

FILE NAME: Y:\Projects_Arch\15-6446 Grand and St Gertrude Water Main Improvements\CADD Files and Maps\15-6446_Sheet01 (Title Sheet).dgn
PLOT DATE: 9/8/2020
PLOT BY: JWK
LAST SAVED: 9/8/2020



CITY OF SANTA ANA

PUBLIC WORKS AGENCY

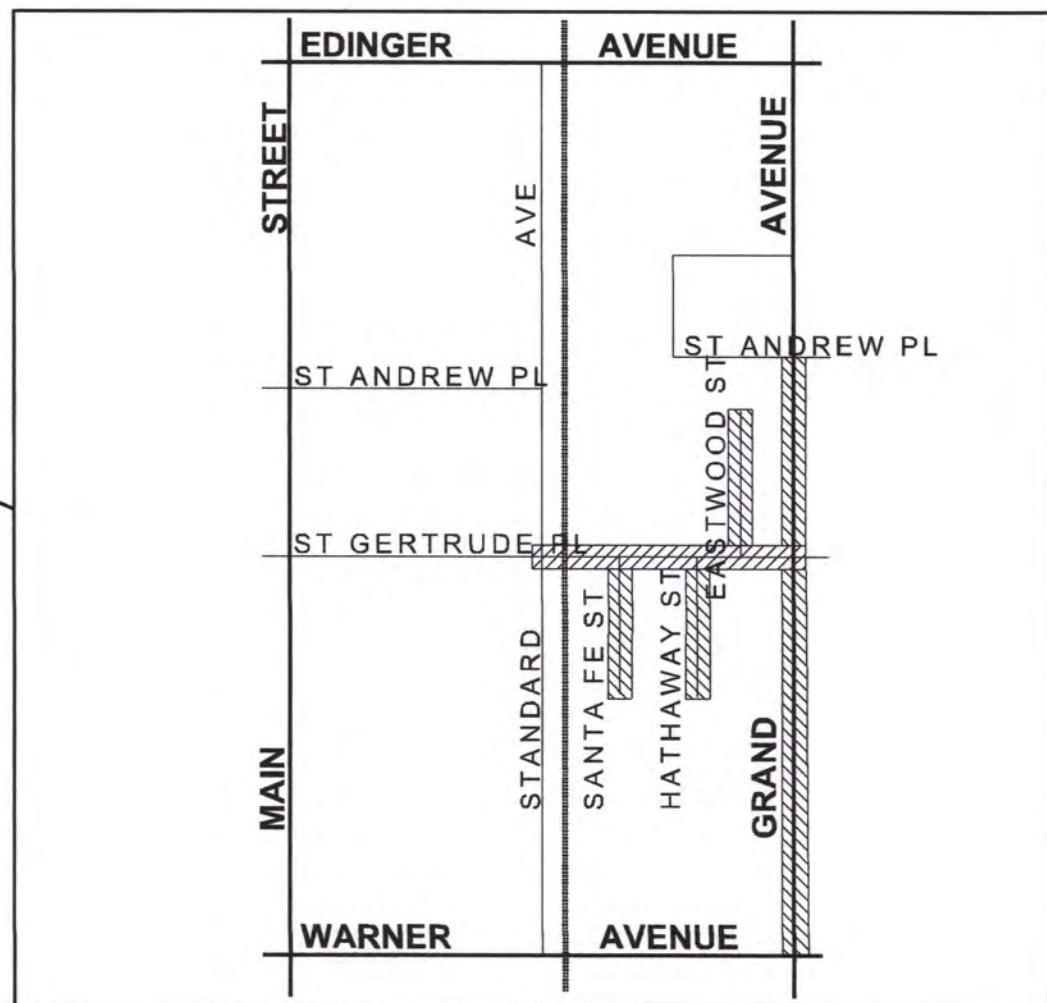


SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENT: PROJECT NO. 15-6446

GRAND AVENUE: FROM WARNER AVENUE TO SAINT ANDREW PLACE
SAINT GERTRUDE PLACE: FROM STANDARD AVENUE TO GRAND AVENUE
EASTWOOD STREET: FROM SAINT GERTRUDE TO END OF CUL DE SAC
HATHAWAY STREET: FROM SAINT GERTRUDE TO END OF CUL DE SAC
SANTA FE STREET: FROM SAINT GERTRUDE TO END OF CUL DE SAC



VICINITY MAP
(NOT TO SCALE)



PROJECT LOCATION MAP
(NOT TO SCALE)

GENERAL NOTES:

- STATIONING IS ALONG STREET CENTERLINE.
- ELEVATIONS SHOWN ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL = O.C.S. DATUM.
- ALL CONSTRUCTION DETAILED ON THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION, EXCEPT AS MODIFIED BY THE CITY'S STANDARD DRAWINGS AND SPECIAL PROVISIONS AND THIS CONTRACT'S SPECIAL PROVISIONS.
- UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER IS REQUIRED TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO DOING ANY WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICE.
- PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL POTHOLE AND LOCATE ALL EXISTING UTILITY AND PIPELINE CROSSINGS AND CONNECTION POINTS, AND NOTIFY THE ENGINEER IN CASE OF INTERFERENCE OR CLOSE PROXIMITY TO PROPOSED IMPROVEMENTS.
- PRIOR TO EXCAVATION, CALL UNDERGROUND SERVICE ALERT, (1-800-422-4133).
- ALL WORK SHOWN OR INDICATED ON THESE PLANS OR CALLED FOR IN THE SPECIFICATIONS, BUT NOT INCLUDED AS PAY QUANTITY ITEMS, SHALL BE CONSIDERED INCIDENTAL WORK, THE COST OF WHICH SHALL BE CONSIDERED INCLUDED IN THE CONTRACTOR'S BID FOR PAY QUANTITY ITEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, TRAFFIC SIGNALS, TRAFFIC LOOPS, RELATED EQUIPMENT, PAVEMENTS, CURBS, STRUCTURES, TREES, AND LANDSCAPING AS A RESULT OF HIS OPERATIONS AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTION OF AND AS DIRECTED BY THE CITY ENGINEER OR UTILITY COMPANY.
- THE CONTRACTOR SHALL IMMEDIATELY HAUL AWAY AND DISPOSE OF, OFF THE PROJECT SITE, ALL EXCESS EXCAVATED MATERIAL AND CONSTRUCTION DEBRIS. ALL DISPOSALS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL ADJUST TO GRADE ALL CITY OWNED WATER VALVE POTS, SEWER MANHOLE FRAMES AND COVERS, STORM DRAIN MANHOLE FRAMES AND COVERS, AND STREET CENTERLINE AND SURVEY MONUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL BARRICADES, SIGNING, AND FLASHERS REQUIRED FOR TRAFFIC CONTROL AND SAFETY.
- THE CONTRACTOR SHALL REPLACE ALL OBLITERATED STRIPING, LEGENDS, AND RAISED PAVEMENT MARKERS DAMAGED, LOST, OR DESTROYED DURING CONSTRUCTION PER STANDARDS 1125A TO 1125C AND PUBLIC WORKS AGENCY REQUIREMENTS.
- THE CONTRACTOR SHALL USE A VACUUM TO REMOVE SEDIMENT FOR SAW-CUTTING OPERATIONS.

SHEET INDEX	
SHT	DESCRIPTION
1	TITLE SHEET
2	GRAND AVENUE - WARNER AVE TO STA. 18+00
3	GRAND AVENUE - STA. 18+00 TO STA. 27+00
4	GRAND AVENUE / SAINT GERTRUDE - STA. 27+00 TO STA. 29+00 / STANDARD AVE TO STA. 14+50
5	SAINT GERTRUDE - STA. 14+50 TO STA. 23+50
6	SAINT GERTRUDE - STA. 23+50 TO GRAND AVE
7	EASTWOOD STREET - SAINT GERTRUDE TO END OF CUL DE SAC
8	HATHAWAY STREET - SAINT GERTRUDE TO END OF CUL DE SAC
9	SANTA FE STREET - SAINT GERTRUDE TO END OF CUL DE SAC
10	WATER DETAILS
11	LINESTOP DETAILS
12	PAVEMENT DETAILS

Underground Service Alert
of Southern California
TWO WORKING DAYS
BEFORE YOU DIG

Know what's below.
Call before you dig.

CALL BEFORE YOU DIG
www.DigAlert.org

NOTICE TO CONTRACTOR
PURSUANT TO ASSEMBLY BILL 3019 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS AN INQUIRY ID. NUMBER FROM "UNDERGROUND SERVICE ALERT" (1-800-422-4133) AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

APPROVALS:

 NABIL SABA, PE., EXECUTIVE DIRECTOR PUBLIC WORKS AGENCY	9/9/2020 DATE
 EDWIN "WILLIAM" GALVEZ, PE., CITY ENGINEER	9/8/20 DATE
 CESAR E. BARRERA, PE., WATER RESOURCES MANAGER	9/8/2020 DATE



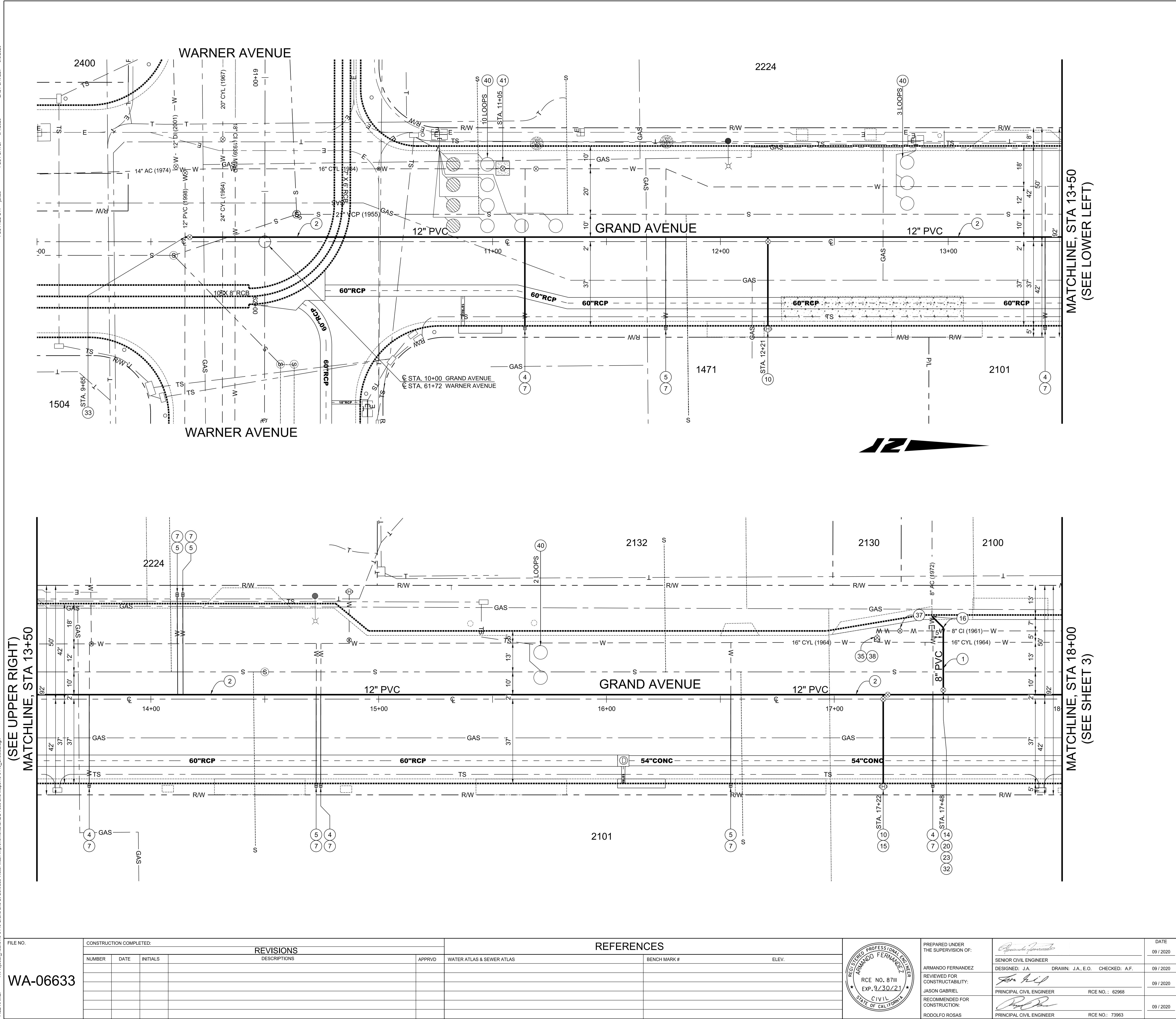
PREPARED UNDER THE SUPERVISION OF:

ARMANDO FERNANDEZ, PE.,
SENIOR CIVIL ENGINEER

R.C.E. NO. 87111
DATE 9/8/20
SHEET 1 OF 12

SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENTS
PROJECT NO. 15-6446

FILE NAME: Y:\projects_Acct15-6448 Grand and St Gertrude Water Main Improvements\CADD Files and Maps\15-6448_Sheet12.dgn
PROJECT NO. 15-6448
PROJECTED BY: jhms
PLOT DATE: 9/2/2020
LAST SAVED: 9/2/2020



WATER CONSTRUCTION NOTES:

- 1 CONSTRUCT 8" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 2 CONSTRUCT 12" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 4 CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 5 CONSTRUCT 2" WATER SERVICE PER CITY STD. PLAN NO. 1402. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 7 ABANDON EXISTING WATER SERVICE PER DETAIL ON SHEET 10
- 10 CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
- 14 CONSTRUCT 8" GATE VALVE (FLG. X M.J.)
- 15 CONSTRUCT 12" GATE VALVE (M.J. X M.J.)
- 16 CONSTRUCT 8" 45" BEND (M.J. X M.J.)
- 20 CONSTRUCT 12" X 8" TEE (FLG. X M.J.)
- 23 CONSTRUCT ANCHOR PER STD. PLAN NO. 1412
- 32 REMOVE INTERFERING PORTION OF EXISTING MAIN AND THRUST BLOCK (WHEN NECESSARY). TIE-IN TO EXISTING WATER MAIN PER CITY STD. PLAN NO.1409 FOLLOWING SUCCESSFUL COMPLETION OF PRESSURE TEST AND BACTERIA TEST. PLUG END OF ABANDONED WATER MAIN WITH 6" THICK P.C.C. PER CITY STD. PLAN NO.1409
- 33 CONSTRUCT 12" X 12" HOT TAP WITH TAPPING SLEEVE AND 12" TAPPING VALVE PER STD. PLAN NO. 1408.
- 35 BLIND FLANGE EXISTING WATER MAIN
- 37 ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER. CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND. COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
- 38 REMOVE AND DISPOSE OF EXISTING GATE VALVE EXTENSIONS AND LID AND FILL WITH ½ SACK SLURRY AND RESURFACE IN KIND.
- 40 FURNISH AND INSTALL 6" DIAMETER LOOP DETECTOR AS SHOWN. FIRST LOOP BEHIND LIMIT LINE SHALL BE BICYCLE LOOP DETECTOR TYPE "D" PER CALTRANS STD. PLAN ES-5B. ALL OTHER LOOPS SHALL BE TYPE "E" PER CALTRANS STD. PLAN ES-5B. INSTALL 2" DIAMETER STUB OUT IF NECESSARY. FRONT LOOP (CENTER OF LOOP TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK. LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET ON CENTER. ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE. EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET. PLACE LOOPS CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE. LOCATIONS OF DETECTOR LOOPS IS REQUIRES ENGINEER'S APPROVAL PRIOR TO SAW CUTTING.
- 41 CONSTRUCT 16" BUTTERFLY VALVE (MJ X MJ). LINE STOP PER DETAILS ON SHEETS 10 & 11

WATER MAIN IMPROVEMENTS:
GRAND AVE
WARNER AVENUE TO STA.18+00
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

(SEE UPPER RIGHT)
MATCHLINE, STA 13+50

MATCHLINE, STA 18+00
(SEE SHEET 3)

WA-06633

CONSTRUCTION COMPLETED:				REVISIONS		REFERENCES	
NUMBER	DATE	INITIALS		DESCRIPTIONS	APPRVD	WATER ATLAS & SEWER ATLAS	BENCH MARK #
							ELEV.



PREPARED UNDER THE SUPERVISION OF: ARMANDO FERNANDEZ RCE NO. 8711 EXP. 9/30/21 CIVIL STATE OF CALIFORNIA	DESIGNED: J.A. REVIEWED FOR CONSTRUCTABILITY: JASON GABRIEL RECOMMENDED FOR CONSTRUCTION: RODOLFO ROSAS	SENIOR CIVIL ENGINEER DRAWN: J.A., E.O. RCE NO.: 62968 PRINCIPAL CIVIL ENGINEER	CHECKED: A.F. RCE NO.: 62968 RCE NO.: 73963	DATE 09/2/2020 09/2/2020 09/2/2020
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BAR MEASURES 1 INCH

FILE NAME: Y:\projects_Active\15-6448 Grand and St Gertrude Water Main Improvements\CADD Files and Maps\15-6448_Sheet15.dgn

PLotted BY: jhms

Plot DATE: 9/4/2020

LAST SAVED: 9/2/2020

FILE NO.
WA-06633

CONSTRUCTION COMPLETED:

NUMBER	DATE	INITIALS	
			</

CONSTRUCTION COMPLETED:			REVISIONS		APPROV'D	REFERENCES	ELEV.
NUMBER	DATE	INITIALS	DESCRIPTIONS				
						WATER ATLAS & SEWER ATLAS	

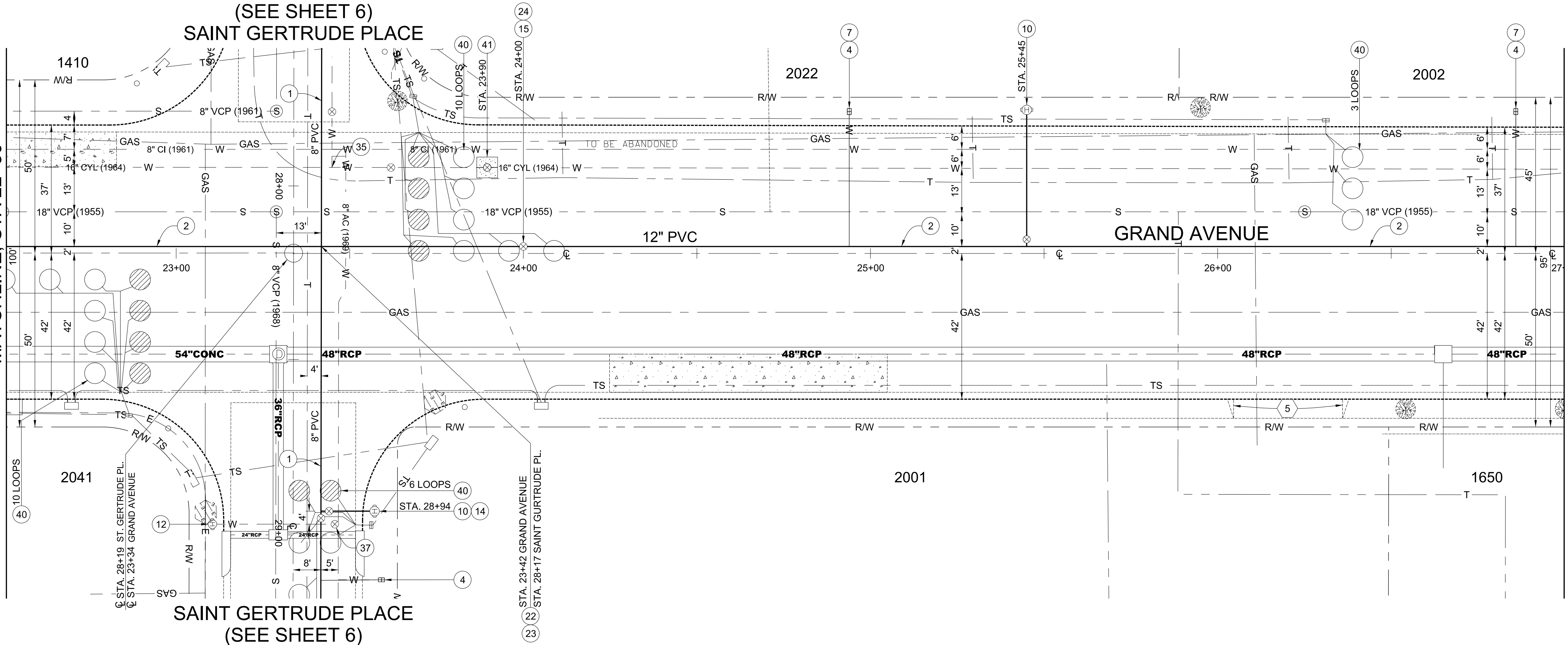


PREPARED UNDER THE SUPERVISION OF:		DATE 09 / 2020
ARMANDO FERNANDEZ		
DESIGNED: J.A.	DRAWN: J.A., E.O.	CHECKED: A.F.
REVIEWED FOR CONSTRUCTABILITY:		
JASON GABRIEL	RCE NO.: 62968	09 / 2020
RECOMMENDED FOR CONSTRUCTION:		
RODOLFO ROSAS	RCE NO.: 73963	09 / 2020

WATER MAIN IMPROVEMENTS:
GRAND AVE
STA. 18+00 TO STA. 27+00
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

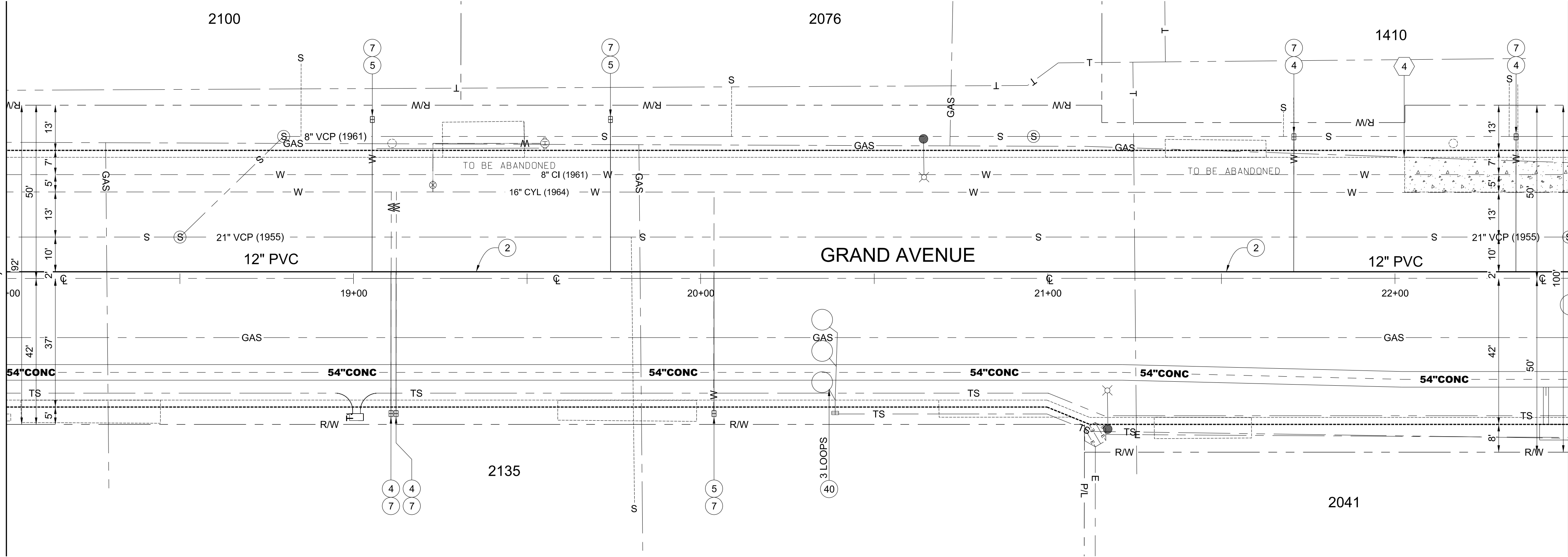
SHEET 3 OF 12

(SEE UPPER RIGHT)
MATCHLINE: STA 22+50



MATCHLINE: STA 27+00
(SEE SHEET 4)

(SEE SHEET 2)
MATCHLINE: STA 18+00



MATCHLINE: STA 22+50
(SEE LOWER LEFT)



WATER CONSTRUCTION NOTES:

- 1 CONSTRUCT 8" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 2 CONSTRUCT 12" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 4 CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401, FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 5 CONSTRUCT 2" WATER SERVICE PER CITY STD. PLAN NO. 1402, FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 7 ABANDON EXISTING WATER SERVICE PER DETAIL ON SHEET 10
- 10 CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
- 12 REMOVE AND SALVAGE EXISTING FIRE HYDRANT FROM BURY. TRANSPORT TO CITY YARD.
- 14 CONSTRUCT 8" GATE VALVE (FLG. X M.J.)
- 15 CONSTRUCT 12" GATE VALVE (M.J. X M.J.)
- 22 CONSTRUCT 12" X 8" CROSS (M.J. X M.J.)
- 23 CONSTRUCT ANCHOR PER STD. PLAN NO. 1412
- 24 CONSTRUCT VALVE ANCHOR PER STD. PLAN NO. 1419
- 35 BLIND FLANGE EXISTING WATER MAIN
- 37 ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER, CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND. COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
- 40 FURNISH AND INSTALL 6" DIAMETER LOOP DETECTOR AS SHOWN. FIRST LOOP BEHIND LIMIT LINE SHALL BE BICYCLE LOOP DETECTOR TYPE "D" PER CALTRANS STD. PLAN ES-5B. ALL OTHER LOOPS SHALL BE TYPE "E" PER CALTRANS STD. PLAN ES-5B. INSTALL 2" DIAMETER STUB OUT IF NECESSARY. FRONT LOOP (CENTER OF LOOP TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK. LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET ON CENTER. ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE, EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET. PLACE LOOPS CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE. LOCATIONS OF DETECTOR LOOPS IS REQUIRES ENGINEER'S APPROVAL PRIOR TO SAW CUTTING.
- 41 CONSTRUCT 16" BUTTERFLY VALVE (MJ X MJ). LINE STOP PER DETAILS ON SHEETS 10 & 11

CONSTRUCTION NOTES:

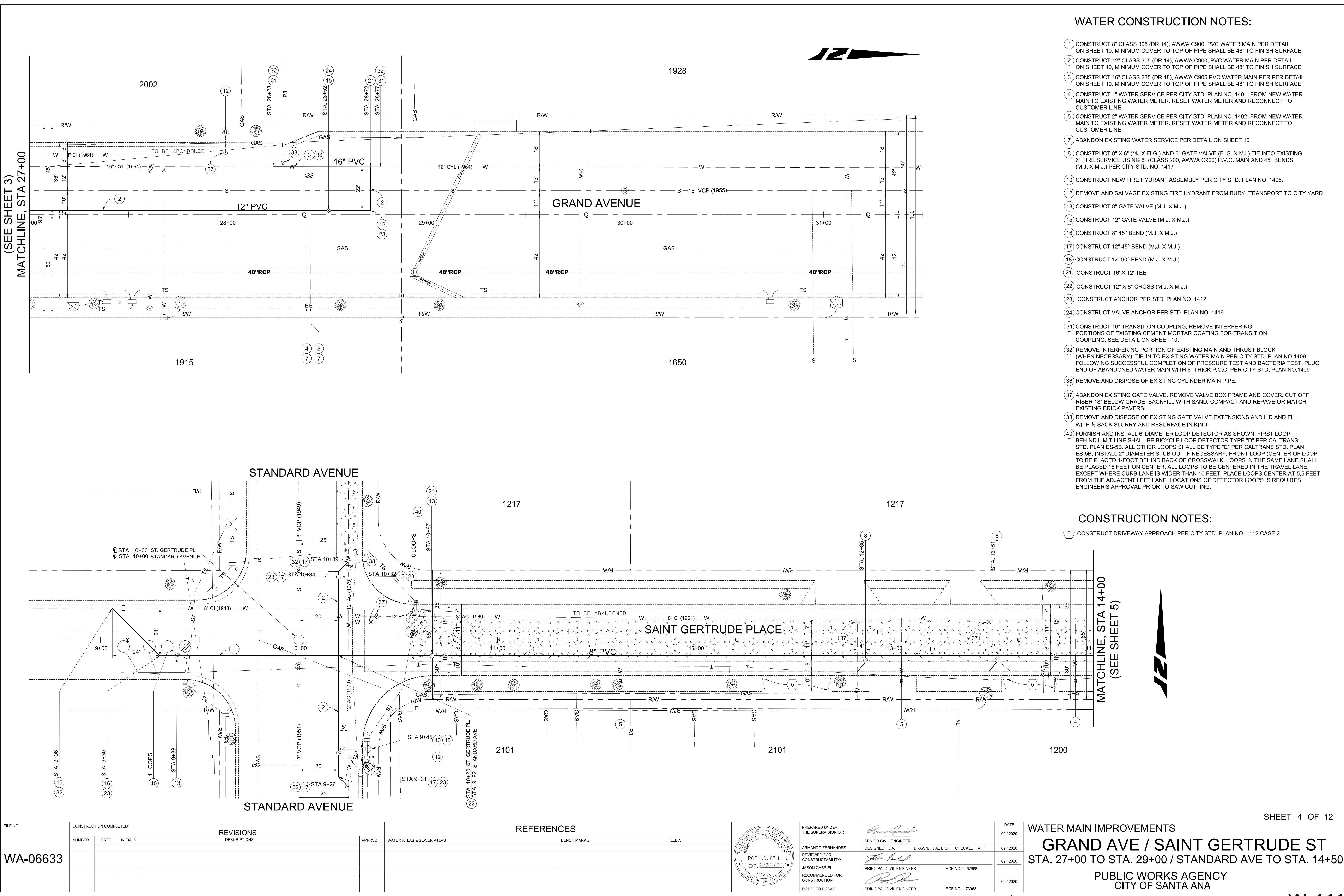
- 4 PROTECT BUS PAD IN PLACE
- 5 CONSTRUCT DRIVEWAY APPROACH PER CITY STD. PLAN NO. 1112 CASE 2

W-441

PROJECT NO. 15-6446

SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENTS

PROJECT: Active15-6448 Grand and St Gertrude Water Main Improvements/CADD Files and Maps15-6448_Sheet04.dgn
FILE NAME: WA-06633
PLOT DATE: 9/4/2020
LAST SAVED: 9/2/2020
PLOT BY: jhms



WATER CONSTRUCTION NOTES:

- 1) CONSTRUCT 8" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 2) CONSTRUCT 12" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 3) CONSTRUCT 16" CLASS 235 (DR 18), AWWA C905 PVC WATER MAIN PER PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE.
- 4) CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401, FROM NEW WATER MAIN TO EXISTING WATER METER, RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 5) CONSTRUCT 2" WATER SERVICE PER CITY STD. PLAN NO. 1402, FROM NEW WATER MAIN TO EXISTING WATER METER, RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 7) ABANDON EXISTING WATER SERVICE PER DETAIL ON SHEET 10
- 8) CONSTRUCT 8" X 6" (MJ X FLG.) AND 6" GATE VALVE (FLG. X MJ.) TIE INTO EXISTING 6" FIRE SERVICE USING 6" (CLASS 200, AWWA C900) P.V.C. MAIN AND 45° BENDS (M.J. X M.J.) PER CITY STD. NO. 1417
- 10) CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
- 12) REMOVE AND SALVAGE EXISTING FIRE HYDRANT FROM BURY, TRANSPORT TO CITY YARD.
- 13) CONSTRUCT 8" GATE VALVE (M.J. X M.J.)
- 15) CONSTRUCT 12" GATE VALVE (M.J. X M.J.)
- 16) CONSTRUCT 8" 45° BEND (M.J. X M.J.)
- 17) CONSTRUCT 12" 45° BEND (M.J. X M.J.)
- 18) CONSTRUCT 12" 90° BEND (M.J. X M.J.)
- 21) CONSTRUCT 16" X 12" TEE
- 22) CONSTRUCT 12" X 8" CROSS (M.J. X M.J.)
- 23) CONSTRUCT ANCHOR PER STD. PLAN NO. 1412
- 24) CONSTRUCT VALVE ANCHOR PER STD. PLAN NO. 1419
- 31) CONSTRUCT 16" TRANSITION COUPLING, REMOVE INTERFERING PORTIONS OF EXISTING CEMENT MORTAR COATING FOR TRANSITION COUPLING. SEE DETAIL ON SHEET 10.
- 32) REMOVE INTERFERING PORTION OF EXISTING MAIN AND THRUST BLOCK (WHEN NECESSARY), TIE-IN TO EXISTING WATER MAIN PER CITY STD. PLAN NO.1409 FOLLOWING SUCCESSFUL COMPLETION OF PRESSURE TEST AND BACTERIA TEST, PLUG END OF ABANDONED WATER MAIN WITH 6" THICK P.C.C. PER CITY STD. PLAN NO.1409
- 36) REMOVE AND DISPOSE OF EXISTING CYLINDER MAIN PIPE.
- 37) ABANDON EXISTING GATE VALVE, REMOVE VALVE BOX FRAME AND COVER, CUT OFF RISER 18" BELOW GRADE, BACKFILL WITH SAND, COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
- 38) REMOVE AND DISPOSE OF EXISTING GATE VALVE EXTENSIONS AND LID AND FILL WITH ½ SACK SLURRY AND RESURFACE IN KIND.
- 40) FURNISH AND INSTALL 6" DIAMETER LOOP DETECTOR AS SHOWN, FIRST LOOP BEHIND LIMIT LINE SHALL BE BICYCLE LOOP DETECTOR TYPE "D" PER CALTRANS STD. PLAN ES-5B, ALL OTHER LOOPS SHALL BE TYPE "E" PER CALTRANS STD. PLAN ES-5B, INSTALL 2" DIAMETER STUB OUT IF NECESSARY, FRONT LOOP (CENTER OF LOOP TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK, LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET ON CENTER, ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE, EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET, PLACE LOOPS CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE, LOCATIONS OF DETECTOR LOOPS IS REQUIRES ENGINEER'S APPROVAL PRIOR TO SAW CUTTING.

CONSTRUCTION NOTES:

- 5) CONSTRUCT DRIVEWAY APPROACH PER CITY STD. PLAN NO. 1112 CASE 2

SHEET 4 OF 12

FILE NO. WA-06633	CONSTRUCTION COMPLETED:			REVISIONS		REFERENCES		<div>REGISTERED PROFESSIONAL ENGINEER ARMANDO FERNANDEZ RCE NO. 8711 EXP. 9/30/21 CIVIL STATE OF CALIFORNIA</div>	PREPARED UNDER THE SUPERVISION OF: ARMANDO FERNANDEZ REVIEWED FOR CONSTRUCTABILITY: JASON GABRIEL RECOMMENDED FOR CONSTRUCTION: RODOLFO ROSAS	<div>DESIGNED: J.A. DRAWN: J.A., E.O. CHECKED: A.F.</div>	DATE 09 / 2020	WATER MAIN IMPROVEMENTS GRAND AVE / SAINT GERTRUDE ST STA. 27+00 TO STA. 29+00 / STANDARD AVE TO STA. 14+50 PUBLIC WORKS AGENCY CITY OF SANTA ANA
	NUMBER	DATE	INITIALS	DESCRIPTIONS	APPRVD	WATER ATLAS & SEWER ATLAS	BENCH MARK #					

W-441

SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENTS

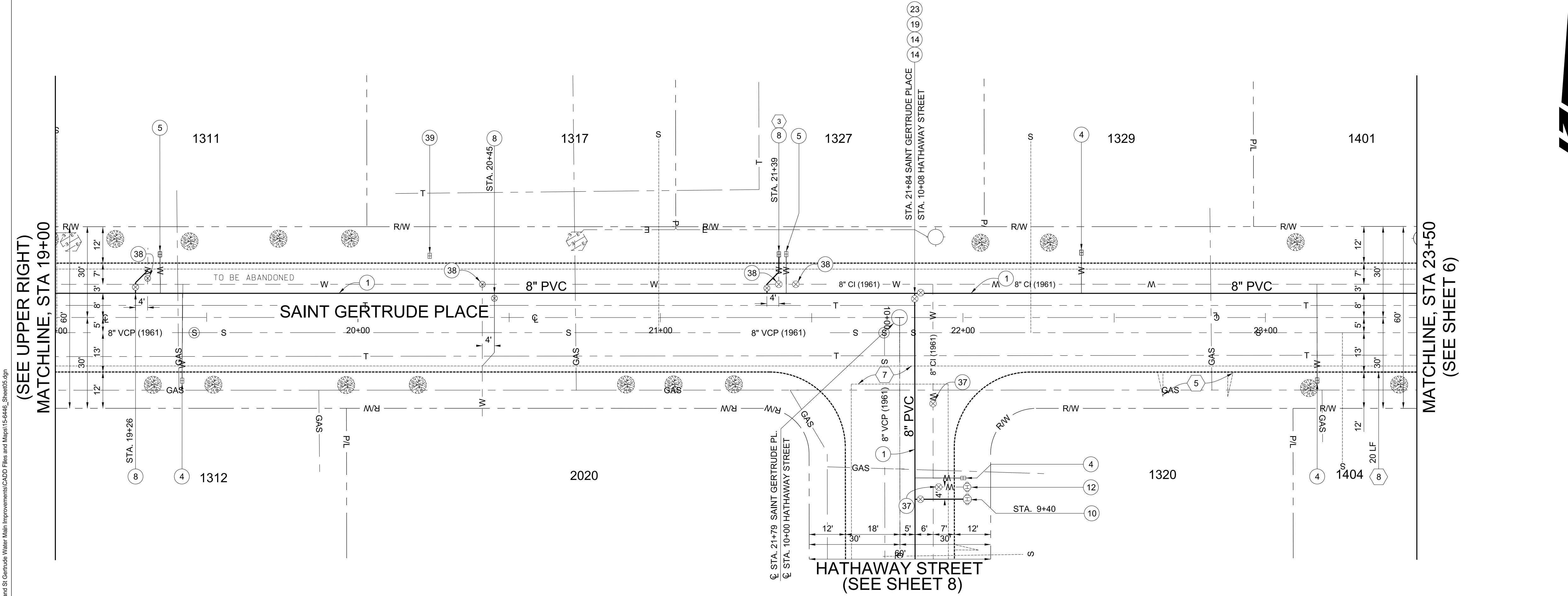
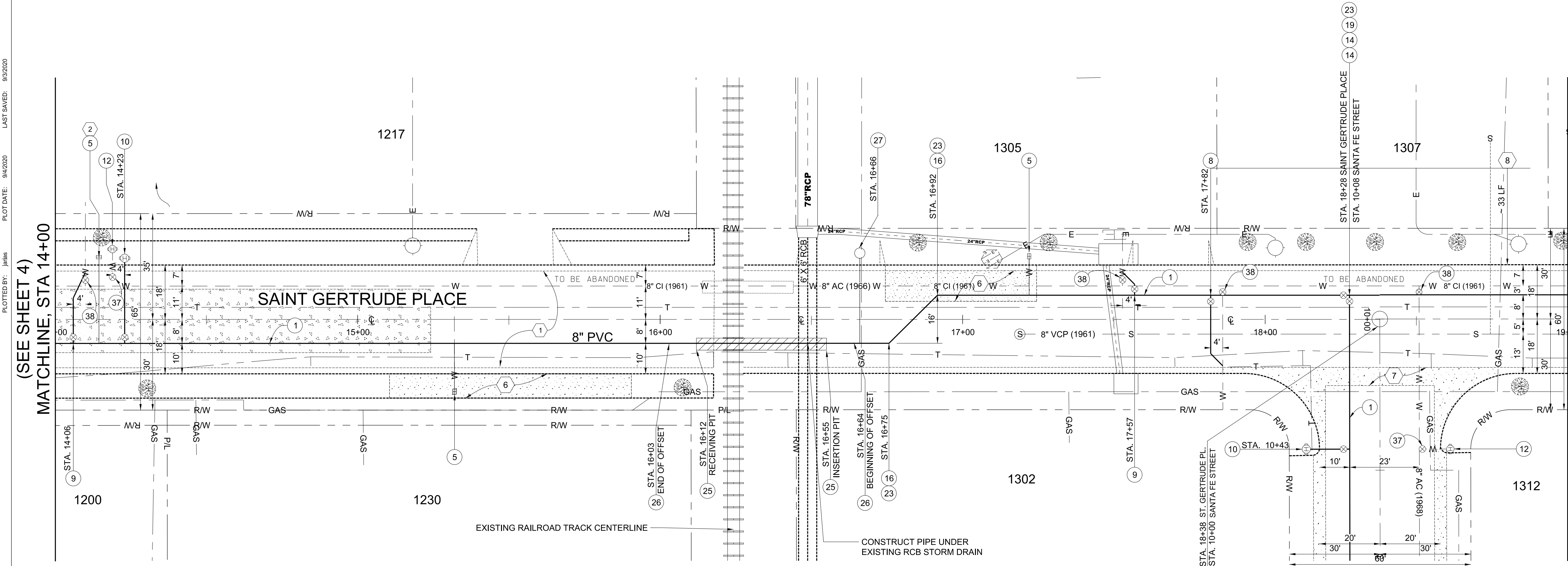
PROJECT NO. 15-6446

FILE NAME: Y:\projects_Active\15-6446 Grand and St Gertrude Water Main Improvements\CADD Files and Maps\15-6446_Sheet15.dgn

PROJECT NO. 15-6446
PLOT DATE: 9/4/2020
LAST SAVED: 9/2/2020
PLOT BY: jhms

(SEE UPPER RIGHT)
MATCHLINE, STA 19+00

(SEE SHEET 4)
MATCHLINE, STA 14+00



WATER CONSTRUCTION NOTES:

- 1 CONSTRUCT 8" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 4 CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 5 CONSTRUCT 2" WATER SERVICE PER CITY STD. PLAN NO. 1402. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 8 CONSTRUCT 8" X 6" (MJ. X FLG.) AND 6" GATE VALVE (FLG. X MJ.) TIE INTO EXISTING 6" FIRE SERVICE USING 8" (CLASS 200 AWWA C900) P.V.C. MAIN AND 45° BENDS (M.J. X M.J.) PER CITY STD. NO. 1417
- 9 CONSTRUCT 8" X 8" TEE (M.J. X FLG.) AND 8" GATE VALVE (FLG. X M.J.) TIE INTO EXISTING 8" FIRE SERVICE USING 8" (CLASS 200 AWWA C900) P.V.C. MAIN AND 45° BENDS (M.J. X M.J.) PER CITY STD. NO. 1417
- 10 CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
- 12 REMOVE AND SALVAGE EXISTING FIRE HYDRANT FROM BURY. TRANSPORT TO CITY YARD.
- 14 CONSTRUCT 8" GATE VALVE (FLG. X MJ.)
- 16 CONSTRUCT 8" 45° BEND (M.J. X M.J.)
- 19 CONSTRUCT 8" X 8" TEE (FLG. X M.J.)
- 23 CONSTRUCT ANCHOR PER STD. PLAN NO. 1412
- 25 BORE AND JACK, INSTALL STEEL CASING AND DUCTILE IRON CARRIER PIPE PER CITY STD. PLAN NO. 1429 AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 26 CONSTRUCT VERTICAL OFFSET 12 FEET DEEP PER CITY STD. PLAN 1413B
- 27 CONSTRUCT 1" COMBINATION AIR VALVE ASSEMBLY PER CITY STD. PLAN NO. 1415
- 37 ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER, CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND. COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
- 38 REMOVE AND DISPOSE OF EXISTING GATE VALVE EXTENSIONS AND LID AND FILL WITH ½ SACK SLURRY AND RESURFACE IN KIND.
- 39 REMOVE AND DISPOSE OF EXISTING BOX AND COVER, BACKFILL WITH ½ SACK SLURRY AND RESURFACE IN KIND.

CONSTRUCTION NOTES:

- 1 CONCRETE UNDER AC PAVEMENT
- 2 ABANDON VAULT PER "GREEN BOOK" SECTION 306-5. BACKFILL WITH COMPACT SAND ½ SACK SLURRY AND PLACE PAVERS IN KIND. SALVAGE VAULT LIDS AND DELIVER TO CITY YARD.
- 3 INSTALL NEW METER BOX PER CITY STD. PLAN 1402.
- 5 CONSTRUCT DRIVEWAY APPROACH PER CITY STD. PLAN NO. 1112 CASE 2
- 6 CONSTRUCT CONCRETE BUS PAD PER CITY STD. PLAN NO. 1108
- 7 CONSTRUCT CONCRETE CROSS-GUTTER PER CITY STD. PLAN NO. 1109
- 8 CONSTRUCT CURB AND GUTTER PER CITY STD. PLAN NO. 1101



FILE NO.	CONSTRUCTION COMPLETED:				REVISIONS		REFERENCES		DATE
	NUMBER	DATE	INITIALS		DESCRIPTIONS	APPRVD	WATER ATLAS & SEWER ATLAS	BENCH MARK #	
WA-06633									

REGISTERED PROFESSIONAL ENGINEER
ARMANDO FERNANDEZ
RCE NO. 8711
EXP. 9/30/21
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
ARMANDO FERNANDEZ
REVIEWED FOR CONSTRUCTABILITY:
JASON GABRIEL
RECOMMENDED FOR CONSTRUCTION:
RODOLFO ROSAS

Senior Civil Engineer
DESIGNED: J.A.
Principal Civil Engineer
RCE NO.: 62968

Drawn: J.A., E.O.
Checked: A.F.
Principal Civil Engineer
RCE NO.: 73963

09 / 2020

09 / 2020

09 / 2020

WATER MAIN IMPROVEMENTS

SAINT GERTRUDE ST
STA. 14+50 TO STA. 23+50

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 5 OF 12

SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENTS
PROJECT NO. 15-6446
W-441

FILE NAME: Y:\projects\A06615-6448 Grand and St Gertrude Water Main Improvements\CADD Files and Maps\15-6448_Sheet6.dgn

PLotted BY: jhls
PLOT DATE: 9/4/2020
LAST SAVED: 9/2/2020

(SEE UPPER RIGHT)
MATCHLINE, STA 27+00

(SEE SHEET 5)
MATCHLINE, STA 23+50

FILE NO.

WA-06633

CONSTRUCTION COMPLETED:			
NUMBER	DATE	INITIALS	

REVISIONS

DESCRIPTIONS

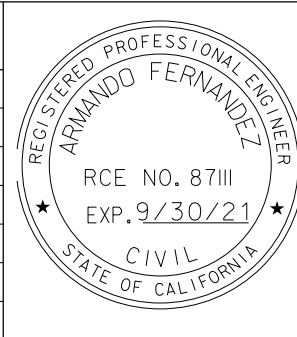
APPRVD

REFERENCES

WATER ATLAS & SEWER ATLAS

BENCH MARK #

ELEV.



PREPARED UNDER THE SUPERVISION OF:

ARMANDO FERNANDEZ

REVIEWED FOR CONSTRUCTABILITY:

JASON GABRIEL

RECOMMENDED FOR CONSTRUCTION:

RODOLFO ROSAS

DATE		
DESIGNED: J.A.	DRAWN: J.A., E.O.	CHECKED: A.F.
PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	
PRINCIPAL CIVIL ENGINEER	RCE NO.: 73963	

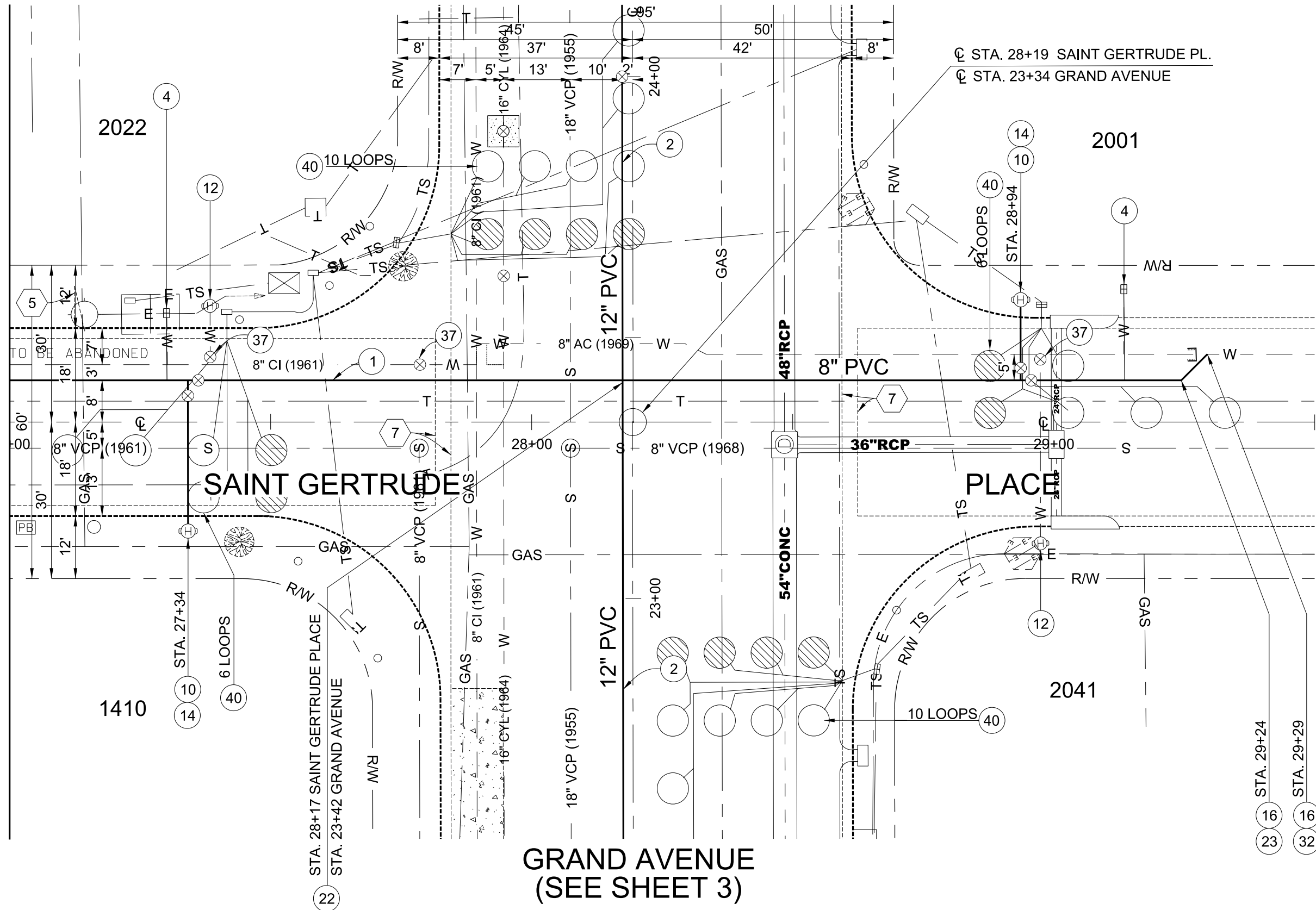
WATER MAIN IMPROVEMENTS

SAINT GERTRUDE ST
STA. 23+50 TO GRAND AVE

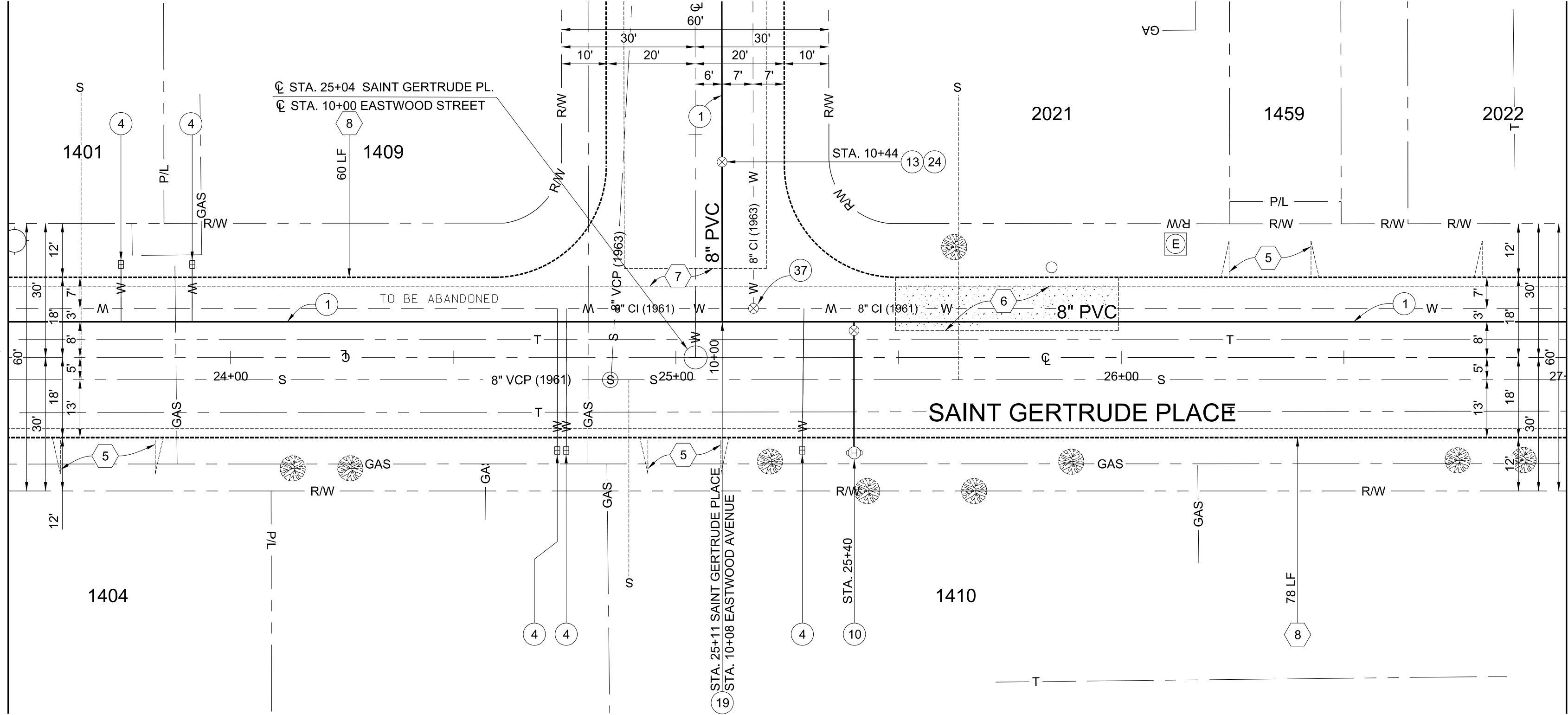
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 6 OF 12

BAR MEASURES 1 INCH



GRAND AVENUE
(SEE SHEET 3)



(SEE SHEET 7)
EASTWOOD AVENUE

MATCHLINE, STA 27+00
(SEE LOWER LEFT)

WATER CONSTRUCTION NOTES:

- 1 CONSTRUCT 8" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 2 CONSTRUCT 12" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- 4 CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401, FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- 10 CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
- 12 REMOVE AND SALVAGE EXISTING FIRE HYDRANT FROM BURY. TRANSPORT TO CITY YARD.
- 13 CONSTRUCT 8" GATE VALVE (M.J. X M.J.)
- 14 CONSTRUCT 8" GATE VALVE (FLG. X M.J.)
- 16 CONSTRUCT 8" 45° BEND (M.J. X M.J.)
- 19 CONSTRUCT 8" X 8" TEE (FLG. X M.J.)
- 22 CONSTRUCT 12" X 8" CROSS (M.J. X M.J.)
- 23 CONSTRUCT ANCHOR PER STD. PLAN NO. 1412
- 24 CONSTRUCT VALVE ANCHOR PER STD. PLAN NO. 1419
- 32 REMOVE INTERFERING PORTION OF EXISTING MAIN AND THRUST BLOCK (WHEN NECESSARY). TIE-IN TO EXISTING WATER MAIN PER CITY STD. PLAN NO. 1409 FOLLOWING SUCCESSFUL COMPLETION OF PRESSURE TEST AND BACTERIA TEST. PLUG END OF ABANDONED WATER MAIN WITH 6" THICK P.C.C. PER CITY STD. PLAN NO. 1409
- 37 ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER. CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND. COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
- 40 FURNISH AND INSTALL 6" DIAMETER LOOP DETECTOR AS SHOWN. FIRST LOOP BEHIND LIMIT LINE SHALL BE BICYCLE LOOP DETECTOR TYPE "D" PER CALTRANS STD. PLAN ES-5B. ALL OTHER LOOPS SHALL BE TYPE "E" PER CALTRANS STD. PLAN ES-5B. INSTALL 2" DIAMETER STUB OUT IF NECESSARY. FRONT LOOP (CENTER OF LOOP TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK. LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET ON CENTER. ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE, EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET. PLACE LOOPS CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE. LOCATIONS OF DETECTOR LOOPS IS REQUIRES ENGINEER'S APPROVAL PRIOR TO SAW CUTTING.

CONSTRUCTION NOTES:

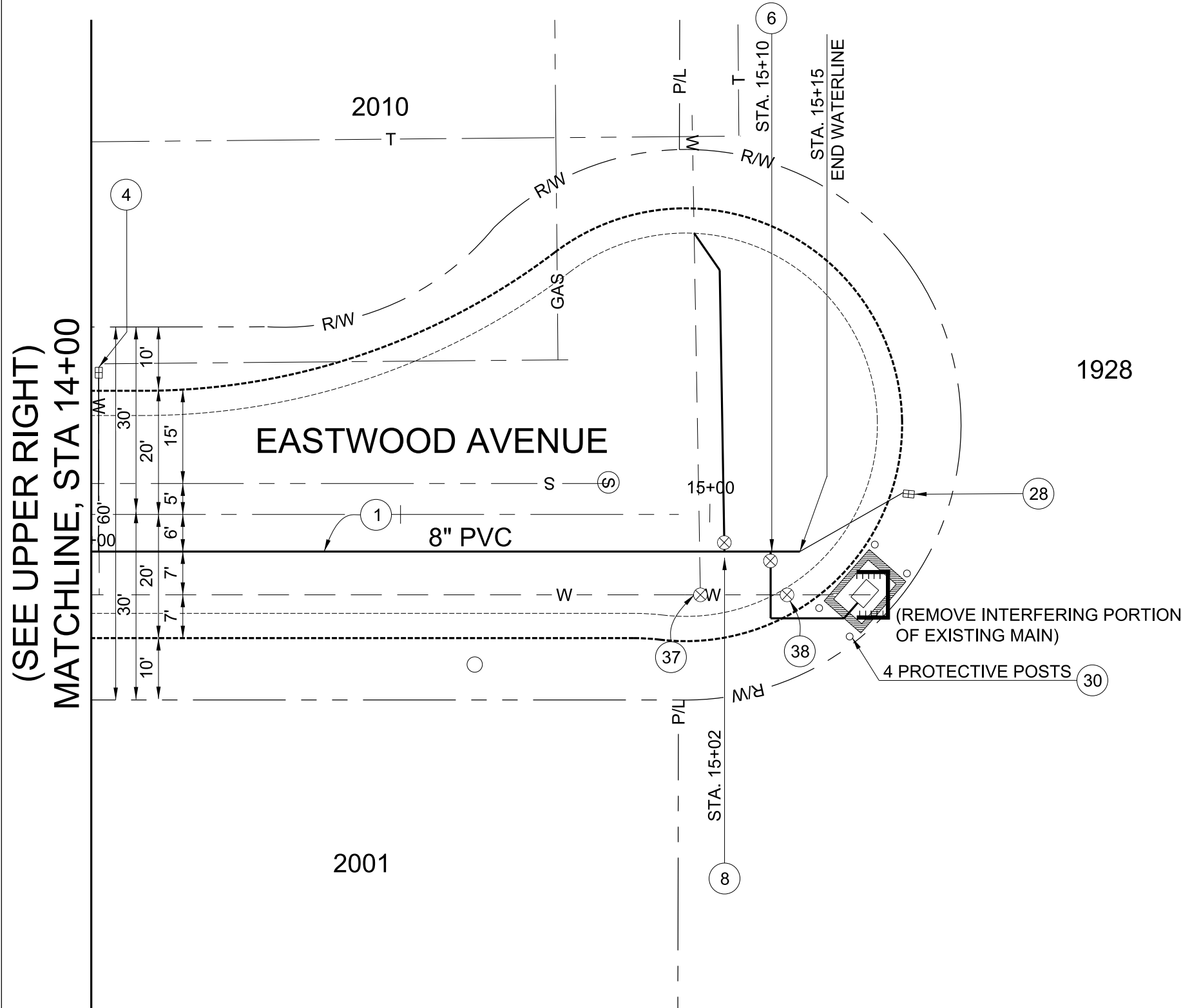
- 5 CONSTRUCT DRIVEWAY APPROACH PER CITY STD. PLAN NO. 1112 CASE 2
- 6 CONSTRUCT CONCRETE BUS PAD PER CITY STD. PLAN NO. 1108
- 7 CONSTRUCT CONCRETE CROSS-GUTTER PER CITY STD. PLAN NO. 1109
- 8 CONSTRUCT CURB AND GUTTER PER CITY STD. PLAN NO. 1101

PROJECT NO. 15-6446

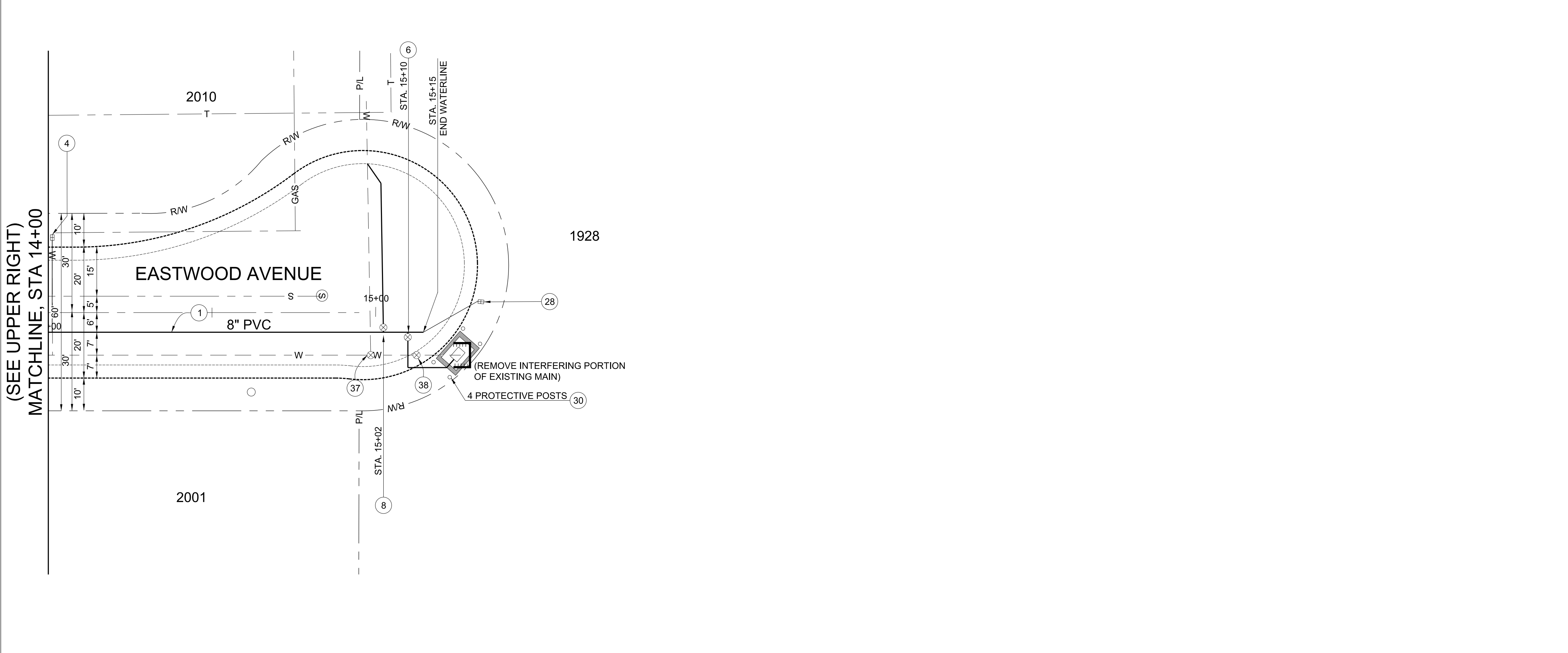
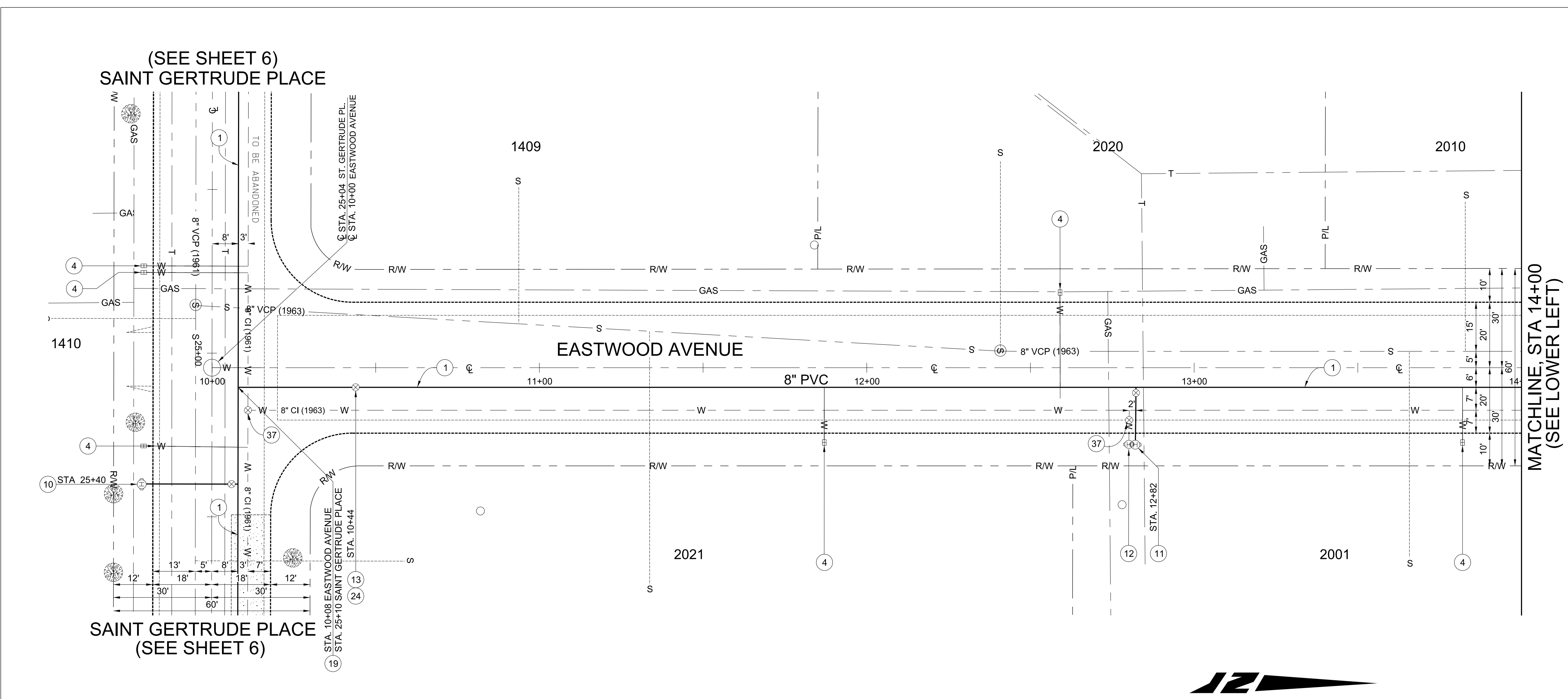
SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENTS

W-441

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CADD Files and Maps
15-6446_Sheet07.dgn
PLOT DATE: 9/4/2020
LAST SAVED: 9/2/2020
PLOT BY: jhms



FILE NO.	CONSTRUCTION COMPLETED:				REVISIONS		REFERENCES	
	NUMBER	DATE	INITIALS		DESCRIPTIONS	APPRVD	WATER ATLAS & SEWER ATLAS	BENCH MARK #
WA-06633								



- WATER CONSTRUCTION NOTES:
1. CONSTRUCT 8" CLASS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
 4. CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
 6. CONSTRUCT 4" WATER WATER SERVICE PER CITY STD. PLAN NO. 1403B AND NEW WATER SERVICE VAULT PER CITY STD. PLAN NO 1403D.
 8. CONSTRUCT 8" X 6" (M.J. X FLG.) AND 6" GATE VALVE (FLG. X M.J.) TIE INTO EXISTING 6" FIRE SERVICE USING 6" (CLASS 200, AWWA C900) P.V.C. MAIN AND 45° BENDS (M.J. X M.J.) PER CITY STD. NO. 1417
 10. CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
 11. CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1407 AND 1407A.
 12. REMOVE AND SALVAGE EXISTING FIRE HYDRANT FROM BURY. TRANSPORT TO CITY YARD.
 13. CONSTRUCT 8" GATE VALVE (M.J. X M.J.)
 19. CONSTRUCT 8" X 8" TEE (FLG. X M.J.)
 24. CONSTRUCT VALVE ANCHOR PER STD. PLAN NO. 1419
 28. CONSTRUCT 2" BLOW OFF ASSEMBLY AND THRUST BLOCK PER CITY STD. PLAN 1414
 30. CONSTRUCT PROTECTIVE POSTS PER CITY STD. PLAN 1407A
 37. ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER. CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND. COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
 38. REMOVE AND DISPOSE OF EXISTING GATE VALVE EXTENSIONS AND LID AND FILL WITH ½ SACK SLURRY AND RESURFACE IN KIND.

WATER MAIN IMPROVEMENTS

EASTWOOD ST
SAINT GERTRUDE ST TO END OF CUL DE SAC

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

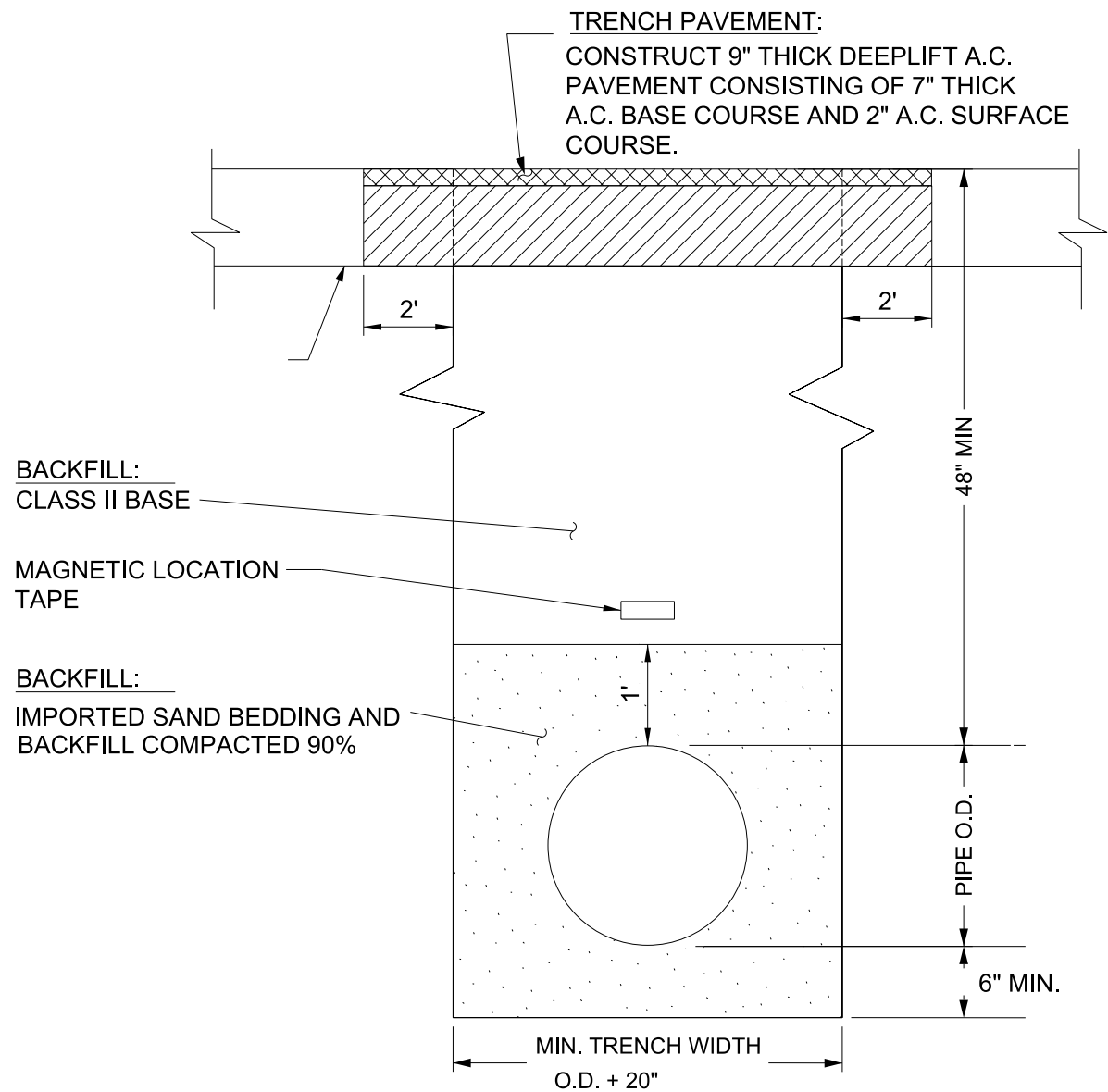
© 2005 Blackwell Publishing Ltd, *Journal of Internal Medicine* 258: 111–118



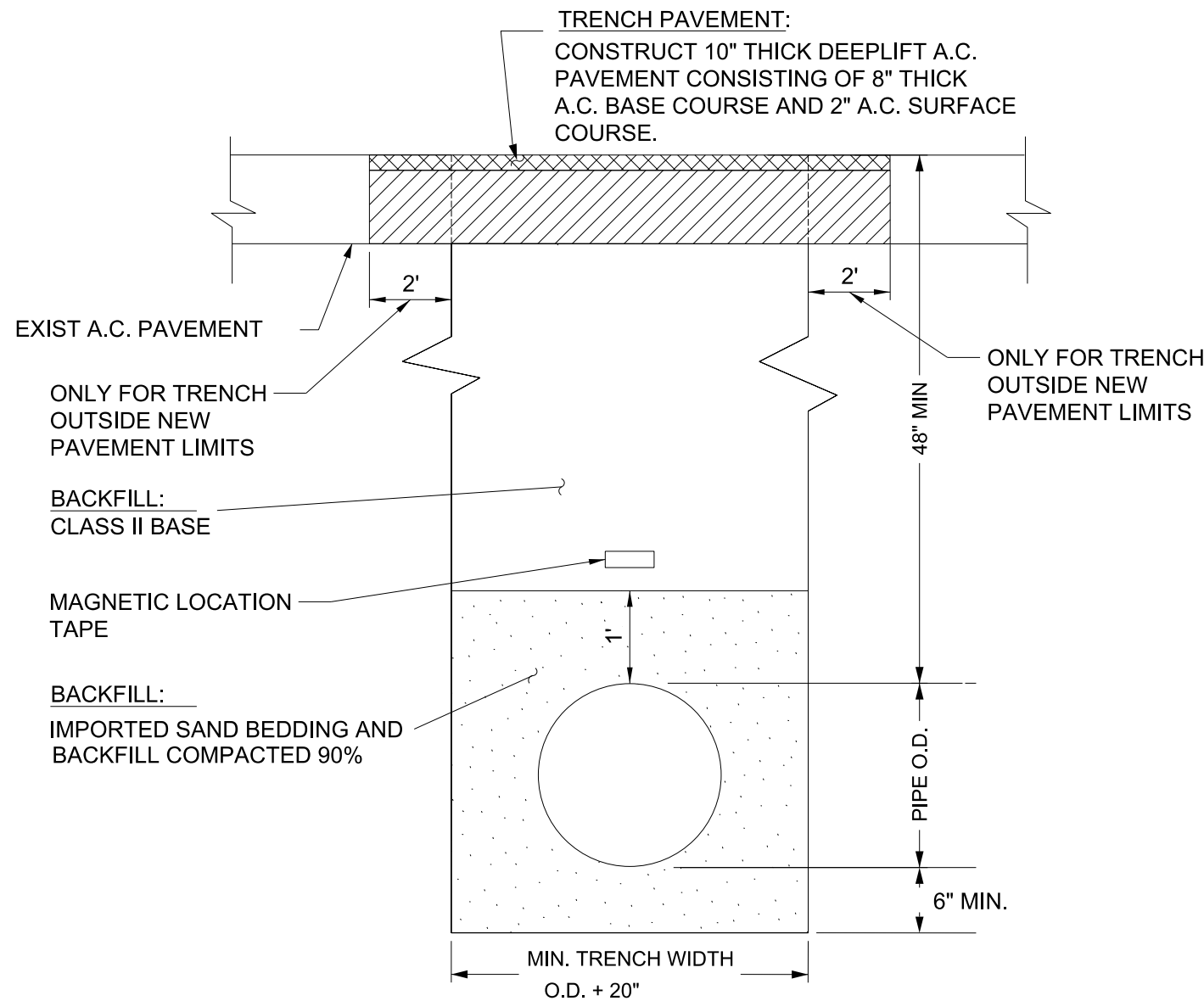
- ① CONSTRUCT 8" SSS 305 (DR 14), AWWA C900, PVC WATER MAIN PER DETAIL ON SHEET 10, MINIMUM COVER TO TOP OF PIPE SHALL BE 48" TO FINISH SURFACE
- ④ CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- ⑤ CONSTRUCT 2" WATER SERVICE PER CITY STD. PLAN NO. 1402. FROM NEW WATER MAIN TO EXISTING WATER METER. RESET WATER METER AND RECONNECT TO CUSTOMER LINE
- ⑧ CONSTRUCT 8" X 6" TEE (M.J X FLG.) AND 6" GATE VALVE (FLG. X M.J.) TIE INTO EXISTING 6" FIRE SERVICE USING 6" (CLASS 200, AWWA C900) P.V.C. MAIN AND 45° BENDS (M.J. X M.J.) PER CITY STD. NO. 1417
- ⑨ CONSTRUCT 8" X 8" TEE (M.J. X FLG.) AND 8" GATE VALVE (FLG. X M.J.) TIE INTO EXISTING 8" FIRE SERVICE USING 8" (CLASS 200 AWWA C900) P.V.C MAIN AND 45° BENDS (M.J. X M.J.) PER CITY STD. NO. 1417.
- ⑩ CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1405.
- ⑪ CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN NO. 1407 AND 1407A.
- ⑫ REMOVE AND SALVAGE EXISTING FIRE HYDRANT FROM BURY. TRANSPORT TO CITY YARD.
- ⑭ CONSTRUCT 8" GATE VALVE (FLG. X M.J.)
- ⑰ CONSTRUCT 8" X 8" TEE (FLG. X M.J.)
- ⑳ CONSTRUCT ANCHOR PER STD. PLAN NO. 1412
- ㉑ CONSTRUCT 2" BLOW OFF ASSEMBLY AND THRUST BLOCK PER CITY STD. PLAN 1414
- ㉓ ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER. CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND. COMPACT AND REPAVE OR MATCH EXISTING BRICK PAVERS.
- ㉔ REMOVE AND DISPOSE OF EXISTING GATE VALVE EXTENSIONS AND LID AND FILL WITH ½ SACK SLURRY AND RESURFACE IN KIND.

<p>WATER MAIN IMPROVEMENTS</p> <p>SANTA FE ST</p> <p>SAINT GERTRUDE ST TO END OF CUL DE SAC</p> <p>PUBLIC WORKS AGENCY CITY OF SANTA ANA</p>

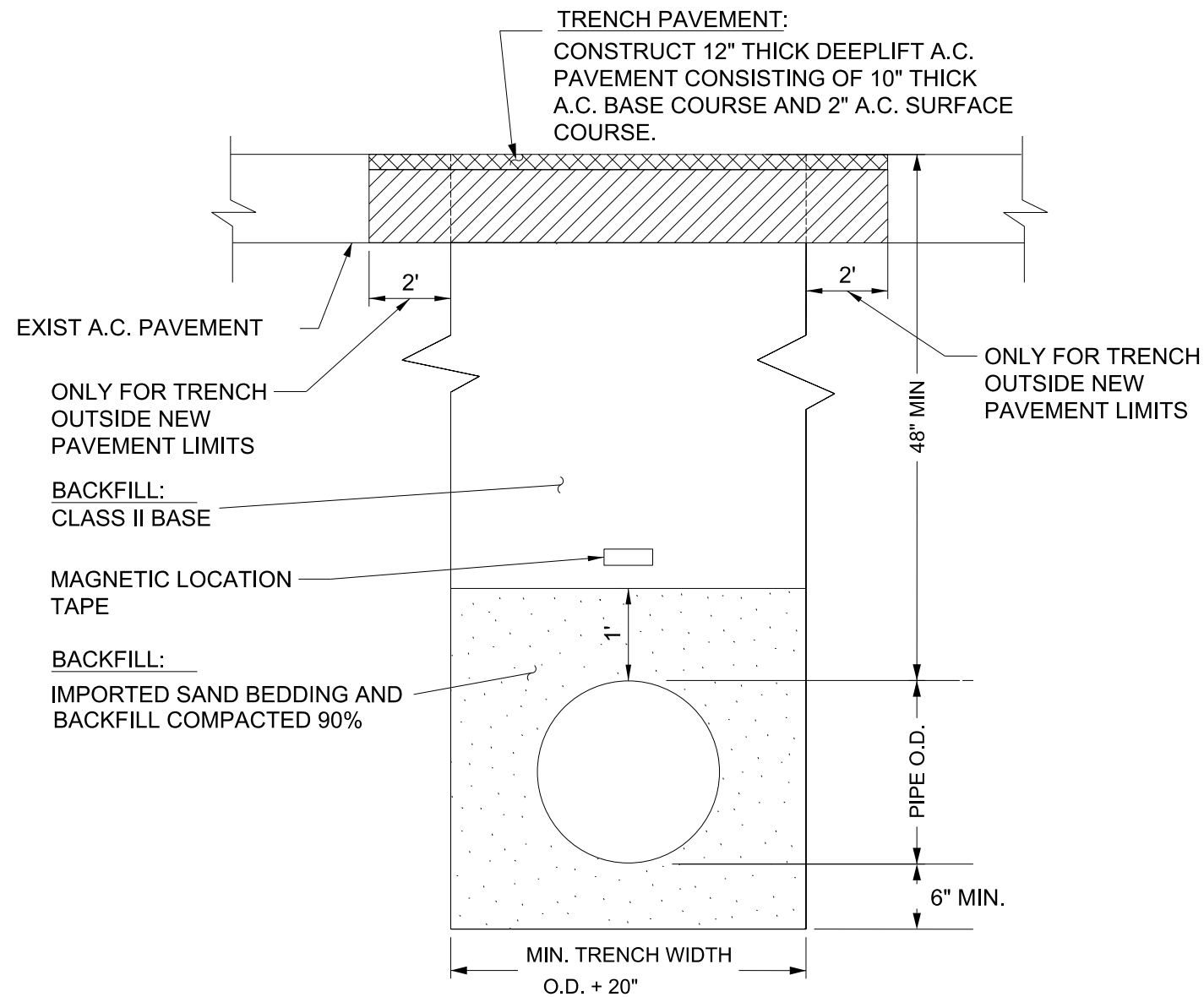
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PLOT DATE: 9/4/2020
LAST SAVED: 9/2/2020
PLOT BY: jhms



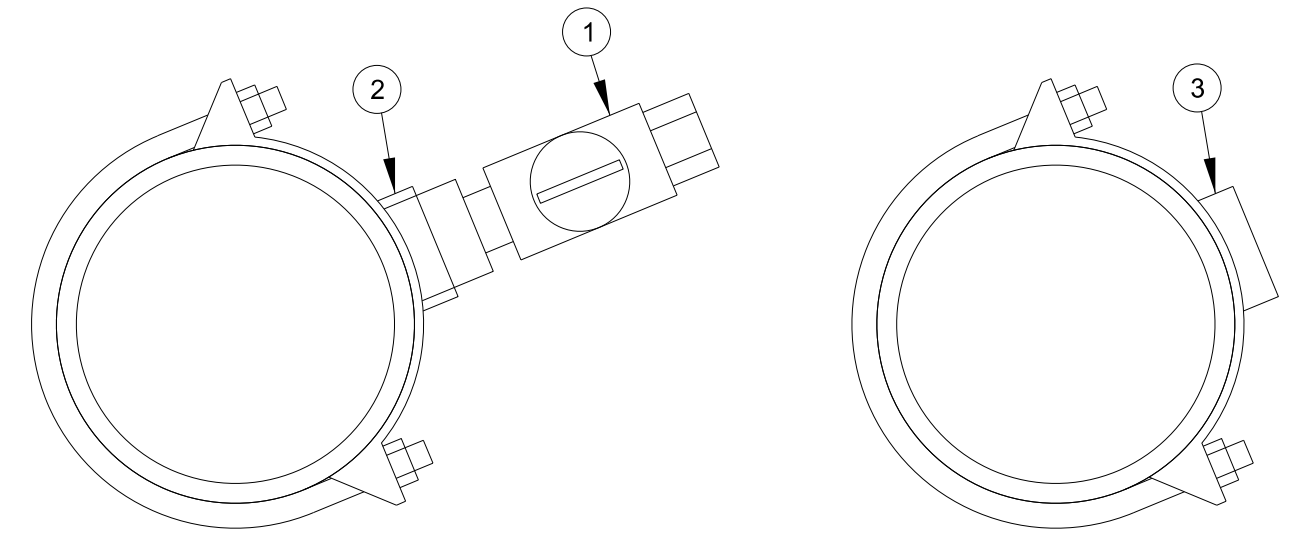
WATER MAIN TRENCH DETAIL N.T.S.
SAINT GERTRUDE PLACE STA. 16+12 TO STA. 29+29
EASTWOOD AVENUE
HATHAWAY STREET
SANTA FE STREET



WATER MAIN TRENCH DETAIL N.T.S.
SAINT GERTRUDE PLACE STA. 10+20 TO STA. 16+12



WATER MAIN TRENCH DETAIL N.T.S.
GRAND AVENUE

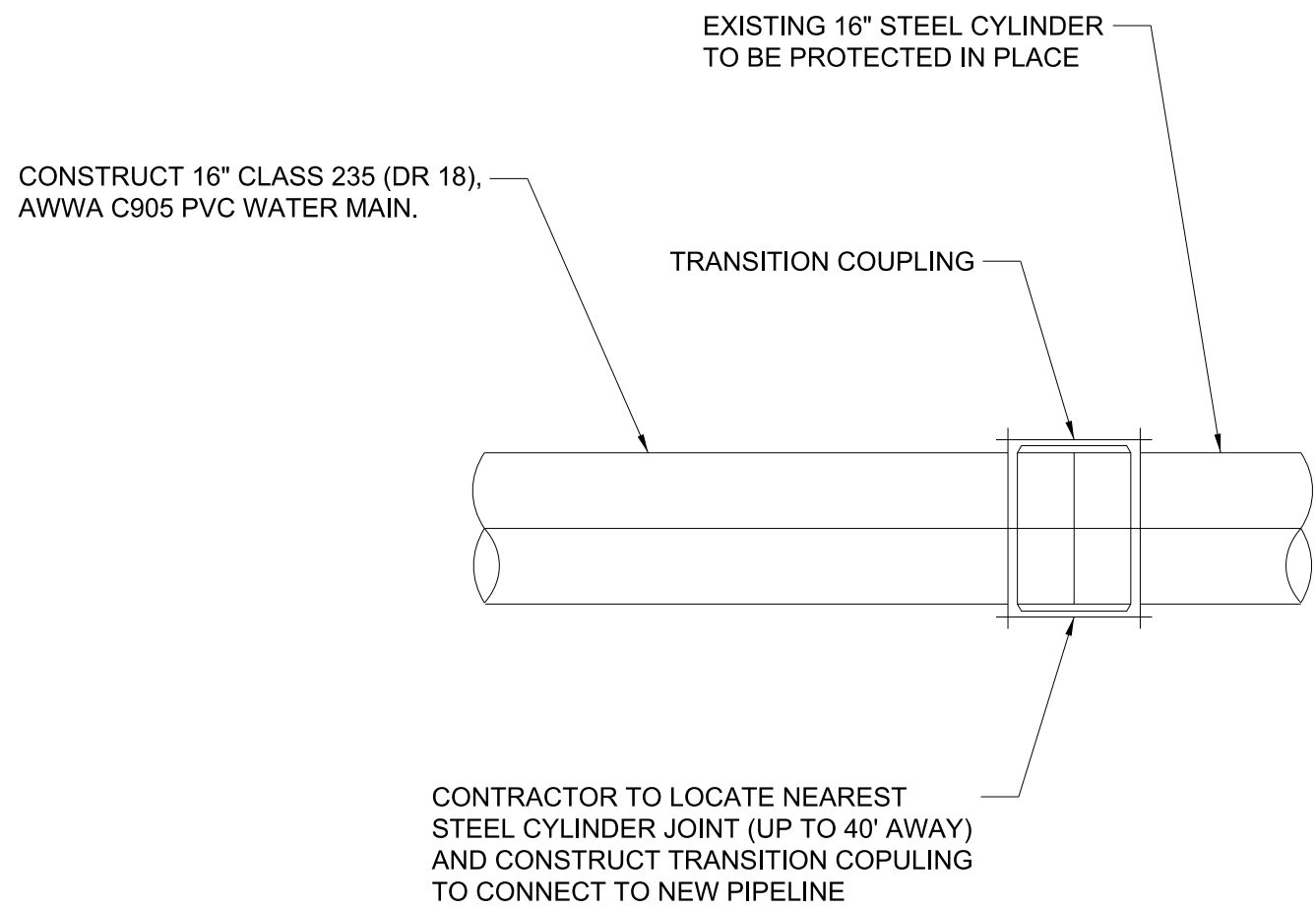


REMOVAL OF EXISTING SERVICE:

CONSTRUCTION NOTES:

1. REMOVE EXISTING CORPORATION STOP
2. REMOVE EXISTING PLASTIC BUSHING
3. INSTALL BRASS SQUARE-HEAD SOLID PLUG. McMASTER-CARR 4429K467 OR APPROVED EQUAL

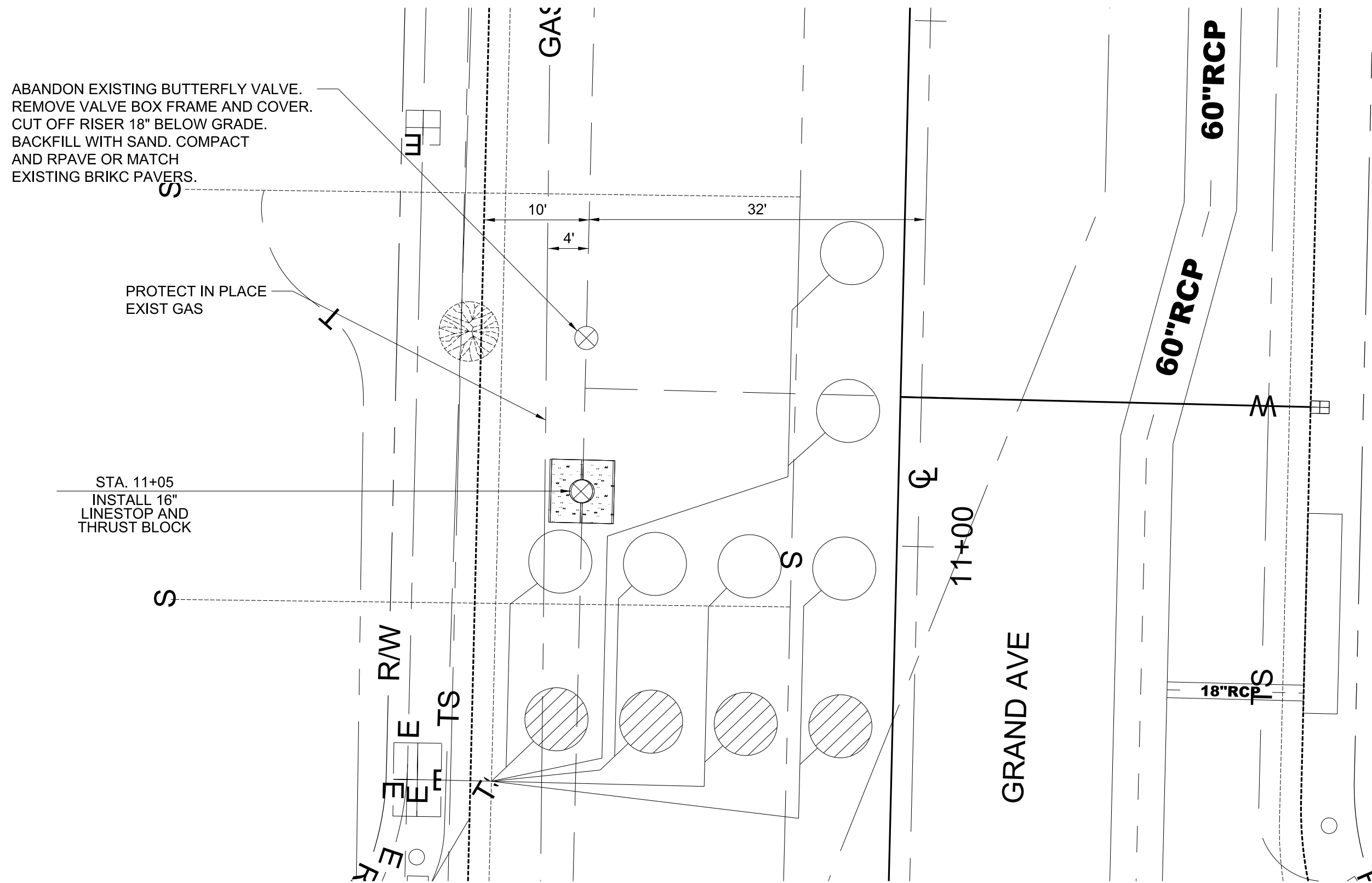
WATER SERVICE ABANDONMENT N.T.S.



NOTES:

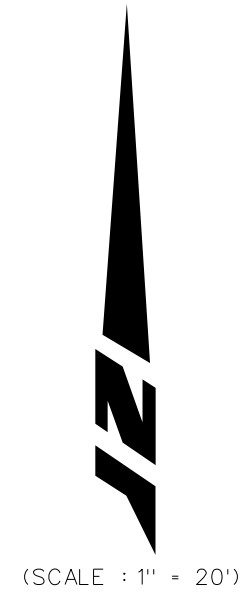
1. CONTRACTOR SHALL EXPOSE EXISTING 16" STEEL CYLINDER PIPE JOINTS TO VERIFY DIMENSIONS PRIOR TO SUBMITTAL OF SHOFT DRAWINGS FOR PIPE CONNECTIONS.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR CONNECTION FITTINGS PRIOR TO FABRICATION
3. ALL EXPOSED STEEL SHALL BE CEMENT MORTAR LINED OR COATED

16" CONNECTION DETAIL N.T.S.



LINE STOP PLAN
N/O GRAND AVE & WARNER AVE

SCALE (1" = 10')



NOT USED N.T.S.

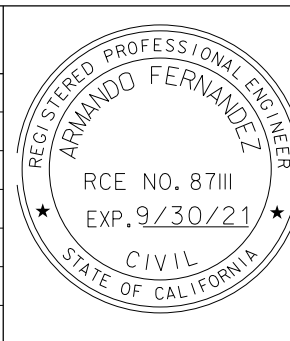
SHEET 10 OF 12

WA-06633

CONSTRUCTION COMPLETED:				
REVISIONS				
NUMBER	DATE	INITIALS	DESCRIPTIONS	APPRVD

REFERENCES

WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.



PREPARED UNDER THE SUPERVISION OF:
ARMANDO FERNANDEZ
REVIEWED FOR CONSTRUCTABILITY:
JASON GABRIEL
RECOMMENDED FOR CONSTRUCTION:
RODOLFO ROSAS

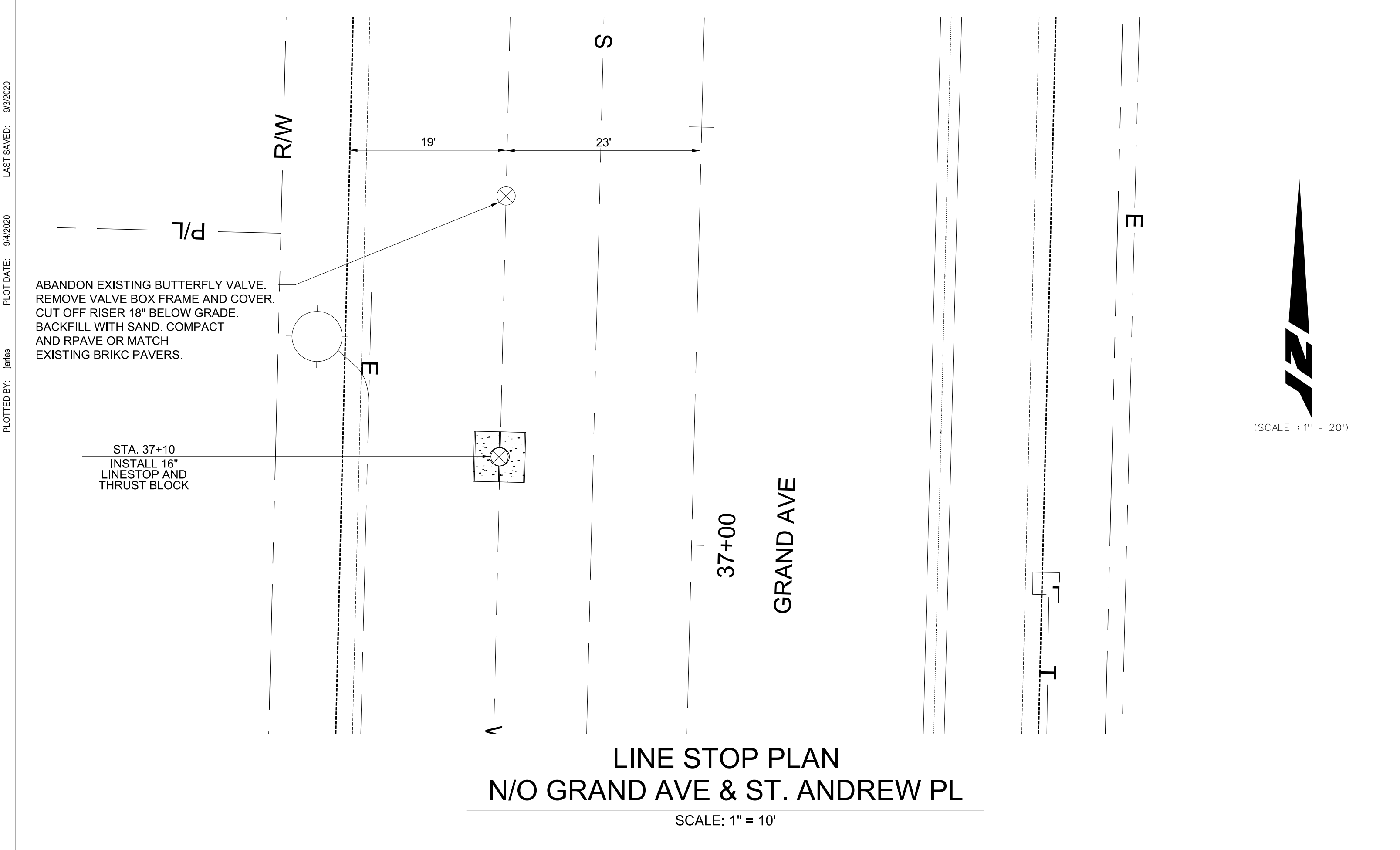
DATE	09 / 2020
SENIOR CIVIL ENGINEER	
DESIGNED: J.A.	DRAWN: J.A., E.O. CHECKED: A.F.
09 / 2020	
PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968
09 / 2020	
PRINCIPAL CIVIL ENGINEER	RCE NO.: 73963

WATER MAIN IMPROVEMENTS:

WATER DETAILS

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

W-441



INFORMATION FOR 16" LINESTOP:

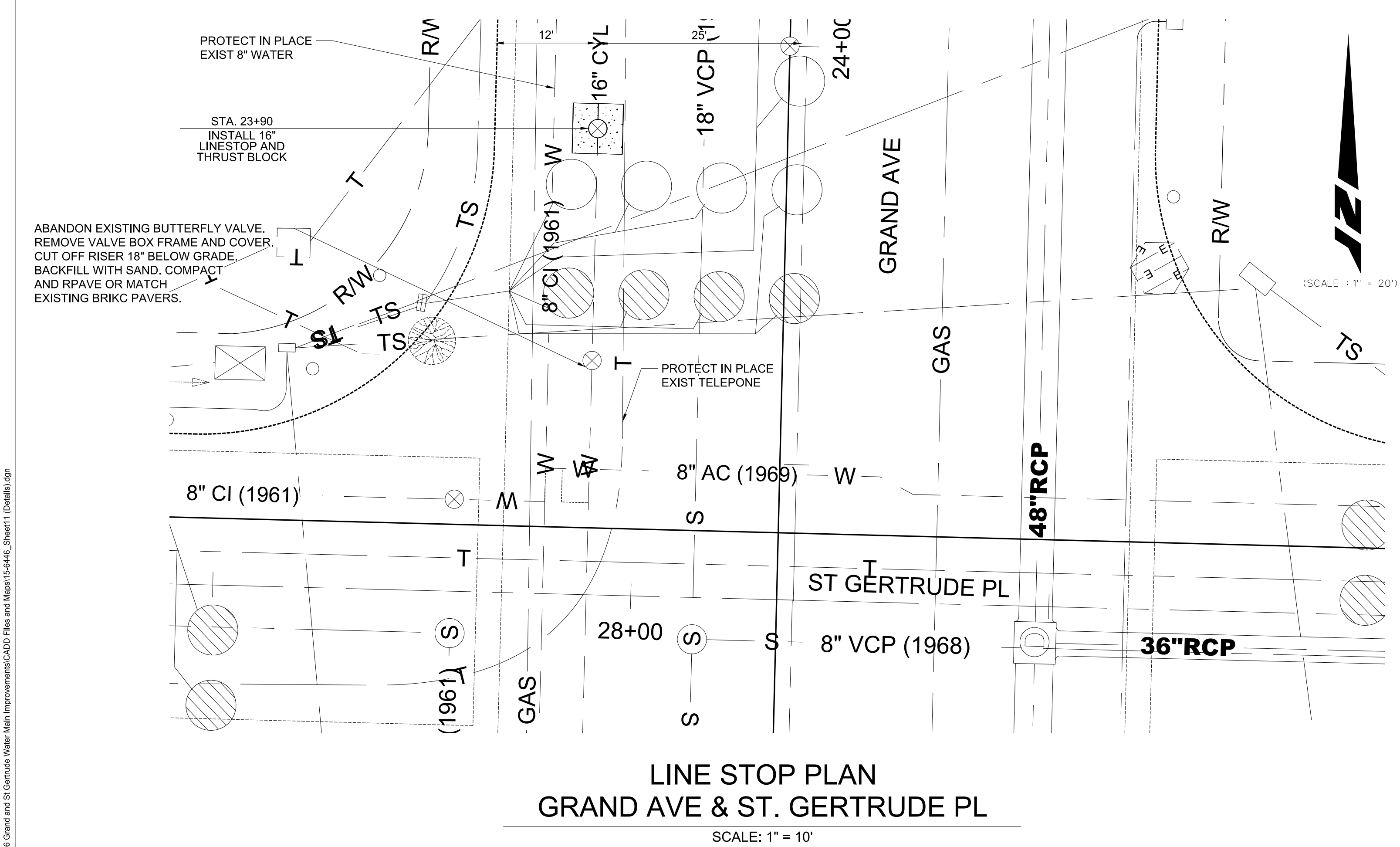
- EXIST PIPE: 16" STEEL CYLINDER PIPE (PARAMETERS UNKNOWN).
- OPERATING PRESSURE: 100 PSI
- TOP OF EXIST PIPE: APPROX. 4 FEET BELOW FINISHED GRADE
CONTRACTOR SHALL VERIFY DEPTH PRIOR TO ANY CONSTRUCTION ACTIVITY.
- EXIST PIPE: RESTRAINT SYSTEM UNKNOWN (WELDED OR GASKETED)
CONTRACTOR SHALL VERIFY THE CONDITION OF THE EXIST PIPE PRIOR TO ANY CONSTRUCTION
- THRUST: 20,000 LBS
IF RESTRAINED BY DEAD WEIGHT OF CONCRETE ONLY: 8 CY
- CONTRACTOR SHALL SUBMIT THRUST RESTRAINT SUBMITTAL TO DETAIL MEANS AND METHOD OF RESISTING THRUST GENERATED BY THE LINESTOP.

NOTES:

- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT IN PLACE EXIST UTILITIES.
- THE CONTRACTOR SHALL EXCAVATE THE EXIST 16" PIPING TO VERIFY THE OUTSIDE DIAMETER OF THE PIPING PRIOR TO ORDERING OF LINE STOP EQUIPMENT.
- IT IS NOT KNOWN IF THE EXIST 16" STEEL CYLINDER IS RESTRAINED. THE CONTRACTOR SHALL VERIFY THE CONDITION OF THE PIPING TO DETERMINE IF THE EXIST PIPING IS RESTRAINED PRIOR TO THE INSTALLATION OF ANY LINE STOP.
IF IT IS DETERMINED THAT THE EXIST PIPING IS RESTRAINED, POUR A SUPPORT THRUST BLOCK BENEATH THE LINE STOP TO THE SPRING LINE OF THE PIPE PER DETAIL 2
IF IT IS DETERMINED THE EXIST PIPING IS NOT RESTRAINED, POUR THRUST BLOCKS ON BOTH SIDES OF THE LINE STOP PER DETAIL 3 (ASSUME THIS FOR BIDDING PURPOSES).

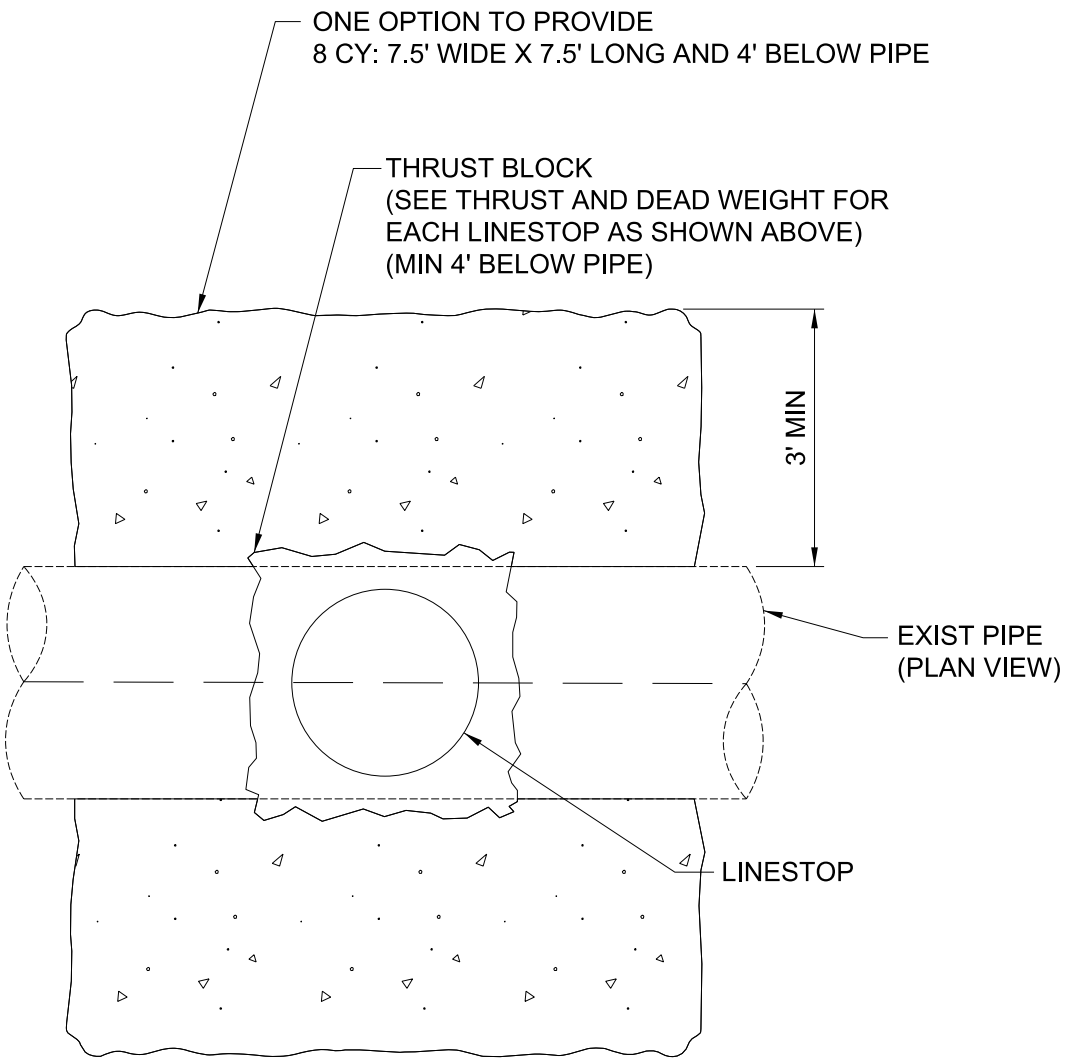
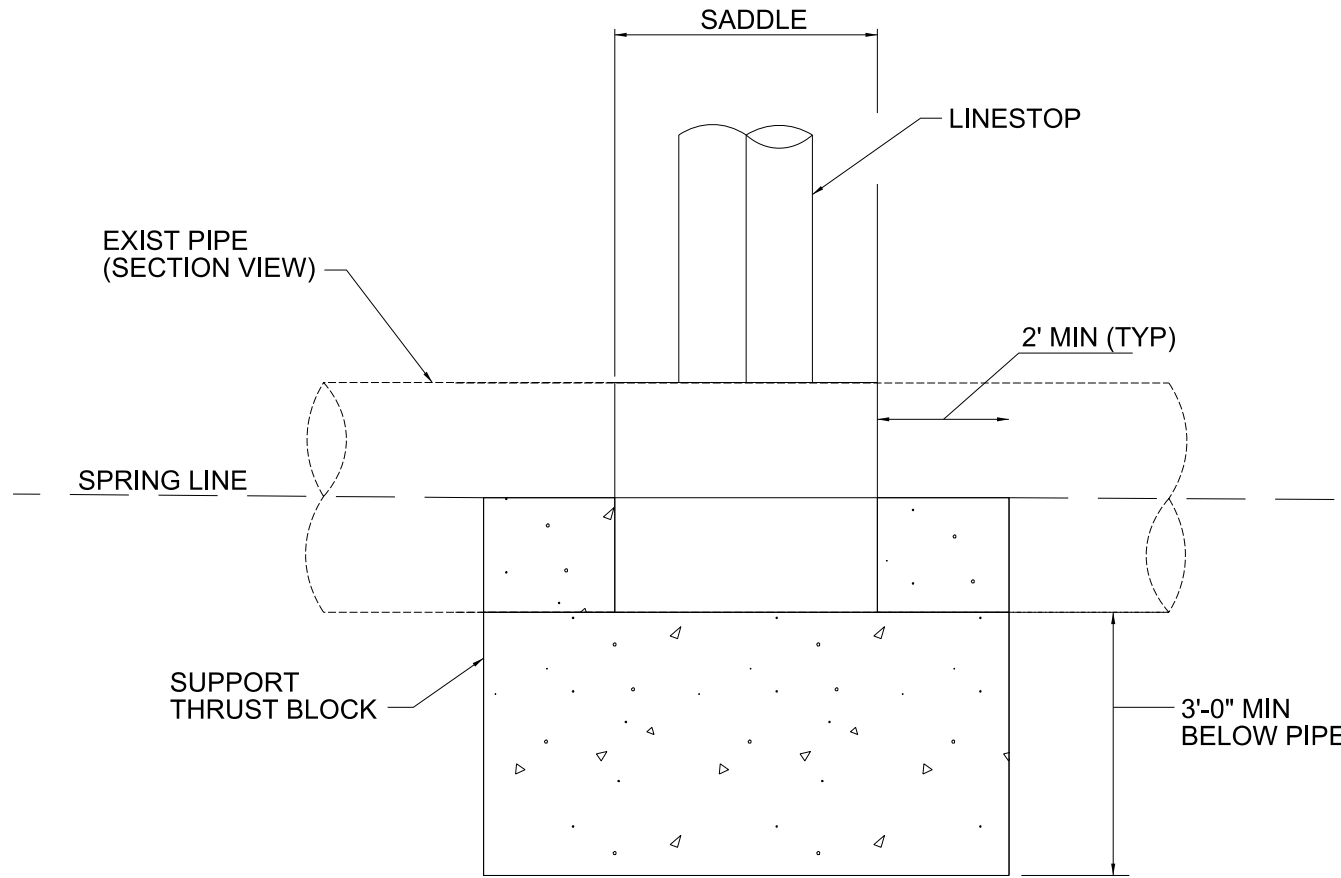
NOT USED

SCALE: NTS



NOTES:

POUR THRUST BLOCK A MIN OF 1' BEYOND SADDLE HORIZONTALLY



FILE NO.	CONSTRUCTION COMPLETED:				REVISIONS		REFERENCES		
	NUMBER	DATE	INITIALS		DESCRIPTIONS	APPRVD	WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.
WA-06633									

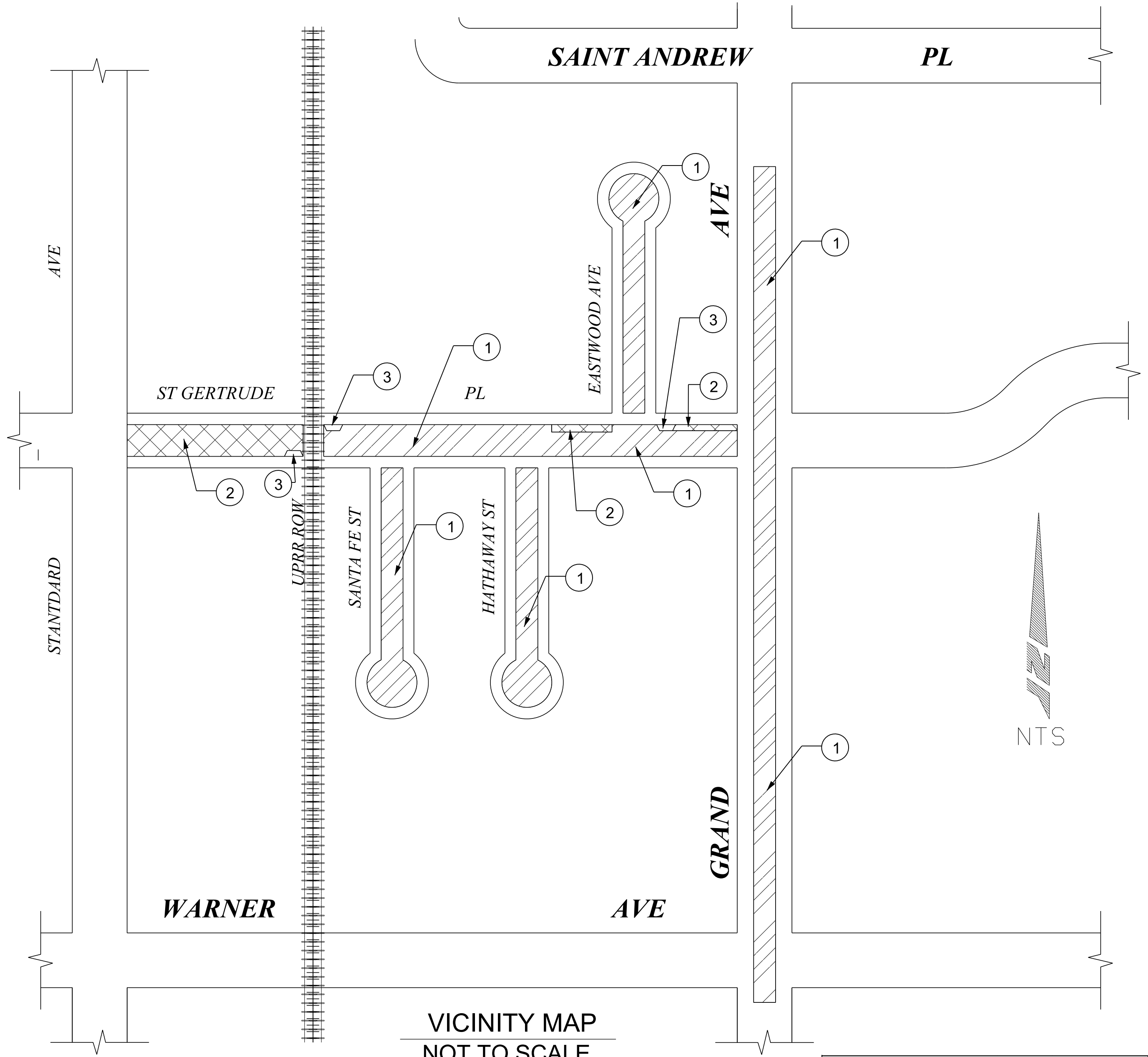


PREPARED UNDER THE SUPERVISION OF:	DATE 09 / 2020
ARMANDO FERNANDEZ	DESIGNED: J.A. DRAWN: J.A., E.O. CHECKED: A.F.
REVIEWED FOR CONSTRUCTABILITY:	09 / 2020
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968
RECOMMENDED FOR CONSTRUCTION:	09 / 2020
RODOLFO ROSAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 73963

WATER MAIN IMPROVEMENTS:	
LINESTOP CONNECTION DETAILS	
PUBLIC WORKS AGENCY CITY OF SANTA ANA	

SHEET 11 OF 12

FILE NAME: WA-06633
SHEETS
PLOT DATE: 09/20/2020
SUBS: J.A.F.
LAST SAVED: 09/20/2020



CONSTRUCTION NOTES:

1. COLDMILL 3" AND PLACE 1.7" ARHM OVER 3/4" ARAM OVER 1" LEVELING COURSE ON EXISTING SURFACE AS SHOWN ON THIS PLAN AND TYPICAL SECTION DETAIL.
2. CONSTRUCT 2" ARHM CAP OVER 8" AC ON COMPACTED SUBGRADE.
3. CONSTRUCT MONOLITHIC PCC BUS PAD PER C.S.A. STD. PLAN 1108.

GENERAL NOTES:

1. ACTUAL LIMITS OF PCC PAVEMENT, SIDEWALK, CURB & GUTTER, WHEEL CHAIR RAMPS, AND CROSS GUTTERS WILL BE MARKED IN THE FIELD BY ENGINEER AND INSPECTOR. IMPROVEMENTS SHALL BE CONSTRUCTED PER TYPICAL SECTIONS, STANDARD PLANS, AND PROJECT SPECIFICATIONS.
2. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING STRIPING WITHIN PROJECT LIMITS PER STRIPING EXHIBITS.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AS WRITTEN AND PROMULGATED BY THE LATEST EDITION OF SOUTHERN CALIFORNIA CHAPTER OF THE A.P.W.A. A.G.C.C. JOINT COOPERATIVE COMMITTEE HEREIN REFERRED TO AS THE STANDARD SPECIFICATIONS AND THE CITY OF SANTA ANA STANDARD PLANS & SPECIFICATIONS (UNLESS SPECIFICALLY NOTED OTHERWISE OR IN THE SPECIAL PROVISIONS FOR THIS PROJECT).
4. THESE CONSTRUCTION DOCUMENTS WERE CREATED FROM DIGITIZED BASE INFORMATION PROVIDED BY THE CITY OF SANTA ANA. EXACT LAYOUTS OF ALL HARDSCAPE ELEMENTS MAY NEED TO BE MODIFIED AND SOME FIELD ADJUSTMENTS MAY BE NECESSARY. THE CONTRACTOR SHALL INCLUDE AS PART OF THE BID, TIME AND LABOR FOR ANY MODIFICATIONS NECESSARY TO IMPLEMENT THE INTENT OF THE DRAWINGS.

KEY STREET CONSTRUCTION ITEMS*		
DESCRIPTION	UNIT	APPROX. QUANTITY
AC PAVEMENT	TN	2,061
ARHM PAVEMENT	TN	1,996
ARAM	SY	12,647
CURB & GUTTER (A-2-S)	LF	201
PCC CROSS-GUTTER	SF	1,302
PCC BUS PAD	SF	3,000
PCC DRIVE APPROACH	SF	945

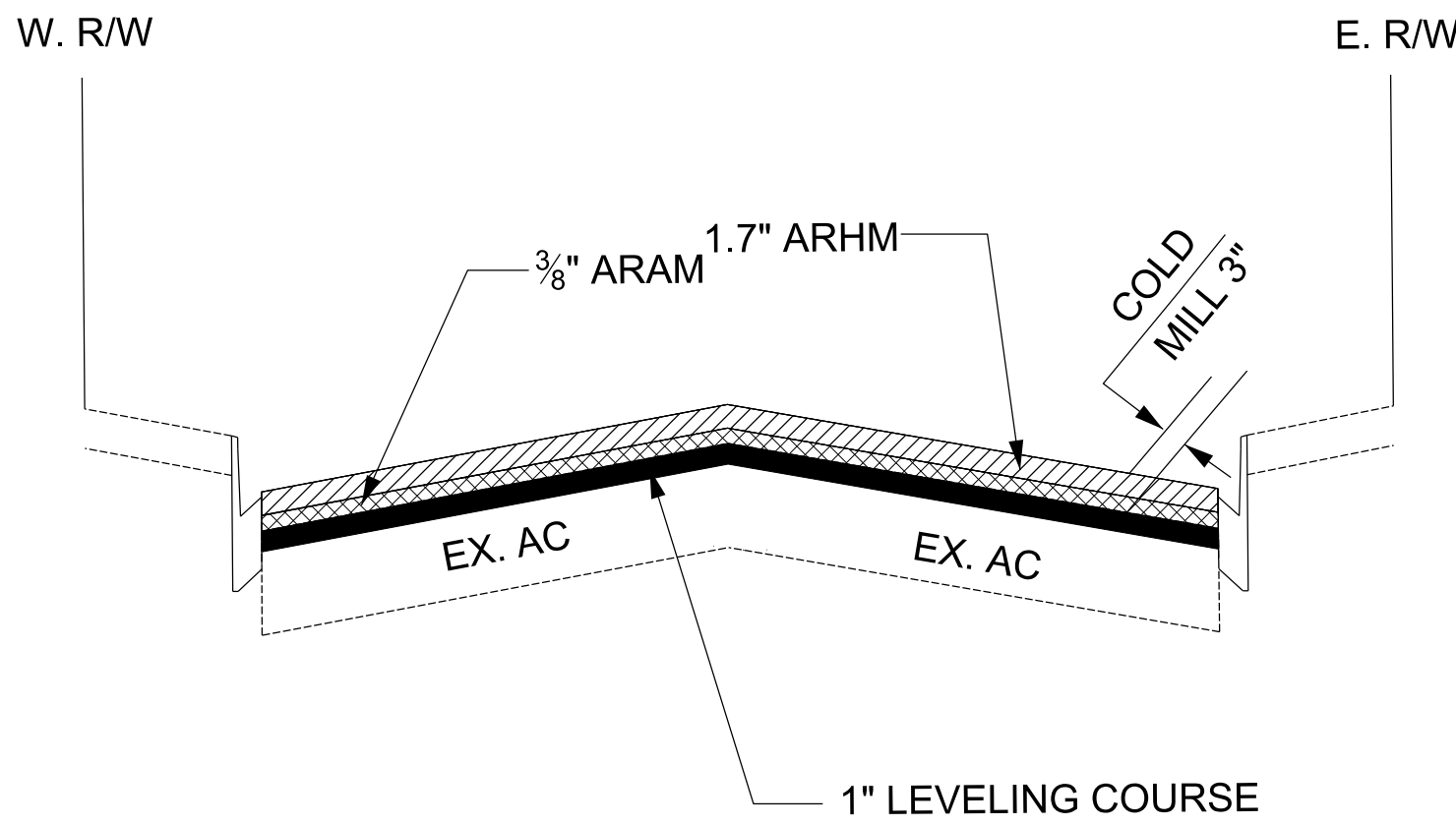
- * THE ITEMS LISTED ABOVE ARE KEY CONSTRUCTION ITEMS PERTAINING TO THE LIMITS SHOWN ON THE EXHIBIT. ADDITIONAL CONSTRUCTION ITEMS (NOT LISTED ABOVE) WILL BE REQUIRED. REFER TO BID PROPOSAL FOR A COMPREHENSIVE LIST OF CONSTRUCTION BID ITEMS.

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN PER DETAIL HEREON.
- COLD MILL PER EXHIBIT AND PER DETAIL HEREON.

PAVEMENT EXHIBIT

NTS

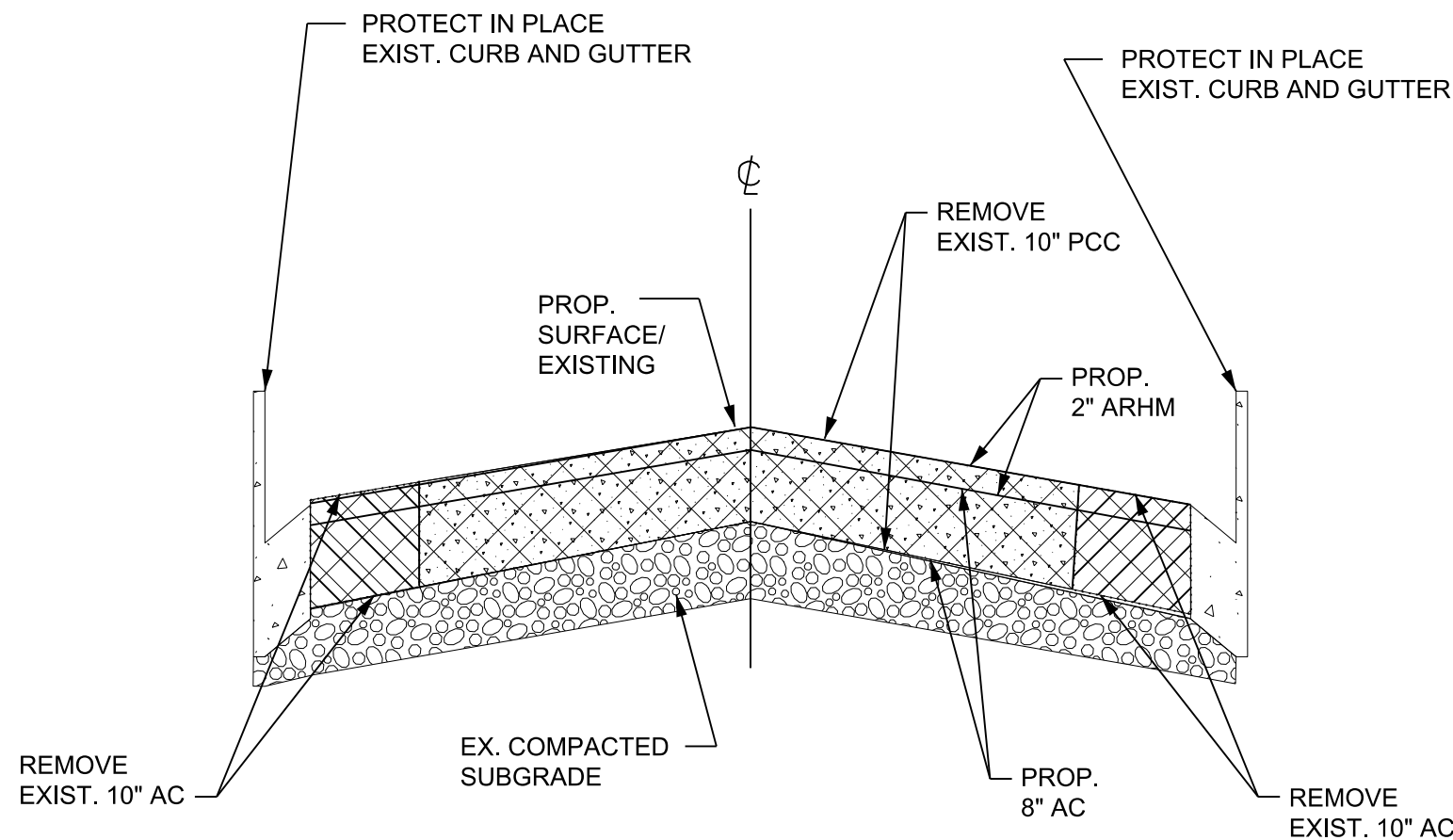


LEGEND:

- ASPHALT RUBBER HOT MIX (ARHM)
- ASPHALT CONCRETE LEVELING COURSE.
- ASPHALT-RUBBER AGGREGATE MEMBRANE (ARAM)

TYPICAL COLDMILL PAVEMENT SECTION

NTS



TYPICAL SAWCUT PAVEMENT SECTION

NTS

NOT USED

SCALE: NTS

NOT USED

SCALE: NTS

FILE NO.	CONSTRUCTION COMPLETED:				REFERENCES				DATE
	NUMBER	DATE	INITIALS	APPROVD	WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.		
WA-06633									09/20/2020
									09/20/2020
									09/20/2020
									09/20/2020
									09/20/2020



PREPARED UNDER THE SUPERVISION OF:	DESIGNED: J.A.	DRAWN: J.A., E.O.	CHECKED: A.F.	DATE
ARMANDO FERNANDEZ				09/20/2020
REVIEWED FOR CONSTRUCTABILITY:				
JASON GABRIEL				09/20/2020
RECOMMENDED FOR CONSTRUCTION:				
RODOLFO ROSAS				09/20/2020

WATER MAIN IMPROVEMENTS:	
PAVEMENT DETAILS	
PUBLIC WORKS AGENCY CITY OF SANTA ANA	

SHEET 12 OF 12

BAR MEASURES 1 INCH

W-441

SAINT GERTRUDE AND GRAND AVENUE WATER MAIN REPLACEMENTS
PROJECT NO. 15-6446