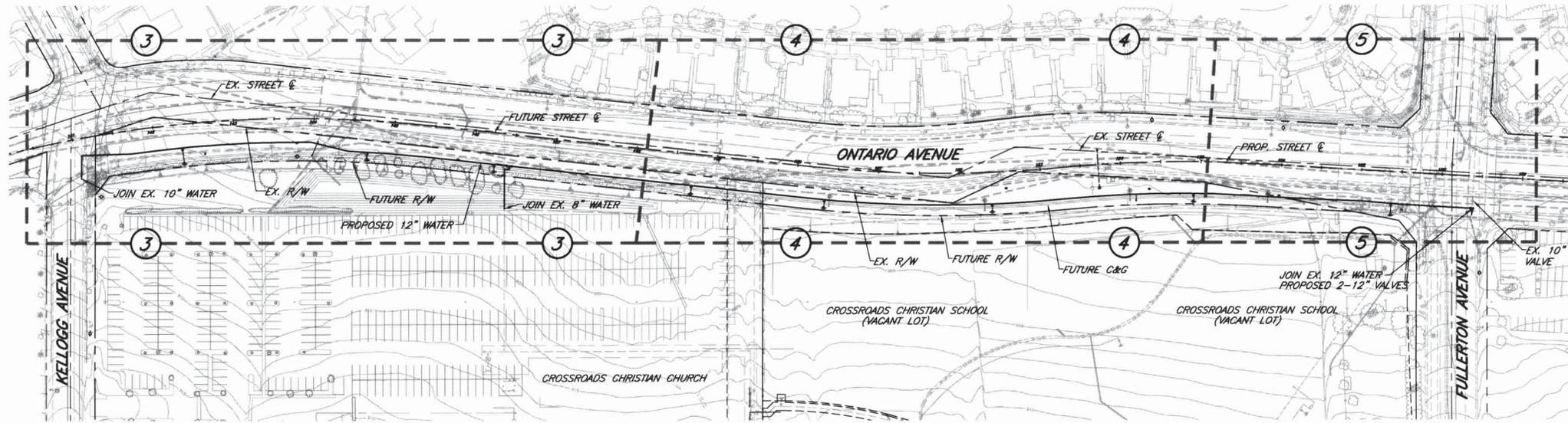


# **APPENDIX D DESIGN DRAWINGS**



# WATER CONSTRUCTION NOTES

NO.	DESCRIPTION
1	CONSTRUCT 8" DUCTILE IRON PIPE, CLASS 350, CEMENT MORTAR LINED AND ENCASED WITH 2 LAYERS OF 8-MIL BLUE POLYETHYLENE ENCASEMENT, PER CITY OF CORONA PIPE BEDDING DETAIL STANDARD 406. RESTRAIN ALL JOINTS. BEND JOINTS PER CITY OF CORONA STANDARDS.
2	CONSTRUCT 12" DUCTILE IRON PIPE, CLASS 350, CEMENT MORTAR LINED AND ENCASED WITH 2 LAYERS OF 8-MIL BLUE POLYETHYLENE ENCASEMENT, PER CITY OF CORONA PIPE BEDDING DETAIL STANDARD 406. RESTRAIN ALL JOINTS. BEND JOINTS PER CITY OF CORONA STANDARDS.
3	CONSTRUCT 8" DI 90° BEND CLASS 350 WITH RESTRAINED JOINTS.
4	CONSTRUCT 12" DI 11.25° BEND CLASS 350 WITH RESTRAINED JOINTS.
5	PLUGGING OF EXISTING WATER MAIN PER DETAIL HEREON.
6	CONSTRUCT 12" DI 90° BEND CLASS 350 WITH RESTRAINED JOINTS.
7	CONSTRUCT 10" x 12" DI REDUCER CLASS 350 WITH RESTRAINED JOINTS.
8	CONSTRUCT 12"x12"x8" DI TEE CLASS 350 WITH RESTRAINED JOINTS.
9	CONSTRUCT 12"x12"x12"x12" DI CROSS CLASS 350 WITH RESTRAINED JOINTS.
10	CONSTRUCT 8" GATE VALVE AND VALVE CAN PER CITY OF CORONA STANDARD 420 & 422.
11	CONSTRUCT 12" GATE VALVE AND VALVE CAN PER CITY OF CORONA STANDARD 420 & 422.
12	CONSTRUCT BLIND FLANGE WITH COUPLING (TYP.), SIZE MATCH PIPE DIAMETER ON PLAN.
13	RELOCATE EXISTING AIR/VAC PER CITY OF CORONA STANDARD 413.
14	CONSTRUCT 1" COMBINATION AIR/VAC VALVE ASSEMBLY PER CITY OF CORONA STANDARD 413.
15	CONSTRUCT FIRE HYDRANT BLOW-OFF ASSEMBLY PER CITY OF CORONA STANDARD 416.
16	CONSTRUCT 6" FIRE HYDRANT ASSEMBLY PER CITY OF CORONA STANDARD 412 AND BLUE DOT MARKER PER CITY OF CORONA STANDARD 531.
17	CONSTRUCT THRUST BLOCK PER CITY OF CORONA STANDARD 401.
18	JOIN EXISTING WATERLINE WITH DUCTILE IRON STRAIGHT TRANSITION COUPLING, PER CITY OF CORONA APPROVED MATERIAL LIST.
19	BACKFILL WITH 1 SACK SLURRY
20	CONSTRUCT TRENCH BACKFILL AND PAVEMENT REPAIRS PER CITY OF CORONA STANDARD 150, MODIFIED PER APPENDIX A OF THE BID DOCUMENTS (EXISTING PAVEMENT SECTION IS 6" AC OVER 8" AB MINIMUM)
21	CONSTRUCT PIPE BEDDING PER CITY OF CORONA STANDARD 406 AND BACKFILL PER CITY OF CORONA STANDARD 150 IN UNPAVED AREA.



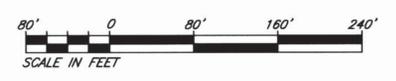
## INDEX MAP

### INDEX MAP LEGEND:

- INDICATES WATER IMPROVEMENT PLAN SHEET NUMBER
- INDICATES WATER IMPROVEMENT PLAN SHEET LIMIT

### PAVEMENT LEGEND:

- REMOVE AND REPLACE PEDESTRIAN RAMP PER CITY OF CORONA STANDARD 146.



## REMOVAL/REPLACE

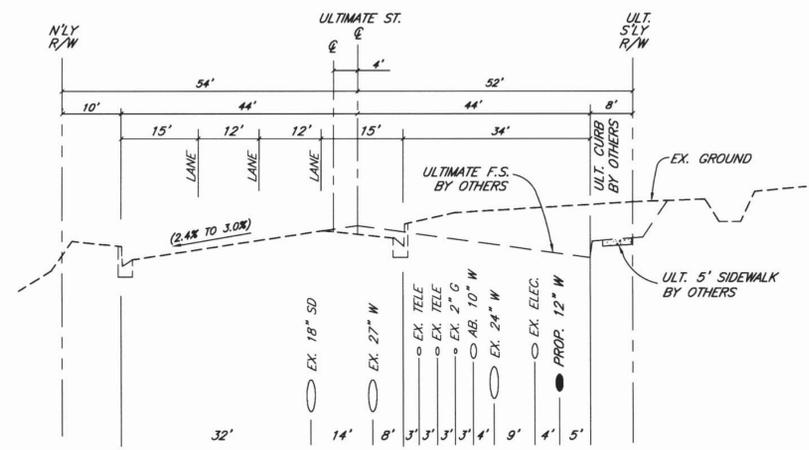
NO.	DESCRIPTION
40	REMOVE AND DISPOSE OF PORTION OF EXISTING WATERLINE.
41	REMOVE EXISTING FIRE HYDRANT ASSEMBLY AND REMOVE FLANGE SPOOL 3'-5' BELOW FINISHED GRADE PER CITY OF CORONA STANDARD 416.
42	REMOVE AND DISPOSE OF EXISTING PRECAST CONCRETE WATER VAULT AND 6-INCH STEEL PIPE. BACKFILL WITH NATIVE.
43	REMOVE AND DISPOSE OF EXISTING WATER VALVE AND INSTALL BLIND FLANGE WITH COUPLING (TYP.).
44	REMOVE AND DISPOSE OF EXISTING BLOWOFF AND AIR VAC 3'-5' BELOW FINISHED GRADE PER CITY OF CORONA STANDARD 413 & 416.
45	ABANDON IN PLACE AND DEWATER EXISTING 10" PVC WATERLINE (US92-19) AFTER CONSTRUCTION OF NEW 12" WATERLINE AND SWITCHOVER OF WATER SERVICES.
46	ABANDON IN PLACE AND DEWATER EXISTING 8" STEEL WATERLINE (US92-19) AFTER CONSTRUCTION OF NEW 12" WATERLINE AND SWITCHOVER OF WATER SERVICES.
47	REPLACE EXISTING CURB ONLY, AND CURB & GUTTER PER CITY OF CORONA STANDARD 135 TYPE 6, AND STANDARD 137 TYPE 6A, RESPECTIVELY.
48	REMOVE EXISTING ABANDONED INTERFERING PORTION OF 30" WATERLINE (IR).
50	REMOVE AND REPLACE PEDESTRIAN RAMP TYPE I CASE A (IN KIND) PER CITY OF CORONA STANDARD 146.
51	PRIOR TO REMOVAL OF PEDESTRIAN RAMP, DISCONNECT AND REMOVE EXISTING WALK SIGNAL LIGHT. AFTER CONSTRUCTION OF PEDESTRIAN RAMP RECONNECT EXISTING WALK SIGNAL LIGHT.
52	REMOVE EXISTING CURB / CURB AND GUTTER.
53	REMOVE AND REPLACE EXISTING DELINEATORS IN KIND.
54	REMOVE AND REPLACE EXISTING AC BERM (LENGTH 10')
55	CONTACT DWP TO MODIFY EXISTING VALVE TO ZONE VALVE (NORMALLY CLOSED) PER DWP'S SPECS AT THE TIME OF CONNECTION.
56	CONTACT DWP TO MODIFY EXISTING ZONE VALVE TO CONVENTIONAL VALVE PER DWP'S SPECS AT THE TIME OF CONNECTION.
60	EXISTING POWER POLES TO BE RELOCATED BY OTHERS PRIOR TO CONSTRUCTION OF WATERLINE.

### REFERENCE PLANS:

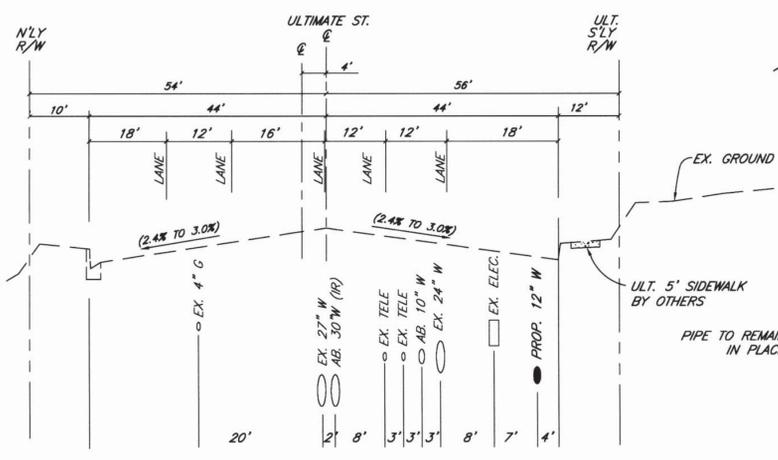
85-068S	US91-015S
1559S	US92-19
94-066S	W-115
08-083S	00-046T
09-044S	00-106T
C-1-83	99-043T

### ABBREVIATIONS:

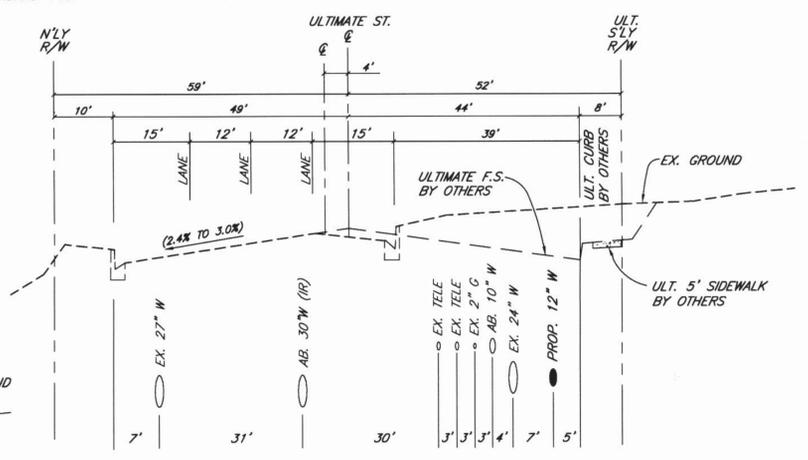
AB	ABANDONED	GB	GRADE BREAK
AC	ASPHALTIC CONCRETE	HPG	HIGH PRESSURE GAS
AV	AIR VAC	INV.	INVERT
&	AND	L	LENGTH OR LENGTH OF ARC
BC	BEGIN CURVE	LP	LOW POINT
BO	BOTTOM	MH	MANHOLE
BOT	BLOW OFF	OHE	OVER HEAD ELECTRIC
CB	CATCH BASIN	PL	PROPERTY LINE
C&G	CURB & GUTTER	PP	POWER POLE
CP	CATHODIC PROTECTION TEST	PB	PULL BOX
CL	CENTERLINE	PH	POTHOLE
CONC.	CONCRETE	PROP	PROPOSED
CONST.	CONSTRUCT	PVMT	PAVEMENT
DDC	DOUBLE DETECTOR CHECK	R/W	RIGHT OF WAY
DIA.	DIAMETER	S	SANITARY SEWER (SIZE AS NOTED)
DWY	DRIVEWAY	SD	STORM DRAIN
EC	END CURVE	STA.	STATION
ELEC	ELECTRICAL	SW	SIDEWALK
EX.	EXISTING	TB	TRAFFIC BOX / TRAFFIC FIBER BOX
EP	EDGE OF PAVEMENT	TELE	TELEPHONE CONDUIT/DUCT
F.H.	FIRE HYDRANT	TS	TRAFFIC SIGNAL (WIRING CONDUIT)
FL	FLOWLINE	W	WATER LINE (SIZE AS NOTED)
FO	FIBER OPTIC	WM	WATER METER
G	GAS LINE (SIZE AS NOTED)	WV	WATER VALVE
GV	GAS VALVE	( )	EXISTING ELEVATION



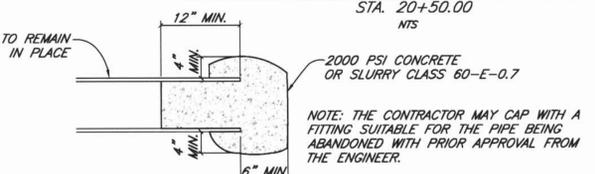
TYPICAL SECTION ONTARIO AVENUE  
STA. 16+00.00  
NTS



TYPICAL SECTION ONTARIO AVENUE  
STA. 26+00.00  
NTS



TYPICAL SECTION ONTARIO AVENUE  
STA. 20+50.00  
NTS



PLUGGING OF EXISTING WATER MAIN  
NTS



Designed by	Drawn by	Checked by
BMB	VAE	VAE
PLANS PREPARED	UNDER SUPERVISION OF	
0-20-16	Victor A. Elia	
Date	R.C.E. 6-30-17	

REVISIONS	Date	By
SEE ABOVE		

BENCH MARK	SEE SHEET NO. 1
Scale	1" = 80'

Engineering DWP

Approved: Department of Water and Power  
By Tom Koper, P.E.  
District Engineer  
R.C.E. No. 50258

Approved: Public Works Department  
By Nelson D. Nelson, P.E.  
City Engineer  
R.C.E. No. 54435

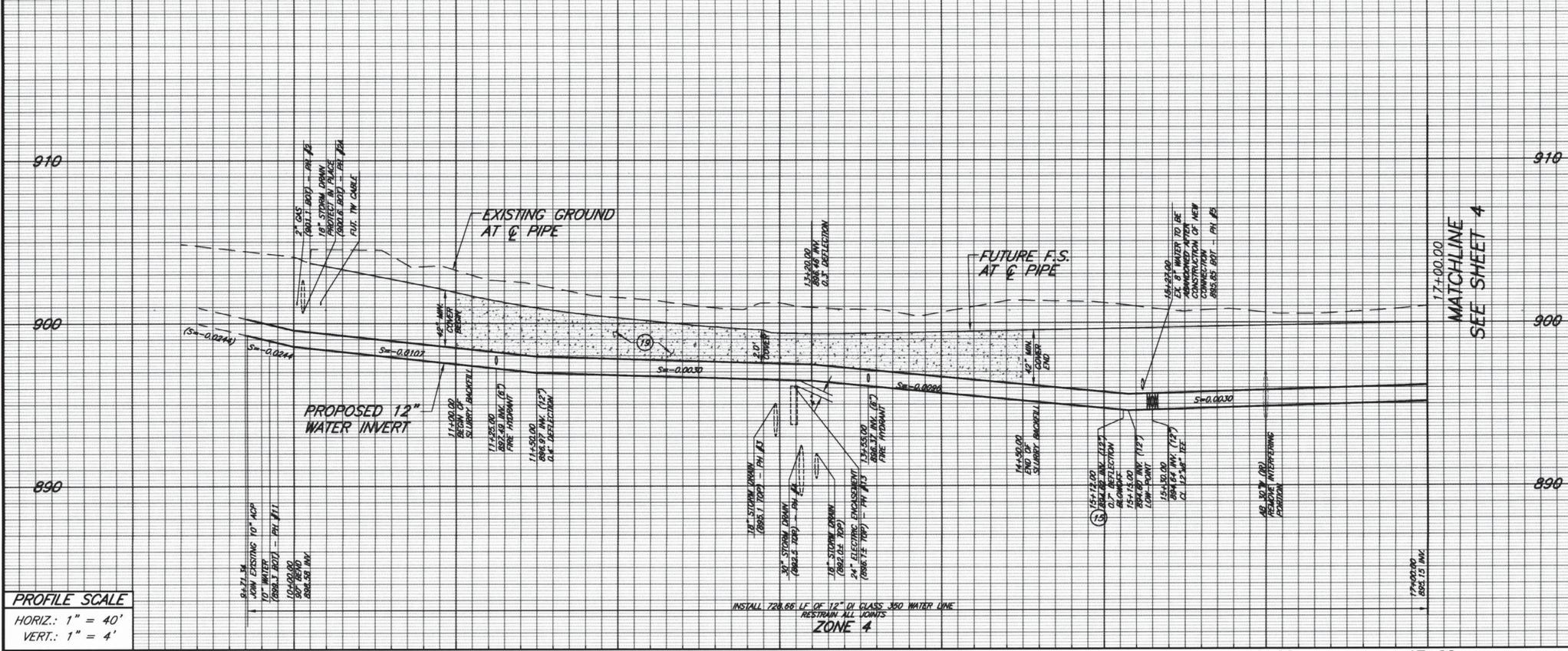
CITY OF CORONA ZONE 4 WATER IMP. PLANS  
ONTARIO AVE. KELLOGG AVE. TO FULLERTON AVE.  
ZONE 4 WATERLINE REPLACEMENT INDEX SHEET

Drawing No. 14-027U  
Sh 2 of 5

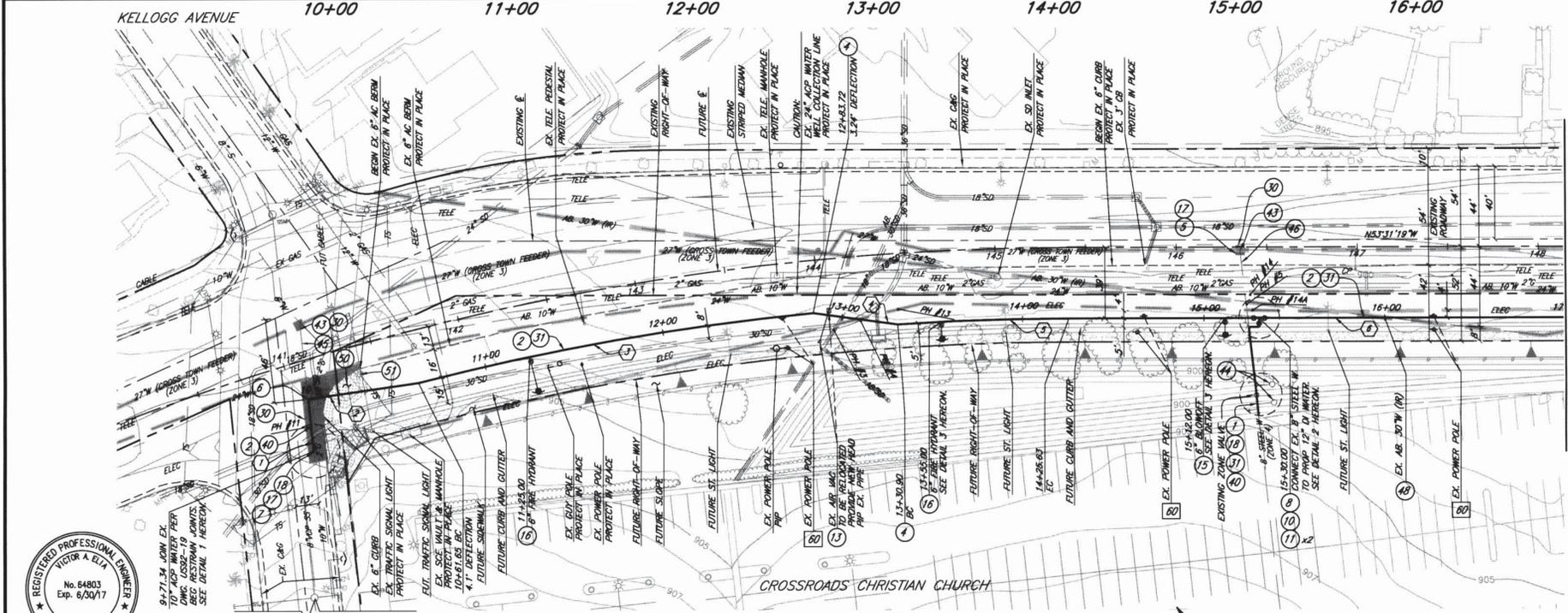
**Underground Service Alert**  
Call: TOLL FREE  
**811**  
TWO WORKING DAYS BEFORE YOU DIG

**CONSTRUCTION NOTES:**

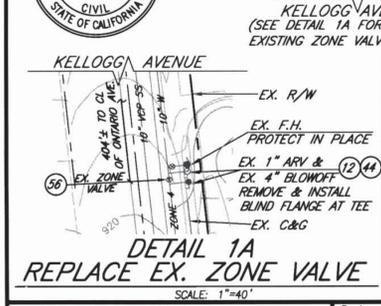
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- 2 CONSTRUCT 12" DUCTILE IRON PIPE, CLASS 350, CEMENT MORTAR LINED AND ENCASED WITH 2 LAYERS OF 8-MIL BLUE POLYETHYLENE ENCASEMENT, PER CITY OF CORONA PIPE BEDDING DETAIL STANDARD 406. RESTRAIN ALL JOINTS.
- 3 CONSTRUCT 8" DI 90° BEND CLASS 350 WITH RESTRAINED JOINTS.
- 4 CONSTRUCT 12" DI 11.25° BEND CLASS 350 WITH RESTRAINED JOINTS.
- 5 PLUGGING OF EXISTING WATER MAIN PER DETAIL ON SHEET 2.
- 6 CONSTRUCT 12" DI 90° BEND CLASS 350 WITH RESTRAINED JOINTS.
- 7 CONSTRUCT 10" x 12" CLASS 350 DI REDUCER.
- 8 CONSTRUCT 12"x12"x8" CLASS 350 DI TEE.
- 10 CONSTRUCT 8" GATE VALVE AND VALVE CAN PER CITY OF CORONA STANDARD 420 & 422.
- 11 CONSTRUCT 12" GATE VALVE AND VALVE CAN PER CITY OF CORONA STANDARD 420 & 422.
- 12 CONSTRUCT BLIND FLANGE WITH COUPLING (TYP.), SIZE MATCH PIPE DIAMETER ON PLAN.
- 13 RELOCATE EXISTING AIR/VAC PER CITY OF CORONA STANDARD 413.
- 15 CONSTRUCT FIRE HYDRANT BLOW-OFF ASSEMBLY PER CITY OF CORONA STANDARD 416.
- 16 CONSTRUCT 6" FIRE HYDRANT ASSEMBLY PER CITY OF CORONA STANDARD 412 AND BLUE DOT MARKER PER CITY OF CORONA STANDARD 531.
- 17 CONSTRUCT THRUST BLOCK PER CITY OF CORONA STANDARD 401.
- 18 JOIN EXISTING WATERLINE WITH DUCTILE IRON STRAIGHT TRANSITION COUPLING, PER CITY OF CORONA APPROVED MATERIAL LIST.
- 19 BACKFILL WITH 1 SACK SLURRY
- 20 CONSTRUCT TRENCH BACKFILL AND PAVEMENT REPAIRS PER CITY OF CORONA STANDARD 150. MODIFIED PER APPENDIX A OF THE BID DOCUMENTS (EXISTING PAVEMENT SECTION IS 6" AC OVER 8" AB MINIMUM)
- 31 CONSTRUCT PIPE BEDDING PER CITY OF CORONA STANDARD 406 AND BACKFILL PER CITY OF CORONA STANDARD 150 IN UNPAVED AREA.
- 40 REMOVE AND DISPOSE OF PORTION OF EXISTING WATERLINE.
- 43 REMOVE AND DISPOSE OF EXISTING WATER VALVE AND INSTALL BLIND FLANGE WITH COUPLING (TYP.).
- 44 REMOVE AND DISPOSE OF EXISTING BLOWOFF AND AIR VAC 3'-5' BELOW FINISHED GRADE PER CITY OF CORONA STANDARD 413 & 416.
- 45 ABANDON IN PLACE AND DEWATER EXISTING 10" PVC WATERLINE (US92-19) AFTER CONSTRUCTION OF NEW 12" WATERLINE AND SWITCHOVER OF WATER SERVICES.
- 46 ABANDON IN PLACE AND DEWATER EXISTING 8" STEEL WATERLINE (US92-19) AFTER CONSTRUCTION OF NEW 12" WATERLINE AND SWITCHOVER OF WATER SERVICES.
- 48 REMOVE EXISTING ABANDONED INTERFERING PORTION OF 30" WATERLINE (R).
- 50 REMOVE AND REPLACE PEDESTRIAN RAMP TYPE I CASE A (IN KIND) PER CITY OF CORONA STANDARD 146.
- 51 PRIOR TO REMOVAL OF PEDESTRIAN RAMP, DISCONNECT AND REMOVE EXISTING WALK SIGNAL LIGHT. AFTER CONSTRUCTION OF PEDESTRIAN RAMP RECONNECT EXISTING WALK SIGNAL LIGHT.
- 56 CONTACT DWP TO MODIFY EXISTING ZONE VALVE TO CONVENTIONAL VALVE PER DWP'S SPECS AT THE TIME OF CONNECTION.
- 60 EXISTING POWER POLES TO BE RELOCATED BY OTHERS PRIOR TO CONSTRUCTION OF WATERLINE.



**PROFILE SCALE**  
 HORIZ.: 1" = 40'  
 VERT.: 1" = 4'



REGISTERED PROFESSIONAL ENGINEER  
 VICTOR A. ELMA  
 No. 64803  
 Exp. 6/30/17  
 CIVIL  
 STATE OF CALIFORNIA



**POTHOLE SUMMARY TABLE**

POTHOLE #	UTILITY	TOP	BOTTOM	SIZE	TYPE
1	WATER	4.50'	5.33'	10"	ACP
2	GAS	2.70'	2.87'	2"	STEEL
2A	SD	1.20'	2.70'	18"	STEEL
3	SD	6.20'	8.20'	24"	HOPE
4	SD	8.50'	11.00'	30"	RCP
5	WATER	4.40'	5.07'	8"	STEEL
11	WATER	4.12'	4.95'	10"	ACP
13	ELEC	4.66'	6.42'	24"	ASPH ENCASEMENT
14	DRY	-	-	-	-
14A	ELEC	5.28'	7.04'	24"	ASPH ENCASEMENT

**ONTARIO AVENUE**

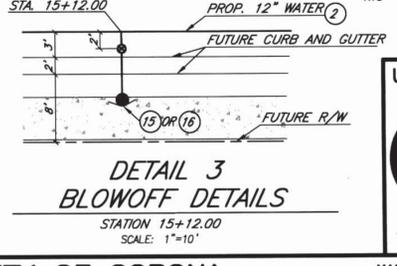
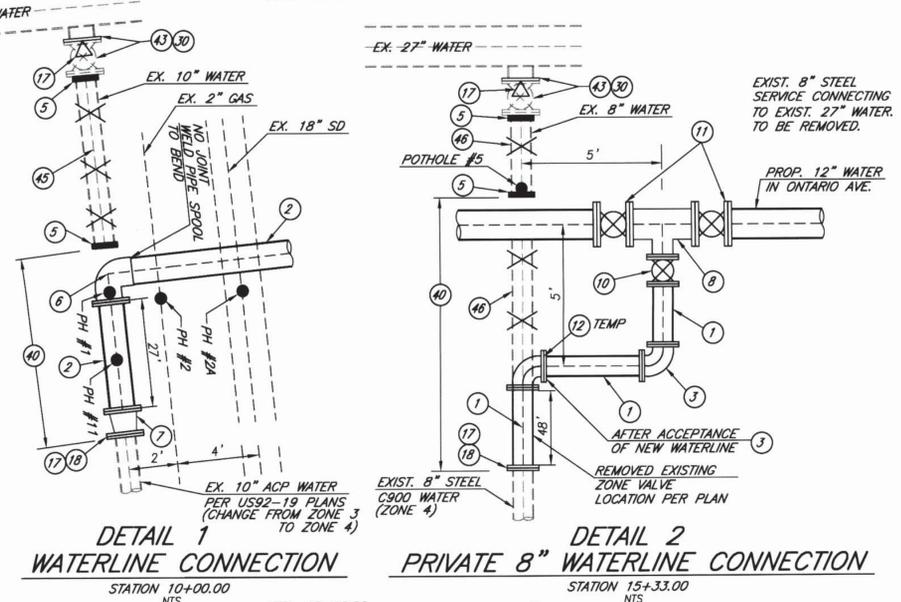
**LINE/CURVE DATA TABLE**

LINE/CURVE #	LENGTH	RADIUS	TANGENT	BEARING/DELTA
1	28.66'	-	-	N30°19'53"E
2	61.65'	-	-	S61°40'55"E
3	222.06'	1464'	111.24'	8.69°
4	47.18'	-	-	S45°55'33"E
5	94.74'	1454'	47.39'	3.73°
6	472.50'	-	-	S53°31'19"E

**NOTES:**

- 1) ALL JOINTS SHALL BE FULLY RESTRAINED.
- 2) CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDE STRUCTURAL SUPPORTS TO PROTECT ALL EXISTING FACILITIES IF REQUIRED.
- 3) CONTRACTOR SHALL REPLACE DAMAGED TRAFFIC SIGNAL LOOPS & CONDUITS AS DIRECTED BY CITY AT CONTRACTOR'S COST.
- 4) ALL TRENCH REPAIR SHALL BE PER CITY OF CORONA STANDARD 150. ALL PIPE BEDDING SHALL BE PER CITY OF CORONA STANDARD 406. STRUCTURAL BACKFILL SHALL BE COMPACTED TO A RELATIVE COMPACTION OF NOT LESS THAN 95%.

**MATCHLINE SEE SHEET 4**



**Underground Service Alert**  
 Call: TOLL FREE  
**811**  
 TWO WORKING DAYS BEFORE YOU DIG

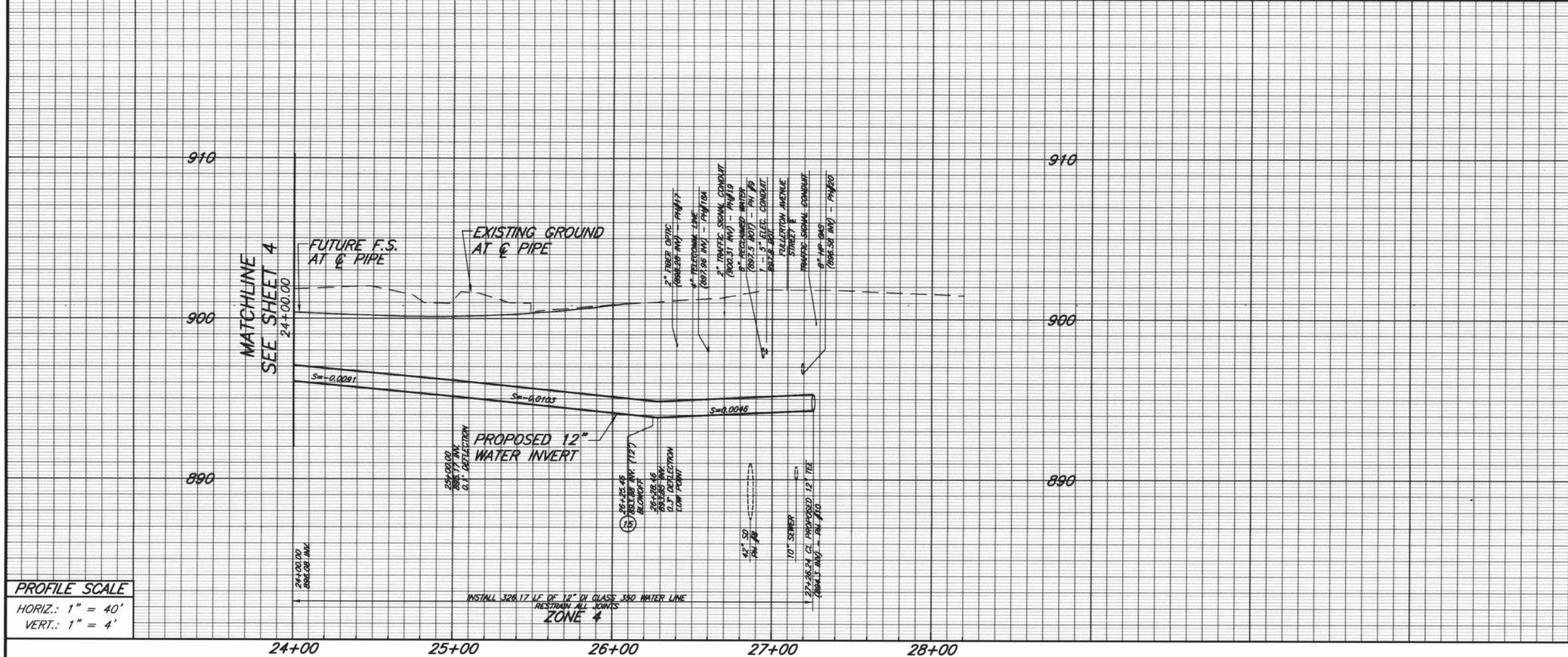


**CONSTRUCTION NOTES:**

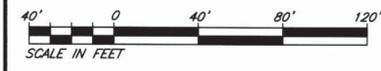
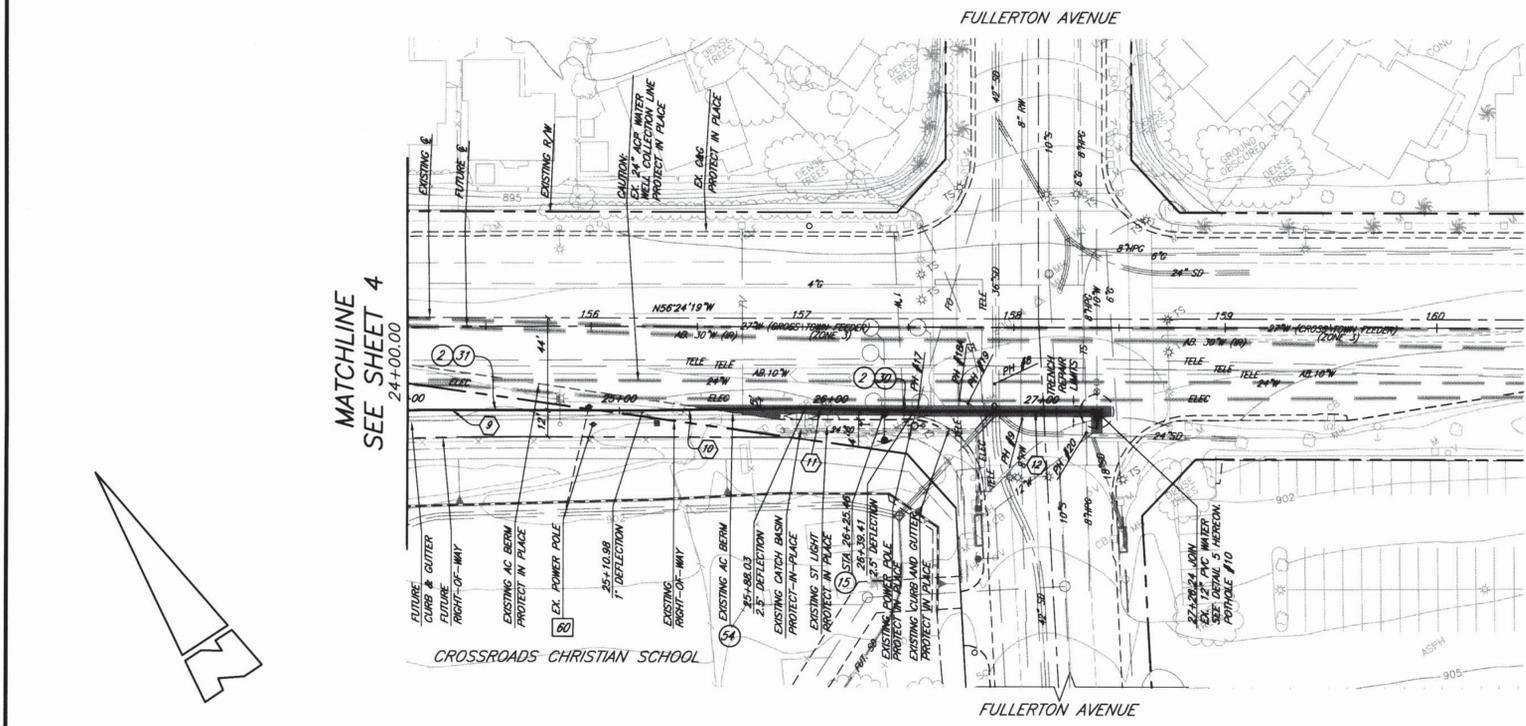
- ② CONSTRUCT 12" DUCTILE IRON PIPE, CLASS 350, CEMENT MORTAR LINED AND ENCASED WITH 2 LAYERS OF 8-MIL BLUE POLYETHYLENE ENCASUREMENT, PER CITY OF CORONA PIPE BEDDING DETAIL STANDARD 406. RESTRAIN ALL JOINTS.
- ⑨ CONSTRUCT 12"x12"x12" CLASS 350 DI CROSS WITH RESTRAINED JOINTS.
- ⑪ CONSTRUCT 12" GATE VALVE AND VALVE CAN PER CITY OF CORONA STANDARD 420 & 422.
- ⑫ CONSTRUCT BLIND FLANGE WITH COUPLING (TYP.), SIZE MATCH PIPE DIAMETER ON PLAN.
- ⑮ CONSTRUCT FIRE HYDRANT BLOW-OFF ASSEMBLY PER CITY OF CORONA STANDARD 416.
- ⑰ CONSTRUCT THRUST BLOCK PER CITY OF CORONA STANDARD 401.
- ⑱ JOIN EXISTING WATERLINE WITH DUCTILE IRON STRAIGHT TRANSITION COUPLING PER CITY OF CORONA APPROVED MATERIAL LIST.
- ⑳ CONSTRUCT TRENCH BACKFILL AND PAVEMENT REPAIRS PER CITY OF CORONA STANDARD 150, MODIFIED PER APPENDIX A OF THE BID DOCUMENTS (EXISTING PAVEMENT (SECTION IS 6" AC OVER 8" AB MINIMUM))
- ㉑ CONSTRUCT PIPE BEDDING PER CITY OF CORONA STANDARD 406 AND BACKFILL PER CITY OF CORONA STANDARD 150 IN UNPAVED AREA.
- ㉒ REMOVE AND DISPOSE OF PORTION OF EXISTING WATERLINE.
- ㉓ REMOVE AND DISPOSE OF EXISTING WATER VALVE AND INSTALL BLIND FLANGE WITH COUPLING (TYP.).
- ㉔ REMOVE AND REPLACE EXISTING AC BERM (LENGTH 10')
- ㉕ EXISTING POWER POLES TO BE RELOCATED BY OTHERS PRIOR TO CONSTRUCTION OF WATERLINE.

**NOTES:**

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- 3) CONTRACTOR SHALL REPLACE DAMAGED TRAFFIC SIGNAL LOOPS & CONDUITS AS DIRECTED BY CITY AT CONTRACTOR'S COST.
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**PROFILE SCALE**  
 HORIZ.: 1" = 40'  
 VERT.: 1" = 4'



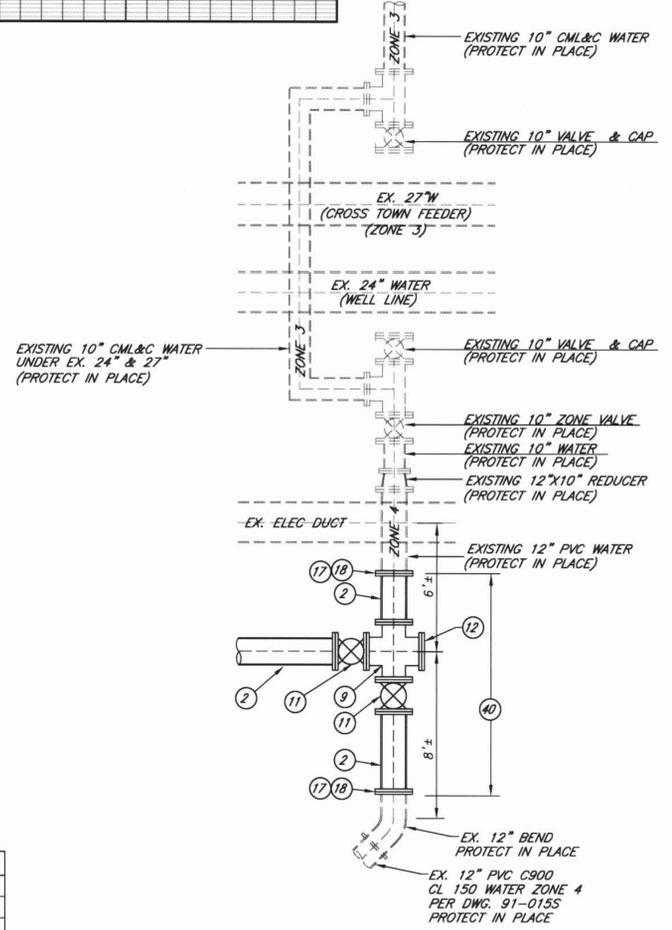
**ONTARIO AVENUE**

**LINE/CURVE DATA TABLE**

LINE/CURVE #	LENGTH	RADIUS	TANGENT	BEARING/DELTA
⑨	104.87'	-	-	S56°24'19"E
⑩	77.06'	-	-	S57°24'19"E
⑪	51.37'	-	-	S54°54'19"E
⑫	88.83'	-	-	S56°24'19"E

**POTHOLE SUMMARY TABLE**

POTHOLE #	UTILITY	TOP	BOTTOM	SIZE	TYPE
8	SD	10.60'	14.10'	42"	RCP
9	RW	3.60'	4.27'	8"	PVC
10	WATER	6.50'	7.50'	12"	PVC
17	F.O.	2.0'	2.17'	2"	PVC
18A	TELE/ELC	2.80'	3.13'	4"	PVC
19	TRAFFIC	0.70'	0.87'	2"	PVC
20	GAS	4.62'	5.29'	8"	STEEL



**DETAIL 5**  
 FULLERTON AVE. EXISTING 12" WATER CONNECTION

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**KWC ENGINEERS**  
 CIVIL ENGINEERS • PLANNERS • SURVEYORS  
 1880 COMPTON AVENUE, SUITE 100 • CORONA, CA 92881-3370 • 951-734-2130

Designed by VAE  
 Drawn by BMG  
 Checked by DRR  
 SEE SHEET 2

PLANS PREPARED UNDER SUPERVISION OF  
 Victor A. Elia  
 R.C.E. 64803 Exp. 6-30-17

BENCH MARK  
 SEE SHEET NO. 1  
 Scale 1" = 40'

Approved: Department of Water and Power  
 By Tom Koper, P.E.  
 District Engineer  
 R.C.E. No. 50258

Approved: Public Works Department  
 By Nelson D. Nelson, P.E.  
 City Engineer  
 R.C.E. No. 54435

**CITY OF CORONA**  
 WATER IMP. PLANS  
 ONTARIO AVE. ZONE 4 WATER IMPROVEMENT  
 ONTARIO PLAN AND PROFILE STA. 24+00 TO 27+26

Drawing No. 14-027U  
 5 of 5