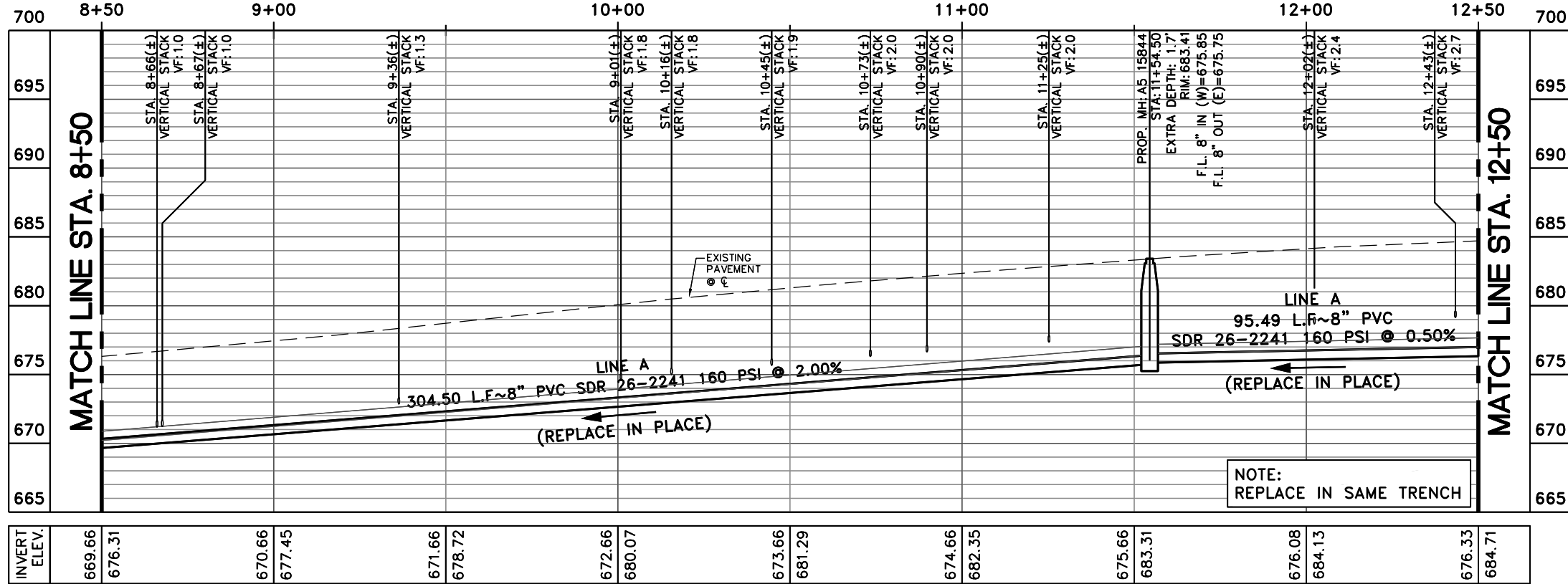


ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	45
103	REMOVE SIDEWALK & DRIVEWAY	SF	432
202	PRIME COAT	GAL	53
203	TACK COAT	GAL	21
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	210
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	166
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	45
502	CONCRETE SIDEWALK	SY	48
503	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	17
506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	0.6
550	TRENCH EXCAV. SAFETY PROTECTION	LF	400
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6")	LF	400
852	SANITARY SEWER MANHOLE (0'-6")	EA	1
852	EXTRA DEPTH MAHOLES (>6")	VF	2
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	305
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	11
860	VERTICAL STACKS	VF	19.9
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	400
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	400



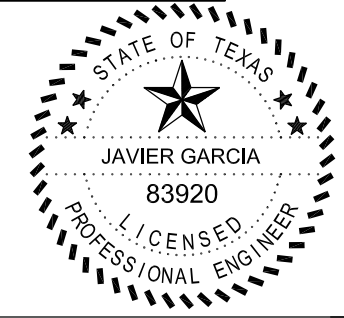
LEGEND

- PROP. WATER MAIN:
- EXIST. WATER MAIN:
- GAS MAIN:
- SANITARY SEWER:
- STORM SEWER:
- UTILITY POLE LINE:
- ELECTRIC CABLE:
- TELEPHONE CABLE:
- DUAL BRANCH SERV.:
- NEW UNMETERED SERVICE:
- 1" DUAL:
- SERVICE RECONNECT:
- 3/4":
- 1" OR LARGER:
- SERVICE RELAY:
- 3/4":
- 1" OR LARGER:
- SERVICE RELOCATE:
- 3/4":
- 1" OR LARGER:
- RELOCATE METER:
- NEW SERVICE:
- 3/4":
- 1" OR LARGER:
- BURIED TEL:
- OH ELEC/OH TEL:
- EXIST FENCE:
- FLOWABLE FILL:
- WATER METER:
- TELE PEDESTAL:
- LIGHT POLE:
- POWER POLE/GUY WIRE:
- SIGN:
- MAIL BOX:
- EXIST CLEAN OUT:
- IRRIGATION CONTROL VALVE:
- SANITARY SEWER SERV.:
- EXISTING GAS & SEWER CROSSING:



NOTE:
REPLACE IN SAME TRENCH

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



1/10/19
[Signature]



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
(N ZARZAMORA TO NW 18TH ST))
SEWER IMPROVEMENTS**

STA. 8+50 TO STA. 12+50

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
APPROVED _____

MAP No. 148-584, 150-584
SECT. No. _____
DR. CK. JOB No. 17-5599

SHEET 6
Of 10



VERT. SCALE: 1"=10'
 HORIZ. SCALE: 1"=40'
 0 20 40
 SCALE IN FEET

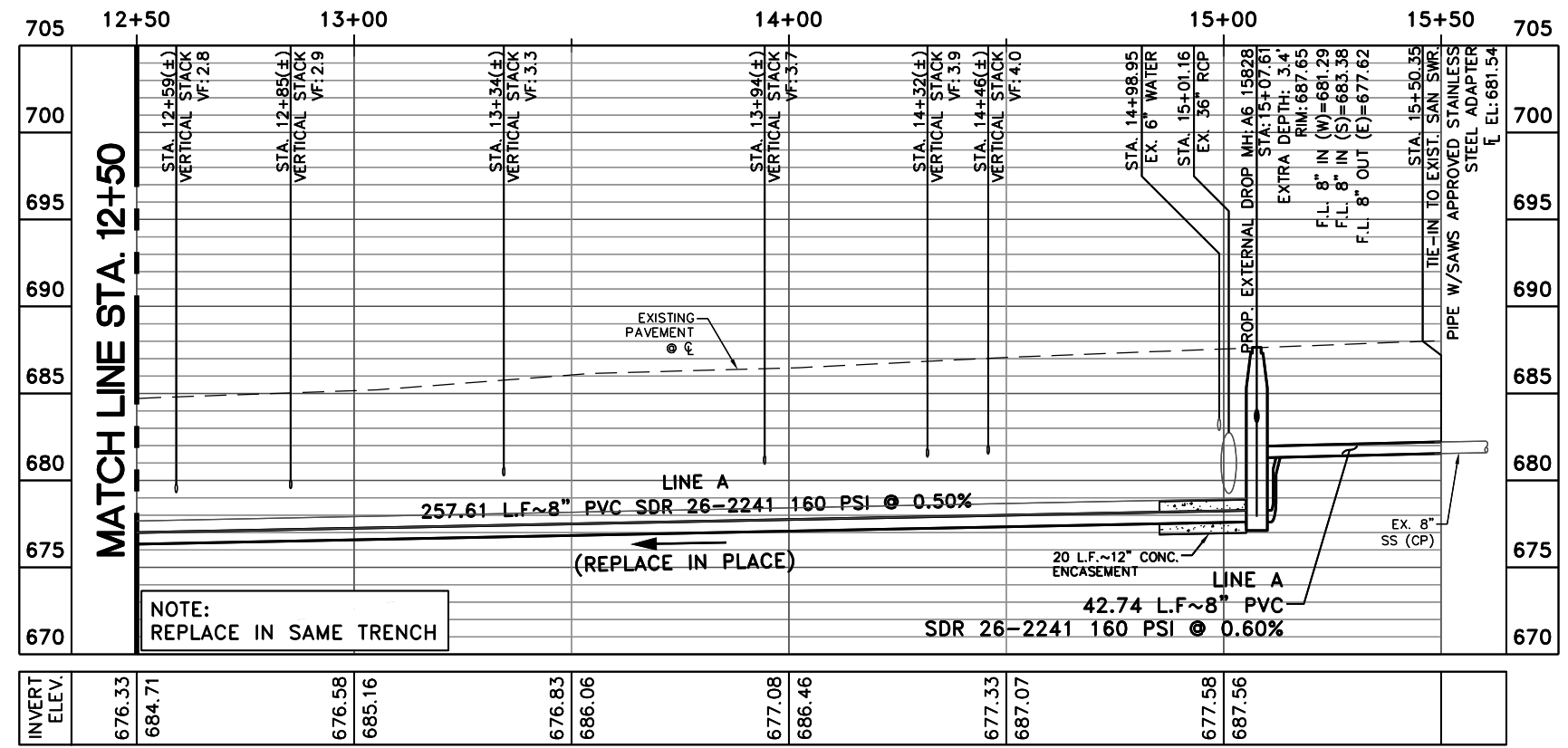
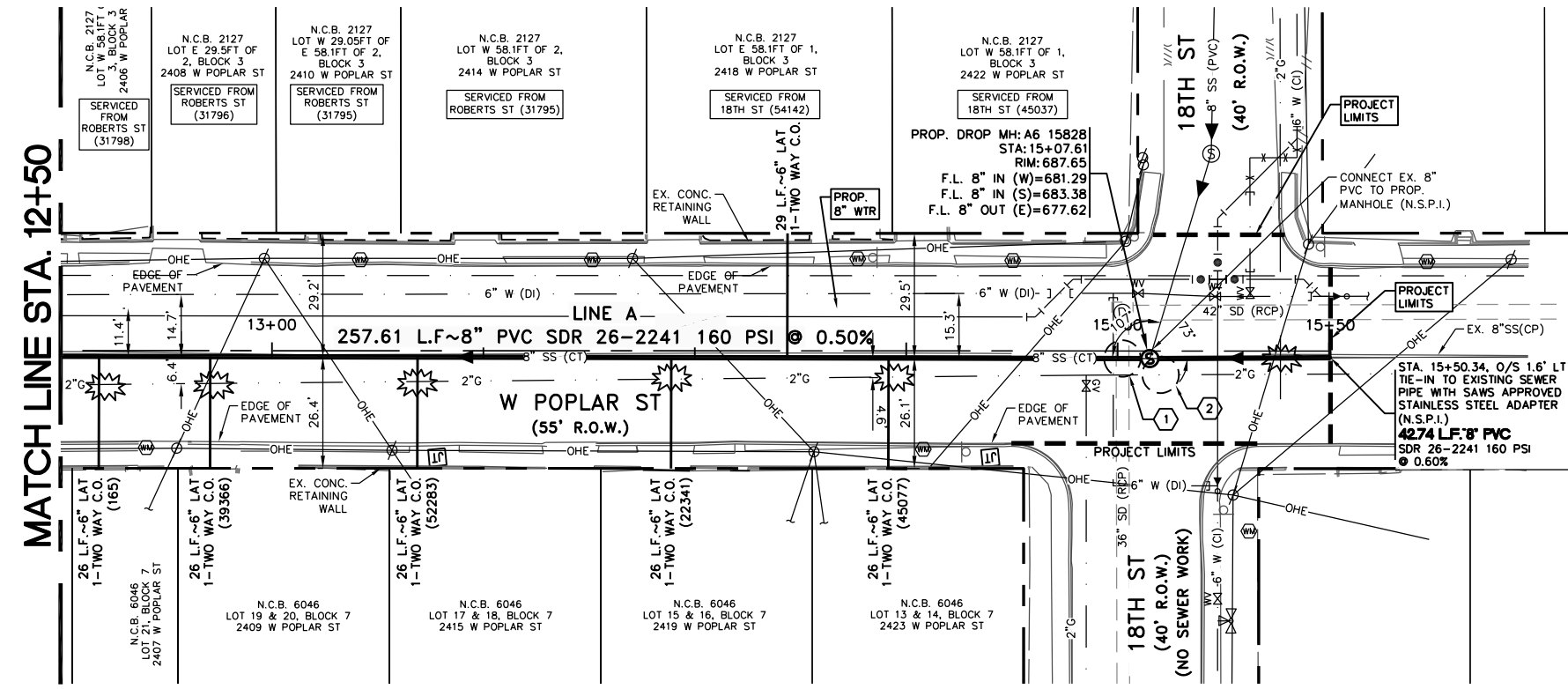
KEY NOTES

- CONTRACTOR TO SUPPORT EXISTING 36" STORM R.C.P. DURING SANITARY SEWER CONSTRUCTION. ANY DAMAGE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE (N.S.P.I.).
- CAUTION GAS MAIN IN CLOSE PROXIMITY TO PROPOSED MAHOLE.
- THE UTILITY POLE AS FIELD LOCATED IS IN CLOSE PROXIMITY TO THE EXISTING 8" SANITARY SEWER MAIN. CONTRACTOR SHALL COORDINATE WITH SAWS INSPECTOR AND CPS ENERGY REPRESENTATIVE TO DETERMINE IF RELOCATION WILL BE NECESSARY TO MAINTAIN MINIMUM TRENCH EXCAVATION LIMITS..

LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER
- BURIED TEL
- OH ELEC/OH TEL
- EXIST FENCE
- FLOWABLE FILL
- WATER METER
- TELE PEDESTAL
- LIGHT POLE
- POWER POLE/GUY WIRE
- SIGN
- MAIL BOX
- EXIST CLEAN OUT
- IRRIGATION CONTROL VALVE
- SANITARY SEWER SERV.
- EXISTING GAS & SEWER CROSSING

ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	15
103	REMOVE SIDEWALK & DRIVEWAY	SF	278
202	PRIME COAT	GAL	40
203	TACK COAT	GAL	16
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	158
206	ASPHALT TREATED BASE (10' COMPACTED DEPTH)	SY	125
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	15
502	CONCRETE SIDEWALK	SY	16
503	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	15
506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	0.5
550	TRENCH EXCAV. SAFETY PROTECTION	LF	301
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6")	LF	301
852	SANITARY SEWER DROP MANHOLE (0'-6")	EA	1
852	EXTRA DEPTH MAHOLES (>6")	VF	4
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	159
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	6
858	CONCRETE ENCASEMENT, CRADLES, SADDLES AND COLLARS	CY	4
860	VERTICAL STACKS	VF	20.6
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	301
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	301



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



1/10/19
[Signature]



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
 (N ZARZAMORA TO NW 18TH ST))
 SEWER IMPROVEMENTS**

STA. 12+50 TO STA. 15+48

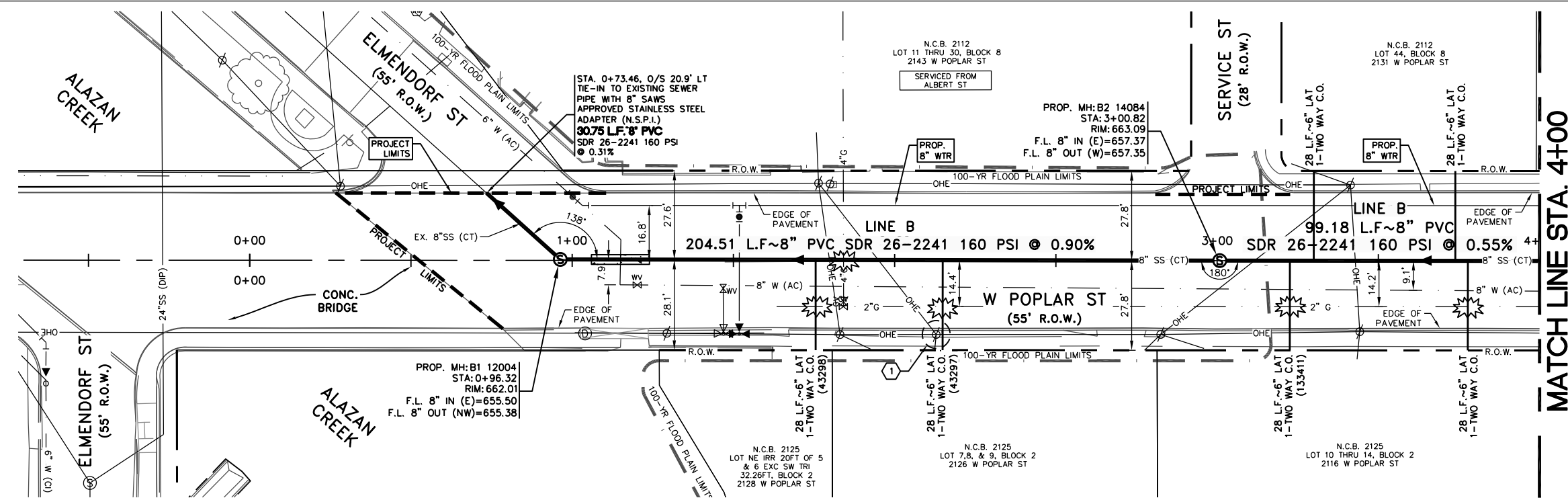
DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

MAP No. 148-584, 150-584 SHEET 7
 SECT. No. _____ OF 10
 DR. CK. JOB No. 17-5599

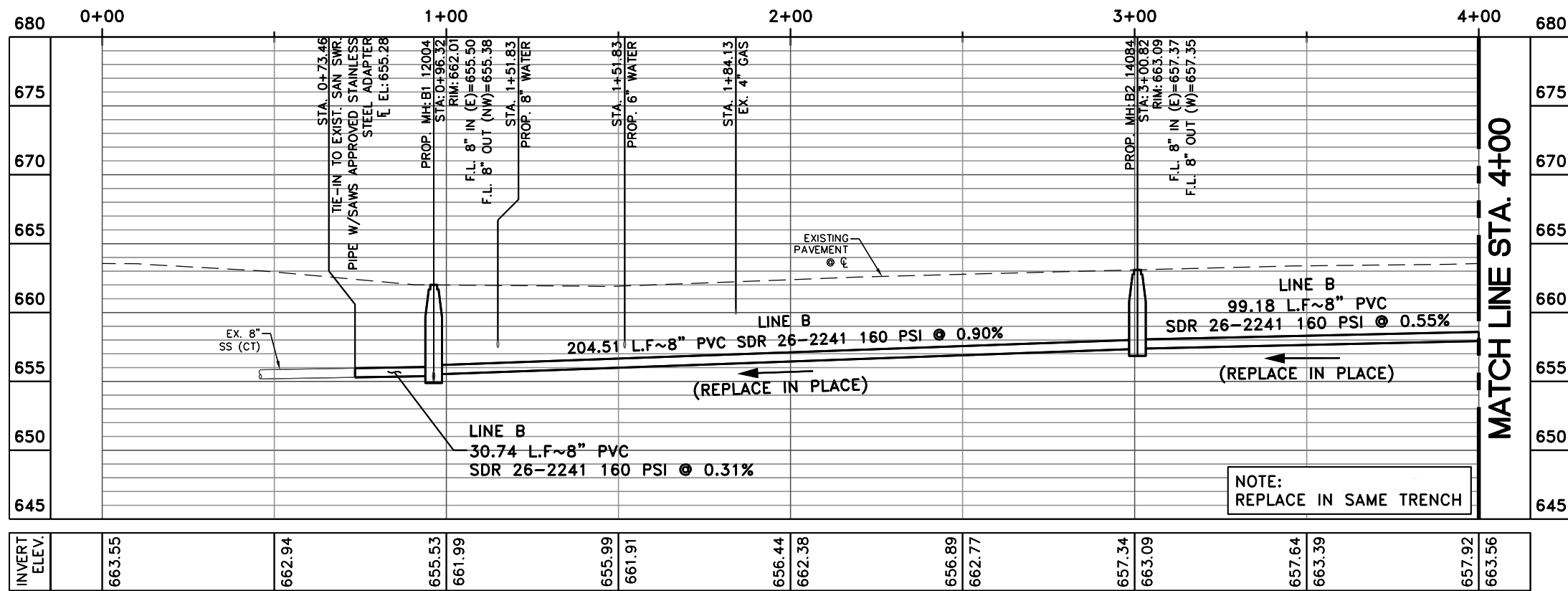


VERT. SCALE: 1"=10'
 HORIZ. SCALE: 1"=40'
 0 20 40
 SCALE IN FEET



LEGEND

PROP. WATER MAIN	—○—
EXIST. WATER MAIN	—○—
GAS MAIN	—○—
SANITARY SEWER	—○—
STORM SEWER	—○—
UTILITY POLE LINE	—○—
ELECTRIC CABLE	—○—
TELEPHONE CABLE	—○—
DUAL BRANCH SERV.	—○—
NEW UNMETERED SERVICE:	
3/4" SINGLE	
1" DUAL	
SERVICE RECONNECT:	
3/4"	
1" OR LARGER	
SERVICE RELAY:	
3/4"	
1" OR LARGER	
SERVICE RELOCATE:	
3/4"	
1" OR LARGER	
RELOCATE METER	▷
NEW SERVICE:	
3/4"	
1" OR LARGER	
BURIED TEL	—UT—
OH ELEC/OH TEL	—OHE/OT—
EXIST FENCE	—○—
FLOWABLE FILL	
WATER METER	⊗
TELE PEDESTAL	⊗
LIGHT POLE	⊗
POWER POLE/GUY WIRE	⊗
SIGN	⊗
MAIL BOX	⊗
EXIST CLEAN OUT	⊗
IRRIGATION CONTROL VALVE	⊗
SANITARY SEWER SERV.	⊗
EXISTING GAS & SEWER CROSSING	⊗



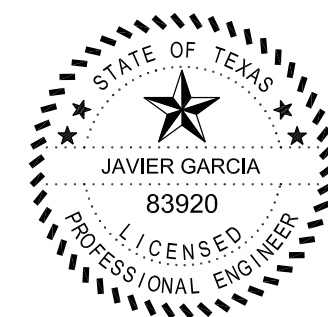
NOTE:
 REPLACE IN SAME TRENCH

ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	30
103	REMOVE SIDEWALK & DRIVEWAY	SF	358
202	PRIME COAT	GAL	44
203	TACK COAT	GAL	18
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	176
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	139
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	30
502	CONCRETE SIDEWALK	SY	32
503	PORTLAND CEMENT CONCRETE DRIVEWAY	SY	8
550	TRENCH EXCAV. SAFETY PROTECTION	LF	335
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6")	LF	335
852	SANITARY SEWER MANHOLE (0'-6")	EA	2
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	168
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	6
858	CONCRETE ENCASUREMENT, CRADLES, SADDLES AND COLLARS	CY	4
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	335
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	335

KEY NOTES

① THE UTILITY POLE AS FIELD LOCATED IS IN CLOSE PROXIMITY TO THE EXISTING 8" SANITARY SEWER MAIN. CONTRACTOR SHALL COORDINATE WITH SAWS INSPECTOR AND CPS ENERGY REPRESENTATIVE TO DETERMINE IF RELOCATION WILL BE NECESSARY TO MAINTAIN MINIMUM TRENCH EXCAVATION LIMITS.

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



1/10/19
[Signature]



No.	Revision	Drawn	Approved	Date

REVISIONS

**W POPLAR ST
 (N ZARZAMORA TO NW 18TH ST))
 SEWER IMPROVEMENTS**

STA. 0+00 TO STA. 4+00

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
 CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
 APPROVED _____

MAP No. 148-584, 150-584 SHEET 8
 SECT. No. _____ OF 8
 DR. CK. JOB No. 17-5599 OF 10



VERT. SCALE: 1"=10'
 HORIZ. SCALE: 1"=40'
 0 20 40
 SCALE IN FEET

KEY NOTES

- ① THE UTILITY POLE AS FIELD LOCATED IS IN CLOSE PROXIMITY TO THE EXISTING 8" SANITARY SEWER MAIN. CONTRACTOR SHALL COORDINATE WITH SAWS INSPECTOR AND CPS ENERGY REPRESENTATIVE TO DETERMINE IF RELOCATION WILL BE NECESSARY TO MAINTAIN MINIMUM TRENCH EXCAVATION LIMITS.
- ② SEWER CROSSING WATER MAIN.

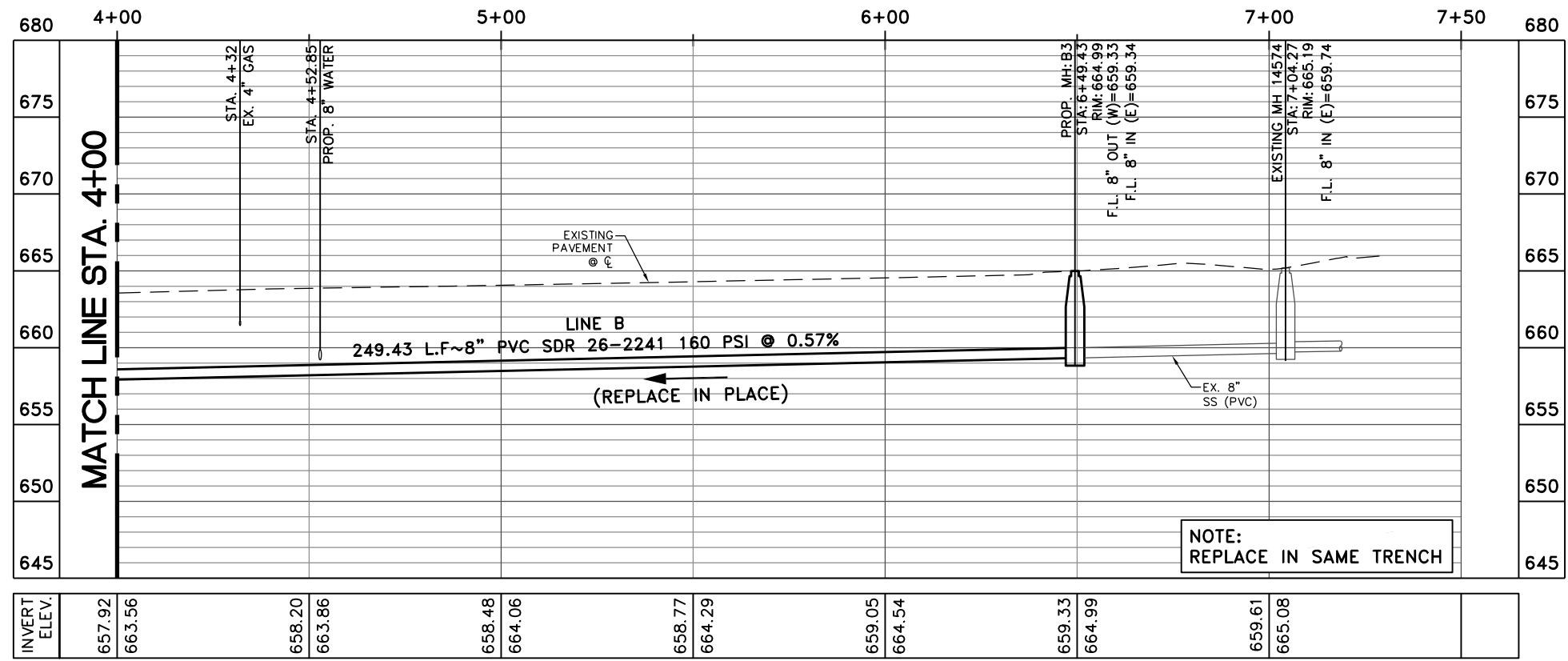
ITEM #	DESCRIPTION	UNITS	QUANTITY
103	REMOVE CONCRETE CURB	LF	75
103	REMOVE SIDEWALK & DRIVEWAY	SF	720
202	PRIME COAT	GAL	33
203	TACK COAT	GAL	13
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	132
206	ASPHALT TREATED BASE (10" COMPACTED DEPTH)	SY	104
500	CONCRETE CURB, GUTTER AND CONCRETE CURB AND GUTTER	LF	75
502	CONCRETE SIDEWALK	SY	80
535.7	24 INCH WIDE WHITE LINE (< 1500 LF)	LF	90
550	TRENCH EXCAV. SAFETY PROTECTION	LF	250
848	8" PVC SDR-26 (2241) SEWER LINE (0'-6")	LF	250
852	SANITARY SEWER MANHOLE (0'-6")	EA	1
854	SANITARY SEWER LATERALS, (SDR 26-2241, 160 PSI)	LF	448
854	TWO-WAY SANITARY SEWER CLEAN-OUT	EA	16
866	SAN. SWR. PRE TELEVISION INSP. (8")	LF	250
866	SAN. SWR. POST TELEVISION INSP. (8")	LF	250

LEGEND

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER
- BURIED TEL
- OH ELEC/OH TEL
- EXIST FENCE
- FLOWABLE FILL
- WATER METER
- TELE PEDESTAL
- LIGHT POLE
- POWER POLE/GUY WIRE
- SIGN
- MAIL BOX
- EXIST CLEAN OUT
- IRRIGATION CONTROL VALVE
- SANITARY SEWER SERV.
- EXISTING GAS & SEWER CROSSING

MATCH LINE STA. 4+00

MATCH LINE STA. 4+00



NOTE:
REPLACE IN SAME TRENCH

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

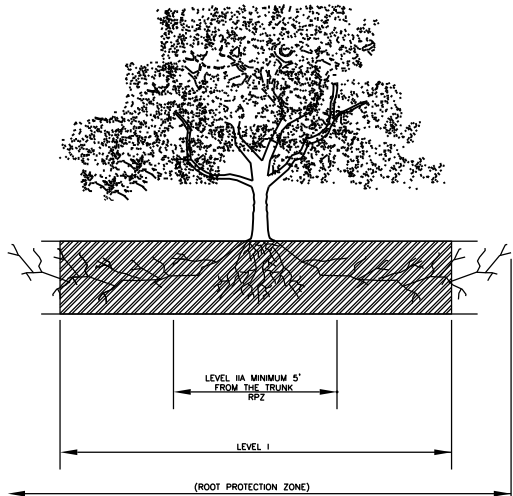


1/10/18
[Signature]

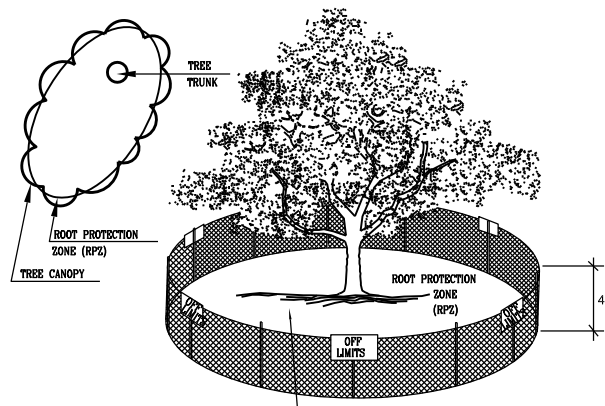


No.	Revision	Drawn	Approved	Date

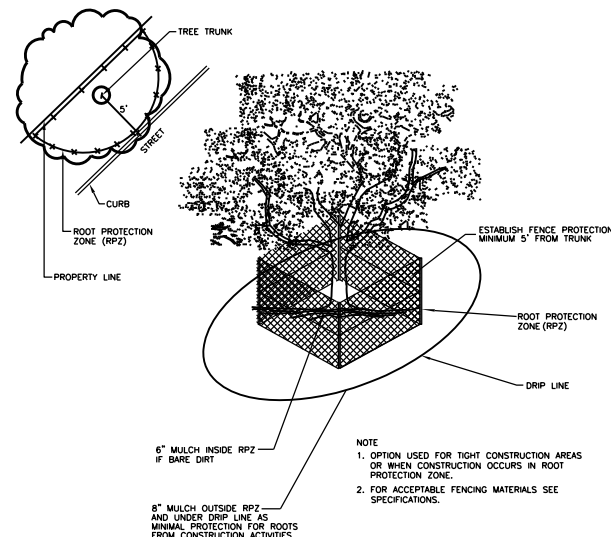
REVISIONS	
W POPLAR ST (N ZARZAMORA TO NW 18TH ST)) SEWER IMPROVEMENTS STA. 4+00 TO 7+29	
DEVELOPER:	SAN-ANTONIO-WATER-SYSTEM
CONT.:	BUDGET PROJ. 00-00-00
SUBMITTED	
APPROVED	
MAP No.	148-584, 150-584
SECT. No.	
DR.	CK.
JOB No.	17-5599
SHEET	9
OF	10



1 ELEVATION
N.T.S.



2 LEVEL I & FENCE PROTECTION
N.T.S.



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

GENERAL NOTES

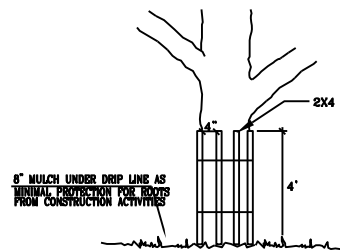
1. ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM NO. 802. TREE PRUNING, SOIL AMENDING AND FERTILIZATION, UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 2 PROTECTION AS PER ITEM NO. 802. TREES TO RECEIVE LEVEL 1 PROTECTION AS PER ITEM NO. 802 ARE SHOWN ON TREE PROTECTION TABLE ON THIS SHEET.
2. ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
3. TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
4. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.

PRESERVATION NOTES

1. ALL TREES SHOWN AS "PRESERVED" WITHIN CONSTRUCTION LIMITS SHALL BE PROTECTED AT ALL TIMES.
2. CONTRACTOR SHALL TAKE EXTRA PROTECTION MEASURES FOR ALL TREES IN CLOSE PROXIMITY TO THE PROPOSED WATER MAIN, WATER SERVICES, WATER METERS AND SANITARY SEWER LATERALS IN ACCORDANCE TO THE DETAILS PROVIDED.
3. BRANCH PRUNING SHALL BE ACCOMPLISHED AS REQUIRED IN ACCORDANCE TO THE STANDARD DETAIL ON THIS SHEET.

TREE PROTECTION NOTES

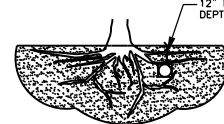
1. A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR ANY VEGETATION TO BE PRESERVED TO MEET THE LANDSCAPE OR TREE PRESERVATION ORDINANCES. THE ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE (1) LINEAR FOOT FOR EACH INCH DIAMETER INCH AT BREAST HEIGHT (4.5') OF THE TREE. A 10-INCH DIAMETER TREE WILL HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE.
2. NO WORK SHALL BEGIN WHERE TREE PROTECTION FENCING HAS NOT BEEN COMPLETED AND APPROVED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING CONSTRUCTION. THE FENCING WILL BE A MINIMUM OF 4' HEIGHT.
3. ALL ROOTS LARGER THAN ONE-INCH IN DIAMETER ARE TO BE CUT CLEANLY AND OAK WOUNDS PAINTED WITHIN 30 MINUTES.
4. EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE WORK DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
5. NO EQUIPMENT, VEHICLES OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE. NO CLEAN-OUT AREAS WILL BE CONSTRUCTED SO THAT THE MATERIAL WILL BE IN OR MIGRATE TO THE ROOT PROTECTION ZONE.
6. NO GRADE CHANGE MORE THAN 3" IS ALLOWED WITHIN THE ROOT PROTECTION ZONE.
7. ROOTS OR BRANCHES IN CONFLICT WITH CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED WITHIN 30 MINUTES TO PREVENT OAK WILT INFECTION.
8. ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST (207-8053).
9. TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
10. TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE WATERING THE ROOT PROTECTION ZONE AND OR WASHING FOLIAGE.
11. NO WIRES, NAILS OR OTHER MATERIALS MAY BE ATTACHED TO PROTECTED TREES.



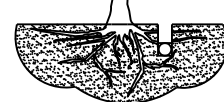
4 LEVEL II B FENCE PROTECTION
N.T.S.

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

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

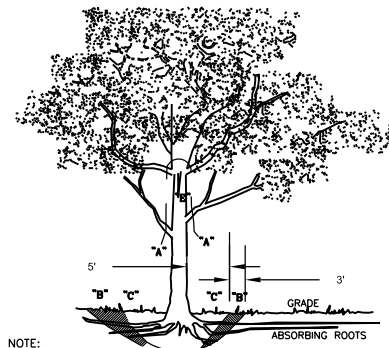


TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



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

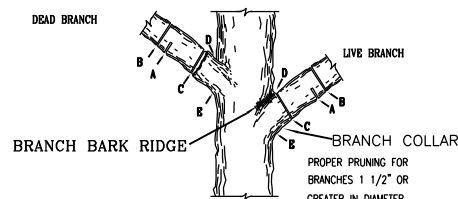
5 BORING THRU TREE ROOT ZONE
N.T.S.



NOTE:
"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.

6 TREE REMOVAL DIAGRAM
N.T.S.

TREE PROTECTION TABLE				
SHEET NUMBER	TREE/CALIPER	STATION/NUMBER	LOCATION	REMOVAL SEE GENERAL NOTE No. 2
6	HACKBERRY / 8"	1	WITHIN R.O.W.	LEVEL II
6	HACKBERRY / 8"	2	WITHIN R.O.W.	LEVEL II



NOTE: DO NOT CUT FROM D to E.

- FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.
- SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.
- FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS
- BRANCH RIDGES - IDENTIFY PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.

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

7 BRANCH PRUNING DETAIL
N.T.S.

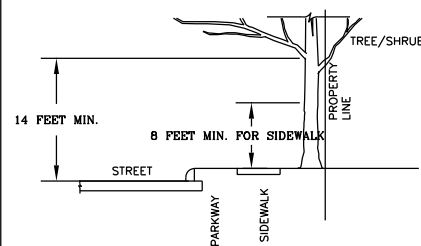
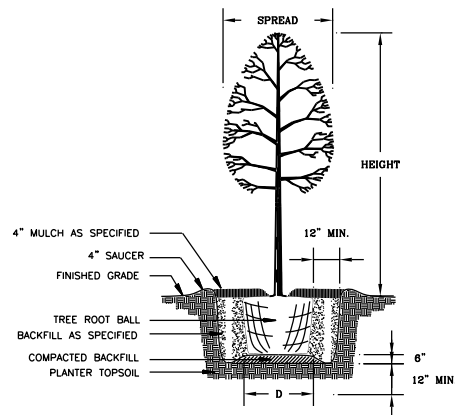
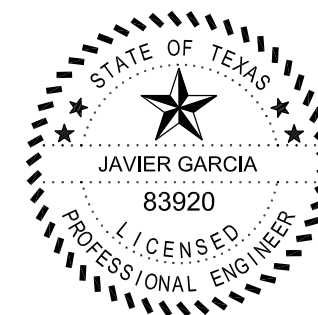


FIGURE No. 2:
A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.

8 BRANCH CLEARANCE DETAIL
N.T.S.



9 NEW TREE PLANTING DETAIL
N.T.S.



1/10/18
Javier Garcia



TBPE Firm No. F-8038

No.	Revision	Drawn	Approved	Date

REVISIONS
W POPLAR ST
(N ZARZAMORA TO NW 18TH ST)
SEWER IMPROVEMENTS
TREE PRESERVATION PLAN

DEVELOPER: SAN-ANTONIO-WATER-SYSTEM
CONT. BUDGET PROJ. 00-00-00

SUBMITTED _____
APPROVED _____

MAP No. 148-584, 150-584 SHEET 10
SECT. No. _____ OF 10
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