

CITY OF KIRKWOOD, MO CONSTRUCTION PLANS FOR

N. KIRKWOOD ROAD AT E. JEWEL AVENUE WATER MAIN REPLACEMENT

JULY 2023

SYMBOLS AND LEGEND

EXISTING ITEMS	
	FIRE HYDRANT
	WATER METER
	WATER VALVE
	SANITARY MANHOLE
	SANITARY CLEANOUT
	DRAINAGE MANHOLE
	DRAINAGE INLET
	DRAINAGE OUTLET
	GAS VALVE
	SIGN
	LIGHT POST
	DECIDUOUS TREE
	EVERGREEN TREE
	BUSH
	TREE STUMP
	WATER LINE
	SANITARY SEWER LINE
	STORM SEWER LINE
	GAS LINE
PROPOSED ITEMS	
	WATER MAIN
	HYDRANT
	VALVE

INDEX OF SHEETS

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2	GENERAL NOTES
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PROJECT LOCATION MAP

SCALE: 1" = 1000'

LIST OF ABBREVIATIONS

TYP.	TYPICAL
F.H.	FIRE HYDRANT
SAN.	SANITARY
WV	WATER VALVE
GV	GAS VALVE
EXIST.	EXISTING
R.O.W.	RIGHT OF WAY
M.J.	MECHANICAL JOINT
O.D.	OUTSIDE DIAMETER
TBR	TO BE REMOVED
TBR&R	TO BE REMOVED AND REPLACED
UIP	USE IN PLACE
AIP	ABANDON IN PLACE
MAWC	MISSOURI AMERICAN WATER CO.



ADRIANNE P. EILERS
CIVIL ENGINEER, MO# PE-2011010989
DATE 7/6/2023



MO Professional Engineering License No. 000631

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WHERE COMMUNITY AND SPIRIT MEET®

CITY OF KIRKWOOD
139 S. KIRKWOOD RD.
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GENERAL NOTES

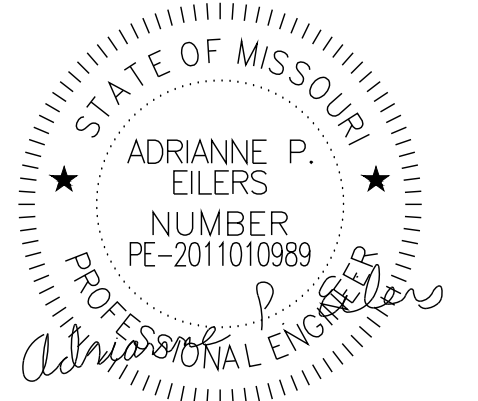
1. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE ENGINEER, CITY OF KIRKWOOD PUBLIC SERVICES AND THE WATER DISTRIBUTION PERSONNEL. ALL EXISTING FACILITIES SHALL BE KEPT IN SERVICE DURING CONSTRUCTION EXCEPT WHERE PERMISSION IS GRANTED OTHERWISE BY THE OWNER. ALL VALVE BOXES AND VALVE VAULTS SHALL NOT BE COVERED WITH CONSTRUCTION DEBRIS AND SHALL REMAIN ACCESSIBLE TO THE RESPECTIVE UTILITY COMPANY.
2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL LAY OUT THE PROPOSED IMPROVEMENTS AND SHALL VERIFY ALL DIMENSIONS, ANGLES AND STATIONS SHOWN. SHOULD THE CONTRACTOR NOTE ANY DISCREPANCIES OR CONFLICTS, HE SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH THE PROJECT WORK.
3. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITIES INCLUDING WATER, GAS, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, FIBER OPTICS AND CABLE TV LOCATED AND SUITABLY MARKED. SHOULD A UTILITY BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION, THE ENGINEER SHALL BE NOTIFIED AT ONCE. SHOULD A UTILITY BE LOCATED PARALLEL TO THE PROPOSED MAIN AND WITHIN THE MAXIMUM TRENCH WIDTH AS DEFINED IN THE STANDARD SPECIFICATIONS, OR IN DIRECT GRADE CONFLICT WITH THE GRADE OF THE PROPOSED MAIN, ARRANGEMENTS SHALL BE MADE FOR THE UTILITIES TO BE PROTECTED OR IF PROTECTION IS NOT FEASIBLE TO ARRANGE FOR THE UTILITY TO BE RELOCATED. SHOULD THE PROPOSED ALIGNMENT BE ALTERED IN THE FIELD, THE CONTRACTOR SHALL BE PAID FOR THE QUANTITIES OF WORK PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND NO ADDITIONAL PAYMENT SHALL BE MADE. SHOULD A UTILITY OUTSIDE OF THE TRENCH WIDTH AND NOT IN DIRECT CONFLICT WITH THE PROPOSED MAIN BE ENCOUNTERED, THE CONTRACTOR SHALL PROTECT IT OR HAVE IT RELOCATED AT HIS OWN EXPENSE. LIKEWISE, WATER, GAS, ELECTRIC, TELEPHONE AND OTHER LINES SHALL BE PROTECTED AT NO ADDITIONAL EXPENSE TO THE OWNER AND WITHOUT CLAIM BY THE CONTRACTOR FOR DELAYS DUE TO SERVICE LINES ENCOUNTERED.
4. INFORMATION ON THE UTILITY PLANS REGARDING UNDERGROUND UTILITIES IS TAKEN FROM THE BEST AVAILABLE RECORDS, BUT IS NOT REPRESENTED AS BEING ENTIRELY CORRECT OR COMPLETE. THE CONTRACTOR SHALL NOTIFY OPERATING AGENCY IN ADVANCE OF CROSSING OVER OR UNDER ANY UTILITIES SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY OPERATING AGENCY AND ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. ANY UTILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. ALL DISTURBED AREAS SHALL BE CLEANED UP AND RESTORED TO A SIMILAR CONDITION. CLEAN UP SHOULD FOLLOW CLOSELY BEHIND CONSTRUCTION OPERATIONS.
6. THE CONTRACTOR SHALL PROTECT ALL PROPERTY PINS AND SURVEY MONUMENTS AND SHALL ENGAGE A REGISTERED PROFESSIONAL LAND SURVEYOR TO RESTORE ANY WHICH ARE DISTURBED BY HIS OPERATIONS AT NO ADDITIONAL COST TO THE CONTRACT.
7. ALL EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF SITE AT NO ADDITIONAL COST TO THE CONTRACT.
8. THE CONTRACTOR SHALL PROVIDE ANY DEWATERING EQUIPMENT AND APPARATUS AS NECESSARY TO MAINTAIN DRY WORKING CONDITIONS.
9. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. COST OF TEMPORARY CULVERTS, DITCHES, PUMPS OR OTHER ITEMS REQUIRED TO MAINTAIN POSITIVE DRAINAGE SHALL BE INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS REGARDING SOIL EROSION AND SEDIMENT CONTROL PROCEDURES.
10. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL RESIDENCES, BUSINESSES, SCHOOLS, AND ALL OTHER SITES NECESSARY FOR THE MAINTENANCE OF COMMERCE AND SAFETY AT ALL TIMES. THE CONTRACTOR MAY PLACE TEMPORARY PLATES OR OTHER SUCH DEVICES IN A SAFE AND ACCESSIBLE MANNER TO TEMPORARILY MAINTAIN ACCESS. IN NO CASE MAY MORE THAN ONE POINT OF ACCESS TO ANY RESIDENCE, BUSINESS OR SITE BE UNDER CONSTRUCTION SIMULTANEOUSLY. COSTS FOR MAINTAINING ACCESS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
11. ALL EXISTING TRAFFIC SIGNS, FENCES, GUARDRAILS, STREET LIGHTS, STREET SIGNS, LANDSCAPING, PLANTINGS, ETC. WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND NOT NOTED FOR REMOVAL OR DISPOSAL SHALL BE MAINTAINED BY THE CONTRACTOR OR TEMPORARILY RELOCATED. THIS IS CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. DAMAGE TO ITEMS SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE. IN ADDITION, ALL MAILBOXES THAT INTERFERE WITH CONSTRUCTION SHALL BE SIMILARLY RELOCATED AT NO ADDITIONAL COST.
12. THE CONTRACTOR SHALL PROVIDE ALL TAPS, PIPE, VALVES AND FITTINGS NECESSARY FOR ALL PROPOSED PIPE TESTING, FLUSHING AND DISINFECTION AT NO ADDITIONAL COSTS TO THE CONTRACT.
13. ALL SODDED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SODDED IN ACCORDANCE WITH CITY OF KIRKWOOD REQUIREMENTS.
14. NEW WATER MAIN SHALL HAVE A MINIMUM OF 42" ABOVE TOP OF PIPE COVER UNLESS OTHERWISE SHOWN ON THE PLANS.
15. PROTECT EXISTING MAIN AND HOUSE SERVICE CONNECTIONS DURING THE INSTALLATION OF THE NEW MAIN. DO NOT INTERRUPT EXISTING SERVICE CONNECTIONS UNTIL READY FOR TRANSFER TO NEW MAIN. ANY SERVICES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AT NO ADDITIONAL COSTS TO THE CONTRACT.
16. THE CONTRACTOR, WITH THE ASSISTANCE OF CITY OF KIRKWOOD WATER DISTRIBUTION PERSONNEL WILL OBTAIN ALL BACTERIA TEST SAMPLES AND FORWARD TO TESTING AGENCY. CONTRACTOR SHALL COORDINATE FOR THIS TESTING. FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED FOR THE SAMPLING POINT. CONTRACTOR SHALL THEN REMOVE SAMPLING FITTINGS AT THE COMPLETION OF THE WORK. COSTS FOR TESTING, FURNISHING AND REMOVING SAMPLING POINTS SHALL BE INCIDENTAL TO THE PRICE PER FOOT OF WATER MAIN.



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CONSTRUCTION PLANS JULY 2023

N. KIRKWOOD ROAD AT
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WATER MAIN REPLACEMENT



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CITY OF KIRKWOOD
139 S. KIRKWOOD RD.
KIRKWOOD, MO 63122
314.822.5800

MARK	DATE	DESCRIPTION

PROJECT NO:	20040101-00
CAD DWG FILE:	2004010100-G-COVR 2.DWG
DESIGNED BY:	APE
DRAWN BY:	TLL
CHECKED BY:	RAA
APPROVED BY:	APE
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SHEET TITLE GENERAL NOTES

CONNECTION NOTES:

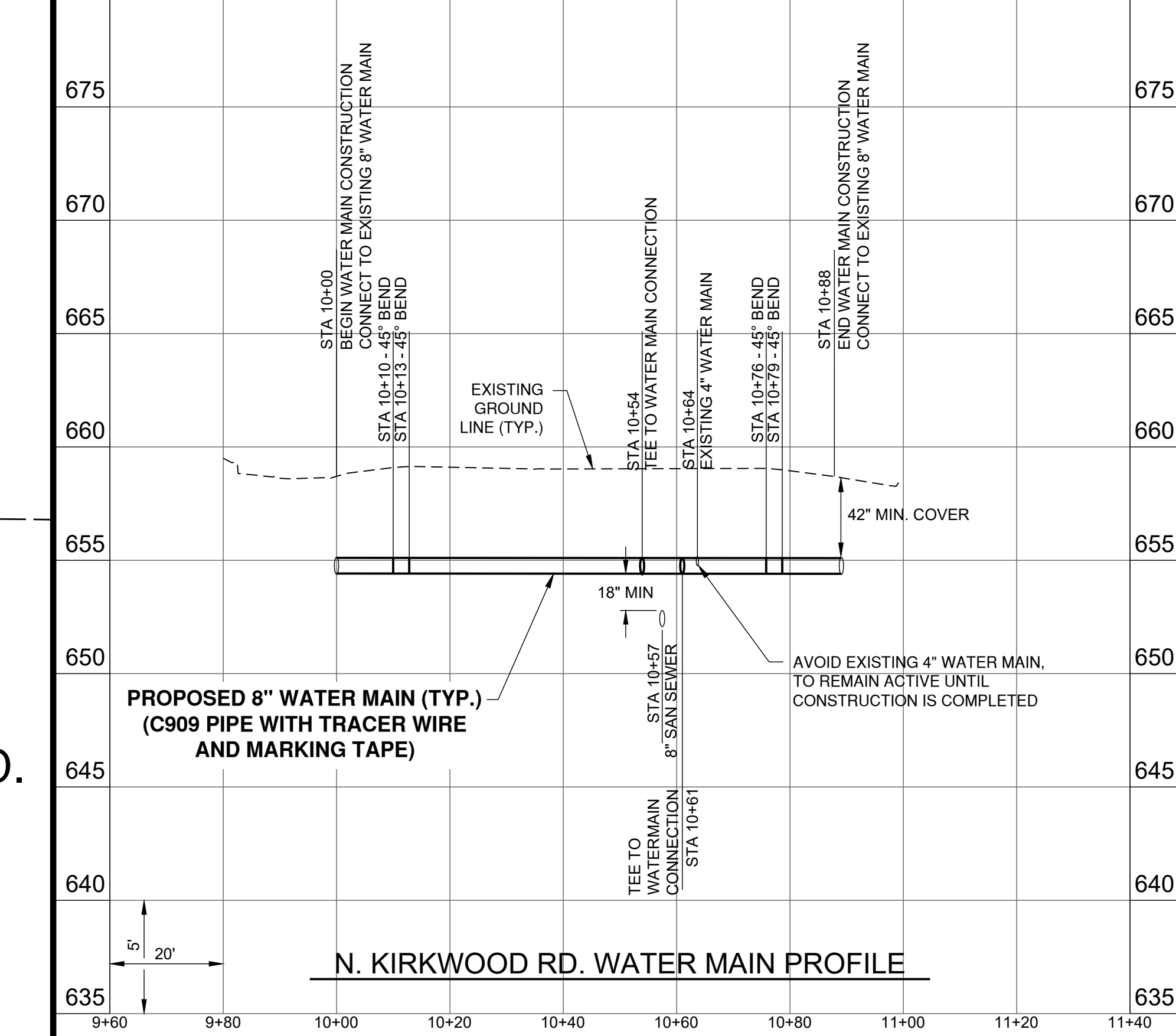
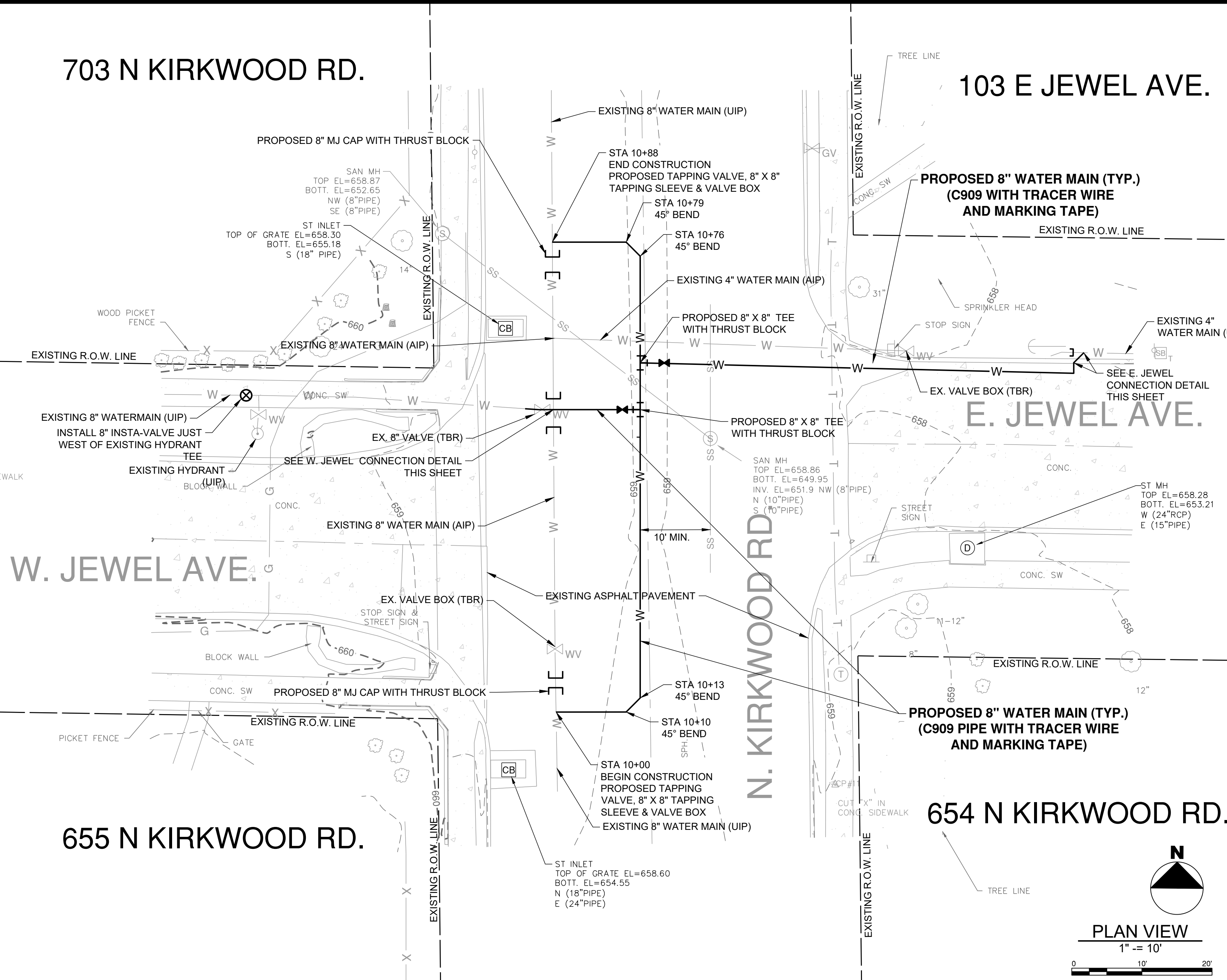
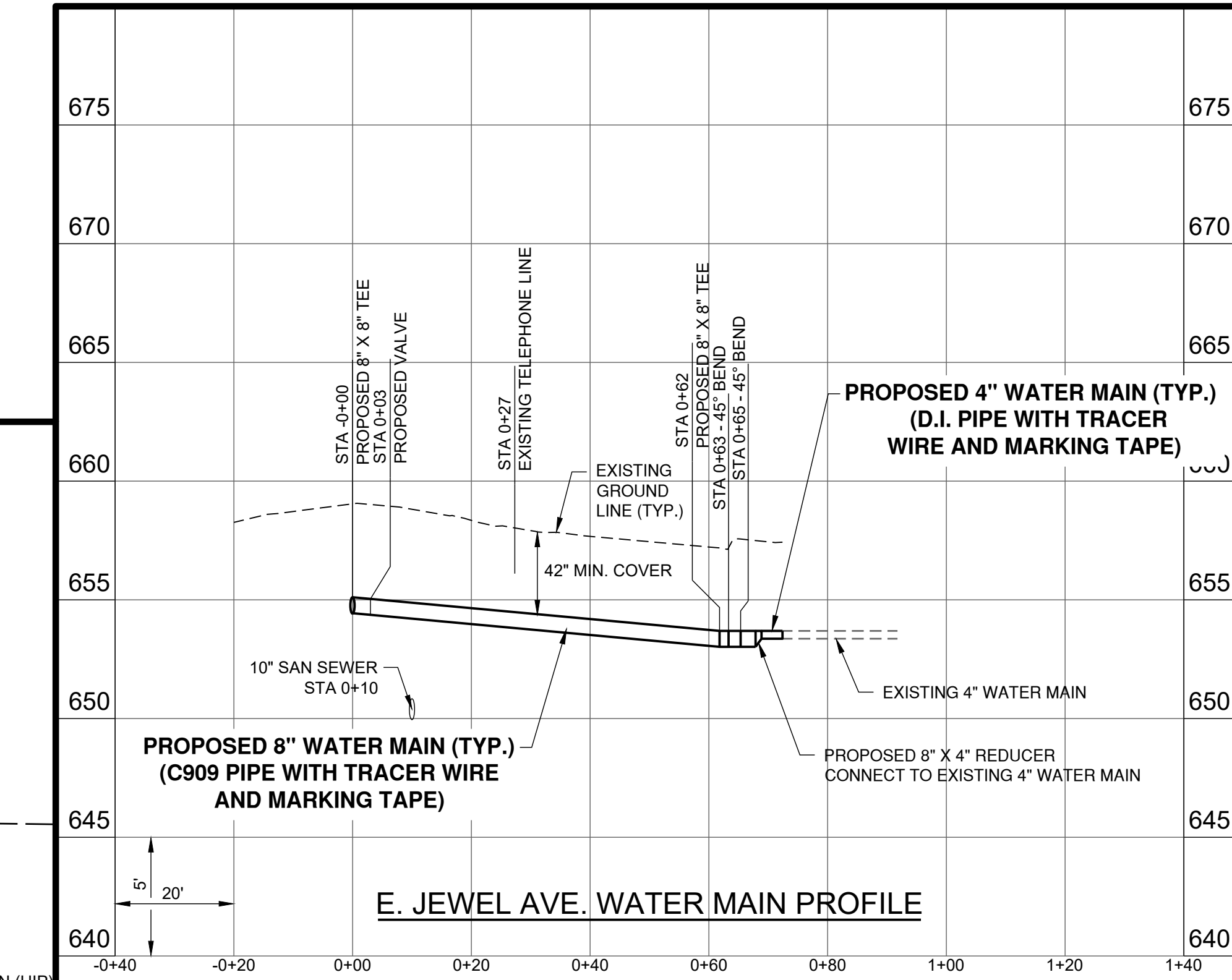
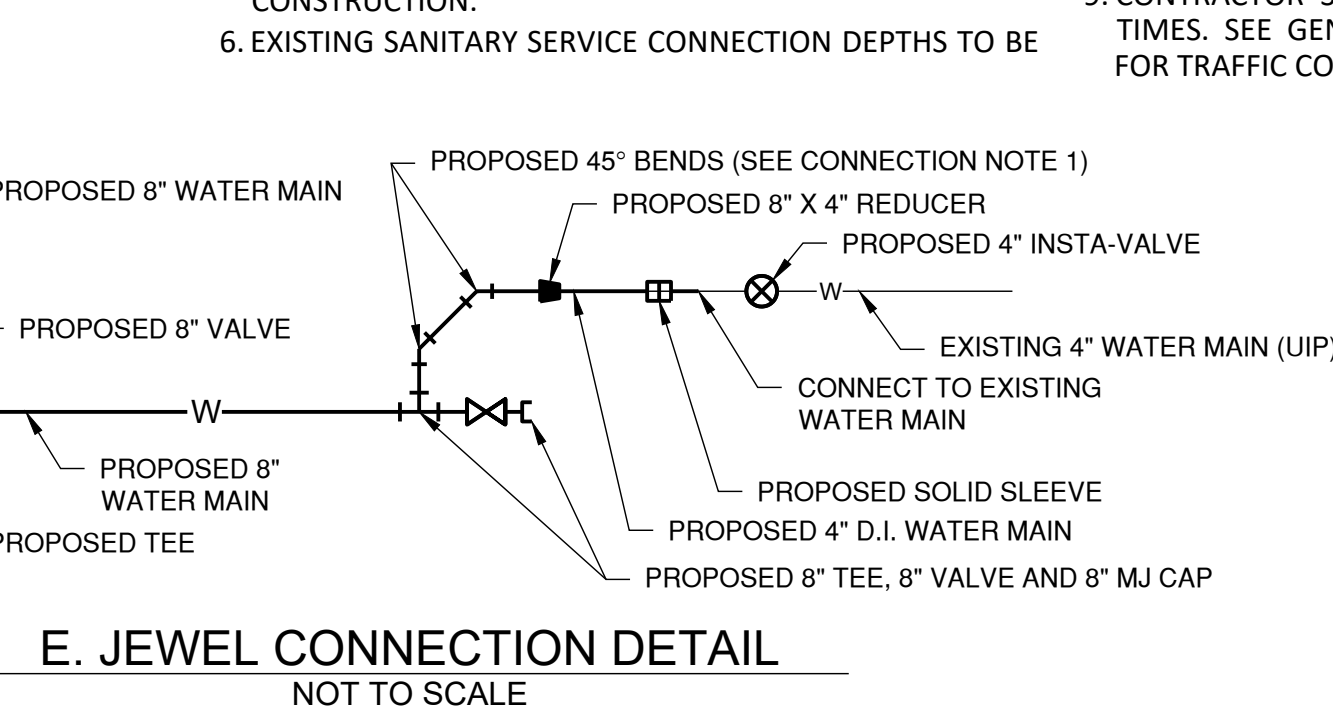
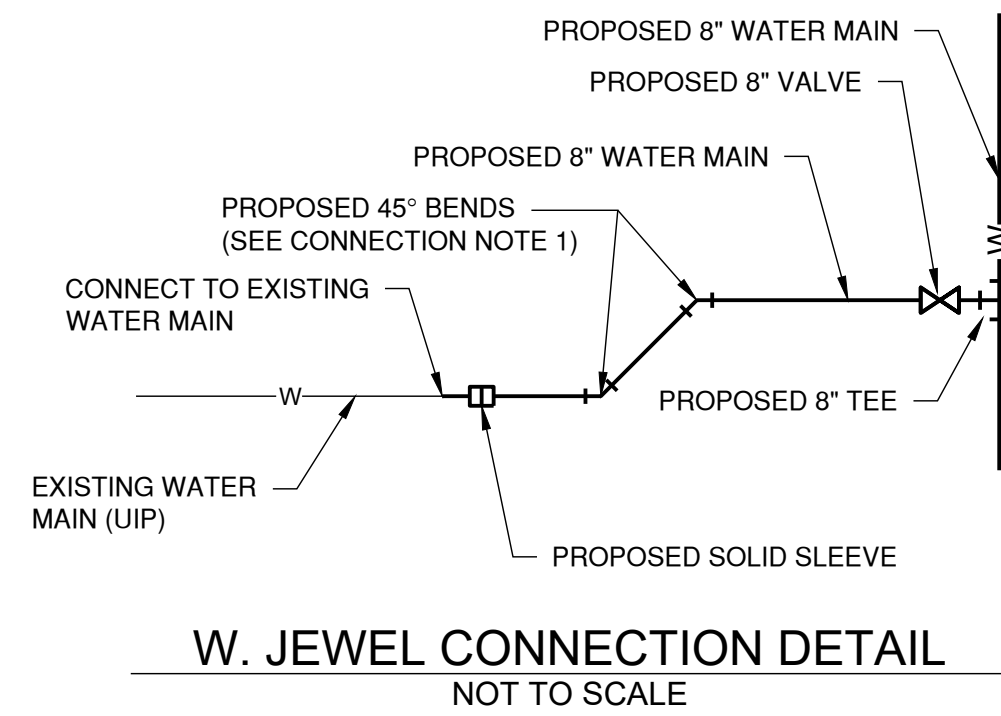
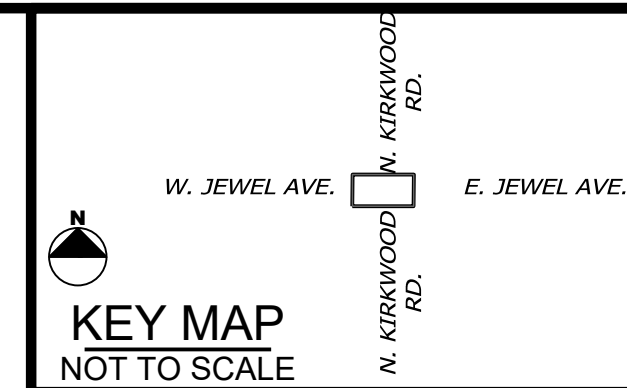
- A MINIMUM REQUIREMENT OF 2 - 45° BENDS TO ALLOW FOR VERTICAL & HORIZONTAL ALIGNMENT ADJUSTMENTS.
- STATIONING LOCATIONS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO DETERMINE EXACT LOCATION OF TEES & CROSSES BASED ON FIELD CONDITIONS.

NOTES:

- ALL HYDRANT VALVES TO BE ANCHORED ON THE TEE USING FOSTER ADAPTORS.
- TRACER WIRE TO BE INSULATED COPPER HEAD WITH C.H. SPLICE. KIRKWOOD WATER WILL PERFORM CONTINUITY TESTS ON ALL TRACER WIRE INSTALLED UNDER THIS PROJECT.
- SAW CUT FULL DEPTH OF EXISTING PAVEMENT (INCL. CURB, SIDEWALK, STOOPS, ETC.) PRIOR TO EXCAVATION.
- SEE SHEET 4 FOR ADA RAMP CONSTRUCTION REQUIREMENTS.
- EXISTING WATER MAIN DEPTHS TO BE FIELD VERIFIED PRIOR TO START OF CONSTRUCTION. COORDINATE PROPOSED WATER MAIN DEPTH WITH EXISTING WATER MAINS TO KEEP UTILITY IN SERVICE DURING CONSTRUCTION.
- EXISTING SANITARY SERVICE CONNECTION DEPTHS TO BE FIELD VERIFIED PRIOR TO THE START OF CONSTRUCTION. COORDINATE PROPOSED WATER MAIN DEPTH WITH EXISTING UTILITY SERVICES. NO ADDITIONAL PAYMENT WILL BE MADE FOR ADJUSTMENTS TO SERVICE LINES DUE TO GAS SERVICE INTERFERENCES.
- NOT ALL PROPOSED VALVES & FITTINGS ARE SHOWN ON PLAN AND PROFILE SHEETS. SEE CONNECTION DETAILS FOR FITTING & VALVE REQUIREMENTS.
- CONTRACTOR SHALL MAINTAIN TRAFFIC FLOW AT ALL TIMES. SEE GENERAL CONDITIONS AND DETAIL SHEETS FOR TRAFFIC CONTROL REQUIREMENTS AND DETAILS.

STAGING NOTES

- THE CONTRACTOR SHALL INSTALL THE 8" X 8" TAPPING SLEEVE, TAPPING VALVE AND VALVE BOX ON BOTH ENDS OF THE EXISTING N. KIRKWOOD RD. TAPPING VALVE TO REMAIN CLOSED.
- THE CONTRACTOR SHALL INSTALL THE NEW MAIN IN ITS ENTIRETY.
- CONTRACTOR SHALL THEN TEST, FLUSH AND DISINFECT THE NEW WATER MAIN.
- KIRKWOOD WATER WILL THEN TAKE BACTERIA SAMPLES FOR TESTING.
- ONCE NEW WATER MAIN PASSES BACTERIA TESTING, CONTRACTOR TO PUT NEW MAIN IN OPERATION, BY OPENING THE TAPPING VALVES AND THE GATE VALVES.
- CONTRACTOR SHALL THEN PLUG ENDS OF EXISTING WATER SERVICE CONNECTIONS AT EXISTING MAIN TO BE ABANDONED IN PLACE, REMOVE EXISTING VALVE BOXES AND PLUG END OF EXISTING MAINS.



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JULY 2023

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WATER MAIN REPLACEMENT

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MARK	DATE	DESCRIPTION

PROJECT NO: 20040101-00
CAD DWG FILE: 2004010100-C-UPWM 2.DWG
DESIGNED BY: APE
DRAWN BY: TLL
CHECKED BY: RAA
APPROVED BY: APE
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SHEET TITLE
PLAN AND PROFILE

SHEET 3 OF 5

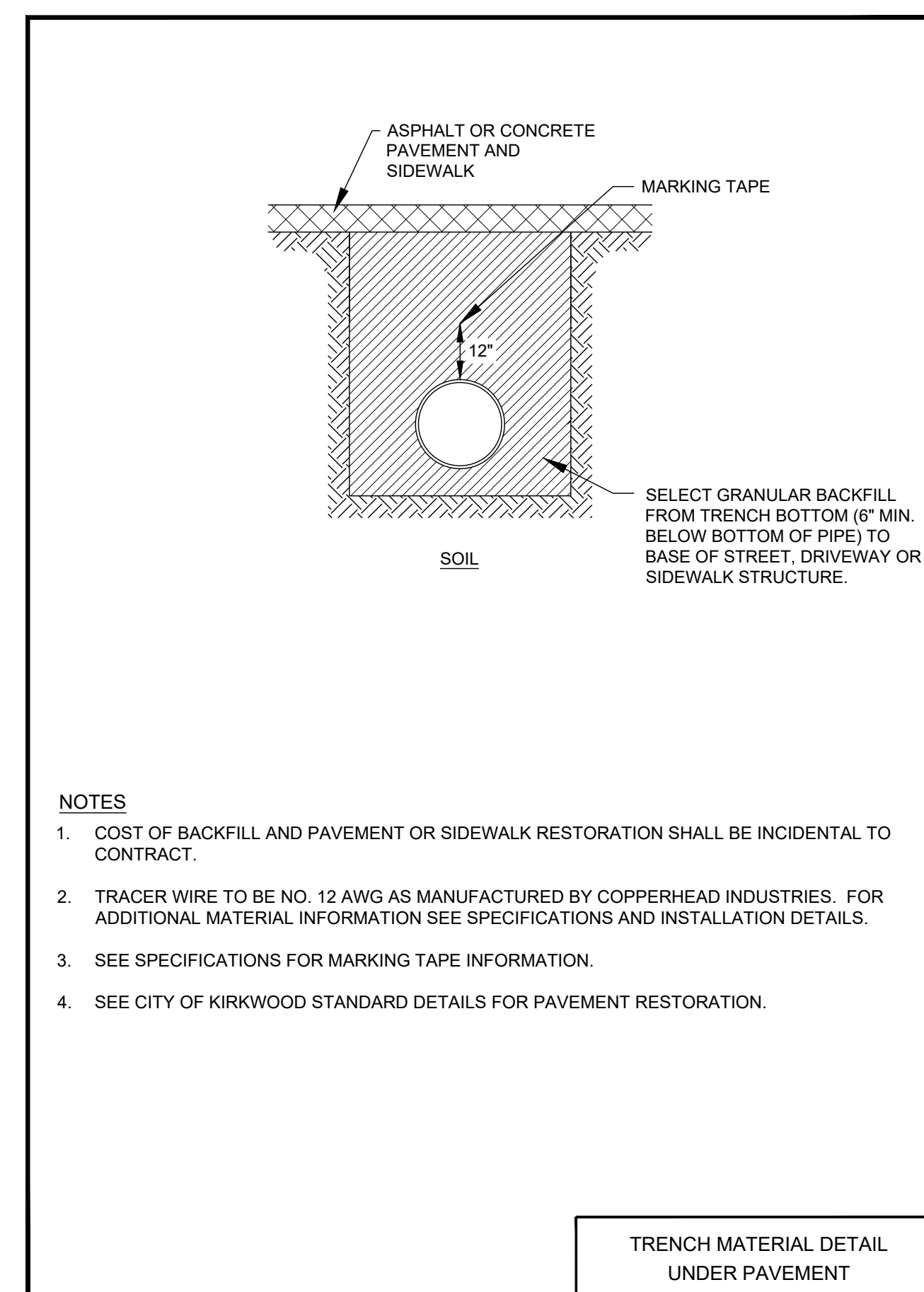
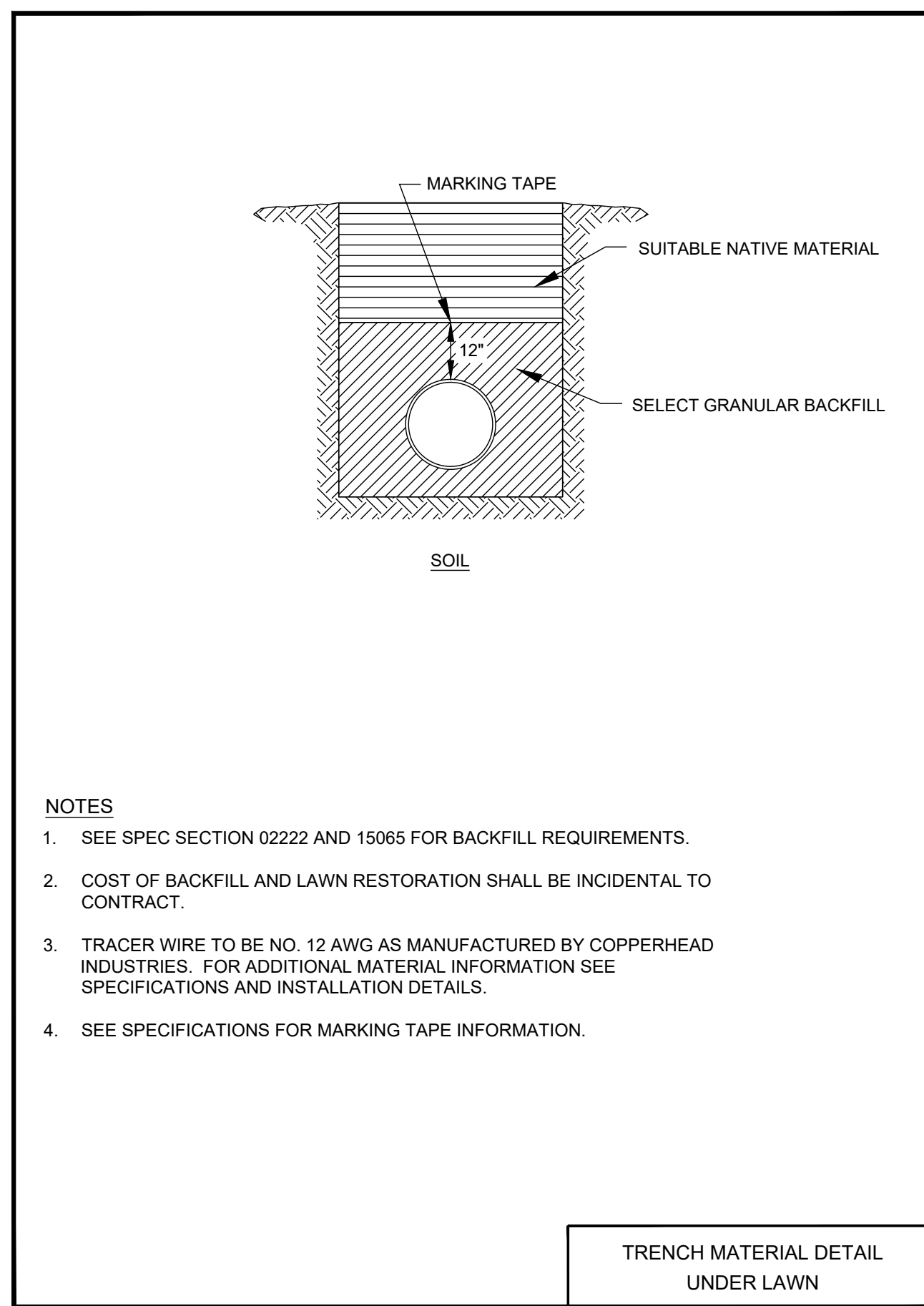
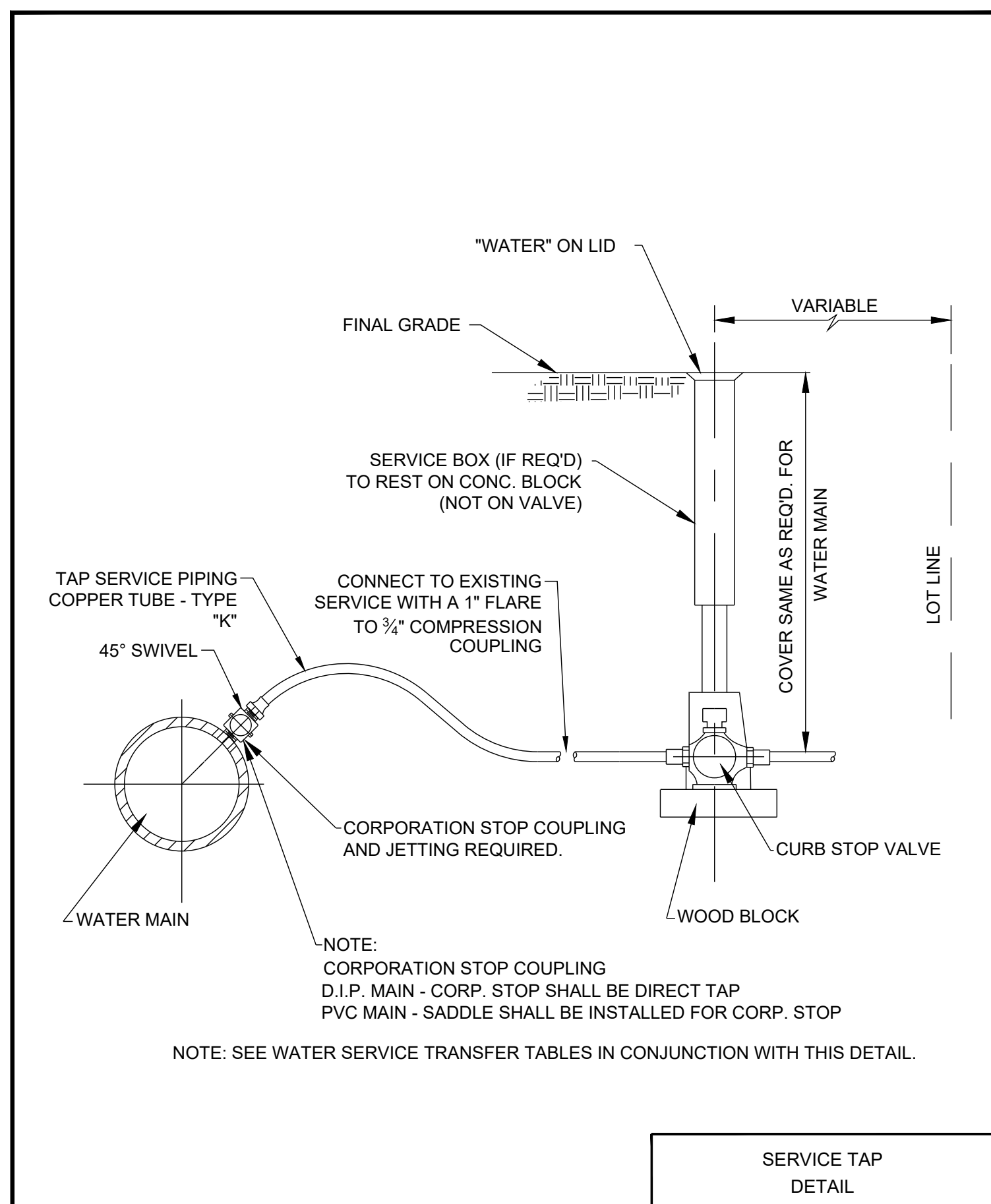
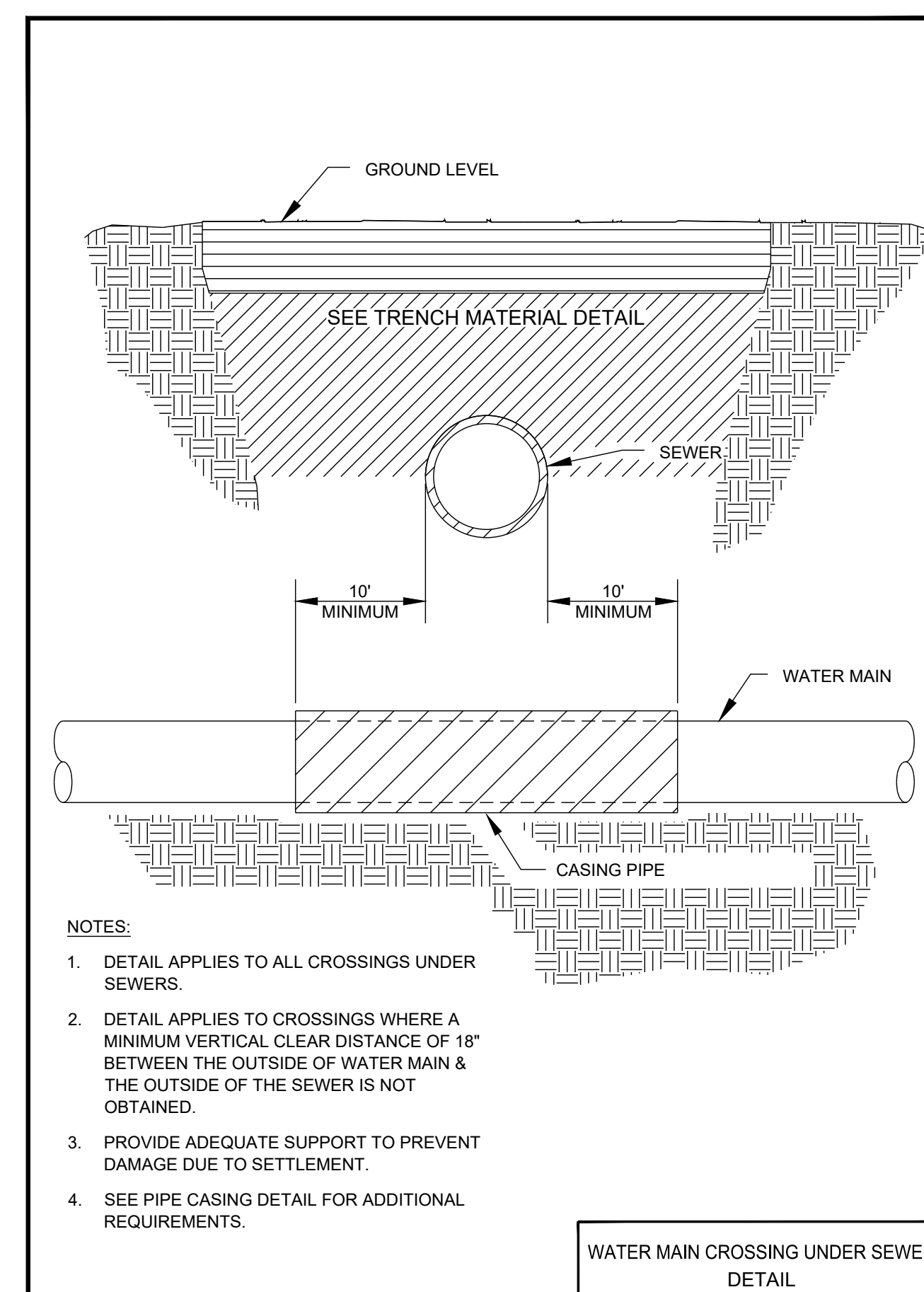
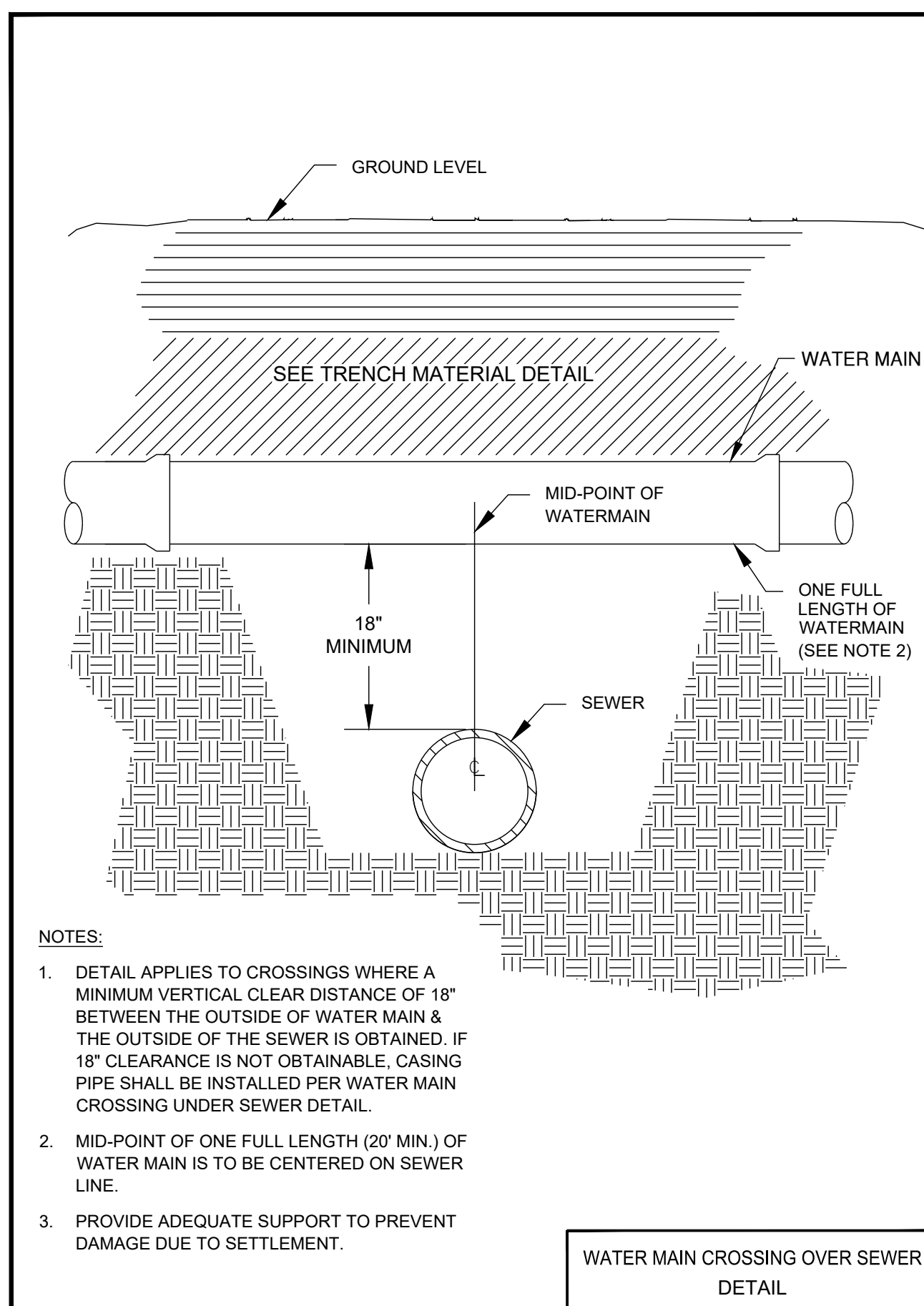
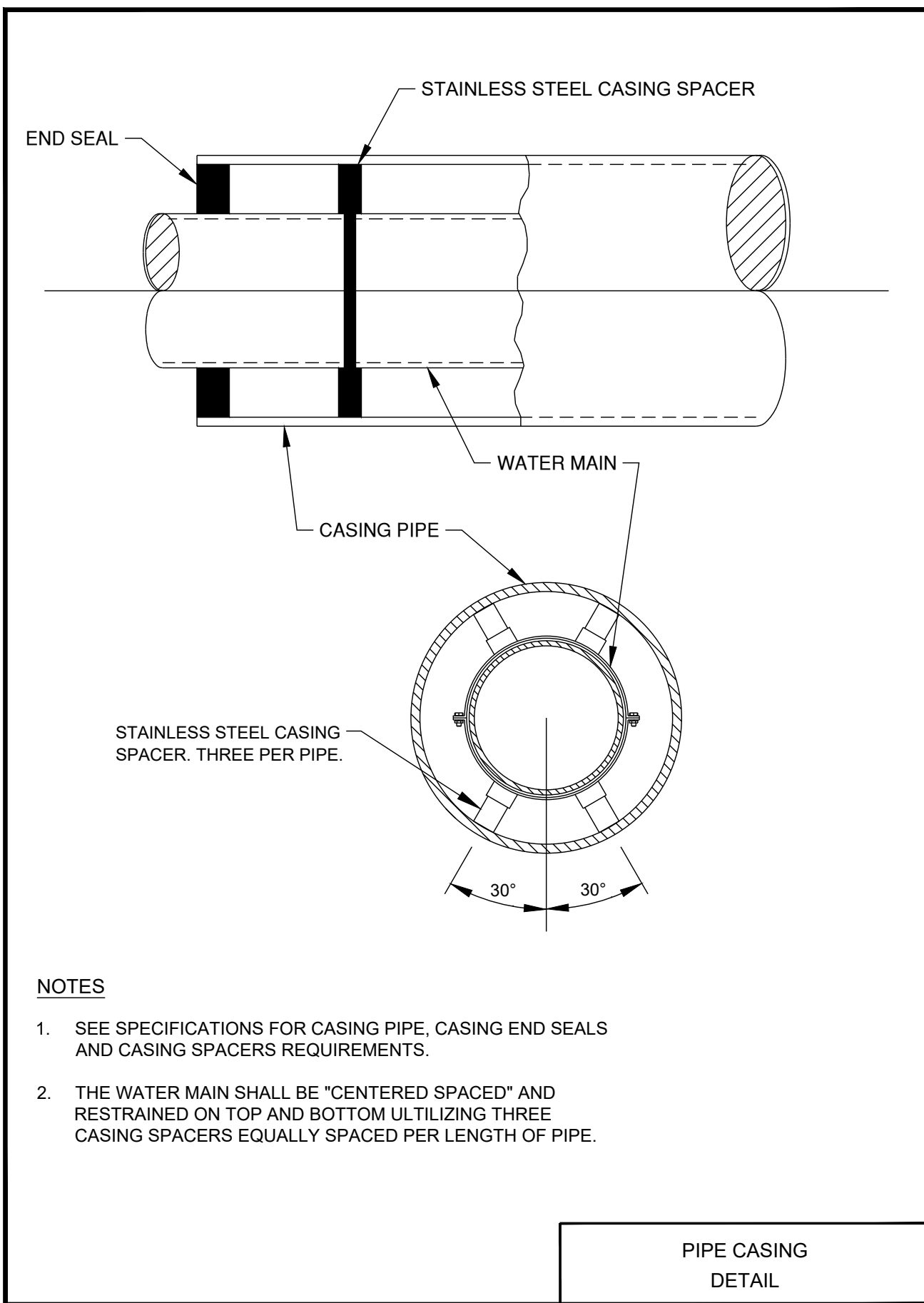
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ADA RAMP CONSTRUCTION

THE CONTRACTOR SHALL CONSTRUCT WHEELCHAIR RAMPS AT ALL STREET INTERSECTIONS AND AT LOCATIONS DESIGNATED BY THE ENGINEER. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS:

1. RAMP SLOPE - THE LEAST POSSIBLE SLOPE SHALL BE USED FOR ANY RAMP. THE MAXIMUM SLOPE OF A RAMP SHALL BE 1:12.
2. CROSS SLOPE - THE CROSS SLOPE OF A RAMP SHALL BE 1.5 PERCENT WITH A MINIMUM SLOPE OF 1 PERCENT AND MAXIMUM SLOPE OF 2 PERCENT.
3. RAMP WIDTH - RAMPS ARE TO BE CONSTRUCTED WITH A CLEAR WIDTH OF 48 INCHES INCLUSIVE OF FLARES OR CURBING.
4. RAMP TO GUTTER TRANSITION - TRANSITIONS FROM RAMPS TO WALK, GUTTER, OR STREET SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
5. DETECTABLE WARNING SURFACE - SHALL BE CONSTRUCTED AS OUTLINED IN 28 CFR PART 36 SECTION 4.29.2. A PRE-MANUFACTURED DETECTABLE WARNING SURFACE SHALL BE USED THAT IS MANUFACTURED BY ARMOR TILE. AN EQUIVALENT MAY BE USED IF APPROVED BY THE CITY ENGINEER IN ADVANCE OF THE PROJECT. THE PRE-MANUFACTURED DETECTABLE WARNING SURFACE SHALL BE "SAFETY YELLOW" IN COLOR. NO OTHER COLORS WILL BE ACCEPTED.
6. RAMP THICKNESS - ANY PART OF THE RAMP WITHIN SIX FEET OF A DRIVING SURFACE SHALL BE SEVEN INCHES THICK ON 4 INCHES OF A 1" MINUS ROCK BASE.

ALL SIDEWALKS AND HANDICAP RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH A.D.A. REQUIREMENTS. ANY SIDEWALKS OR HANDICAP RAMPS CONSTRUCTED BY THE CONTRACTOR NOT MEETING A.D.A. REQUIREMENTS WILL BE REMOVED AND RE-CONSTRUCTED TO MEET THOSE REQUIREMENTS AT THE SOLE EXPENSE OF THE CONTRACTOR.



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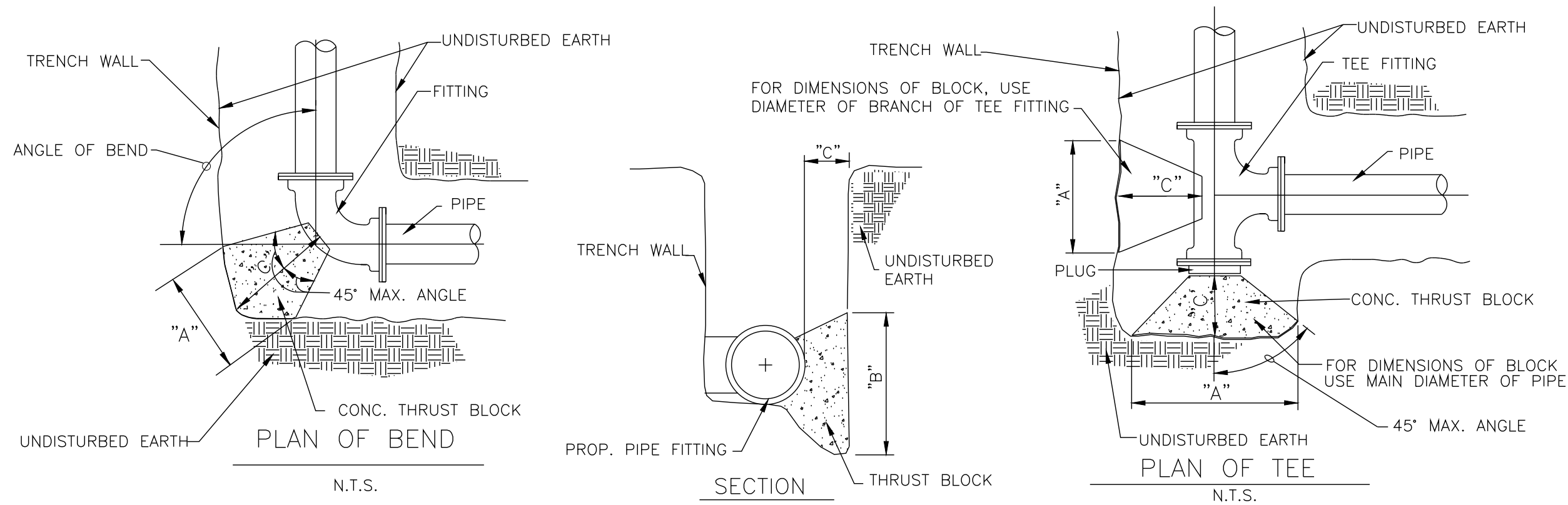
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PROJECT NO:	20040101-00
CAD DWG FILE:	2004010100-C-DETL 2.DWG
DESIGNED BY:	APE
DRAWN BY:	TLL
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SHEET TITLE
**MISCELLANEOUS
DETAILS I**

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- NOTES:**
- IN ADDITION TO MEGALUGS, ALL BENDS, TEES, PLUGS, FITTINGS OR OTHER SIGNIFICANT CHANGES IN ALIGNMENT SHALL BE BRACED WITH CAST-IN-PLACE CONCRETE THRUST BLOCKS. CONCRETE SHALL ACHIEVE 3,000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS.
 - "C" DIMENSION SHALL BE AS REQUIRED TO REACH UNDISTURBED EARTH BUT NOT LESS THAN VALUE LISTED IN TABLE.
 - DIMENSIONS "A" AND "B" ARE BASED ON INTERNAL PIPE PRESSURE OF 100 P.S.I. AND BEARING ON THE UNDISTURBED SOIL OF 1500 P.S.F.
 - "B" = HEIGHT OF THRUST BLOCK
 - ALL FITTINGS RECEIVING CONCRETE THRUST BLOCKS SHALL BE SEPARATED FROM THE CONCRETE THRUST BLOCK BY A 5 MIL LAYER OF PLASTIC SHEETING.
 - RESTRAINED JOINTS SHALL BE ACCEPTABLE FOR PUSH ON PIPE IN LIEU OF CONCRETE THRUST BLOCKING. RESTRAINED JOINTS SHALL BE SERIES 2000PV BELL RESTRAINING HARNESS AS MANUFACTURED BY EBBA IRON WORKS OR EQUAL.
 - FOR 2 PIPES IN A COMMON TRENCH, CONCRETE THRUST BLOCKS ARE NOT ALLOWED. PIPES SHALL BE RESTRAINED UTILIZING SERIES 2000PV BELL RESTRAINING HARNESS.

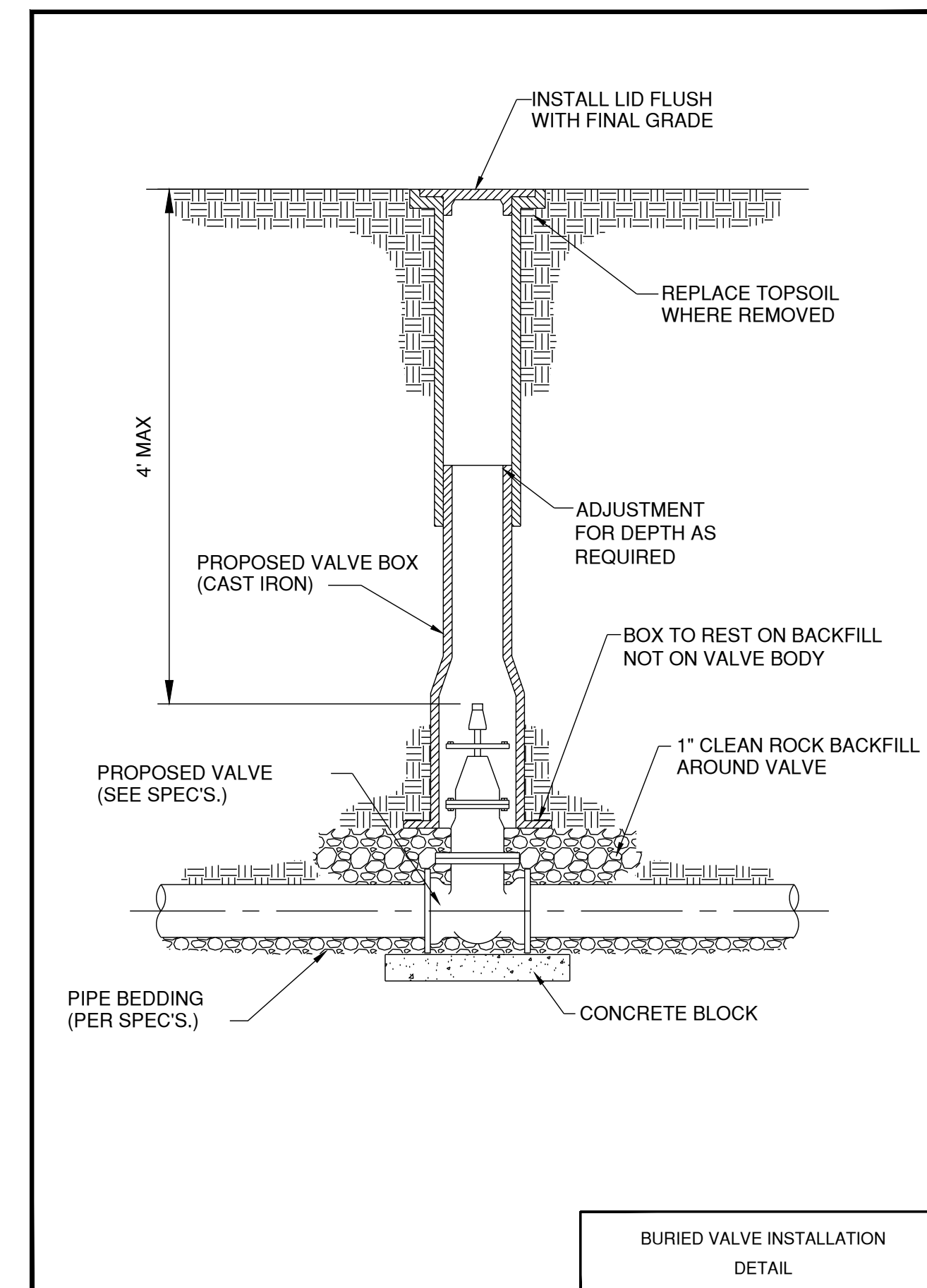
HORIZONTAL THRUST RESTRAINT

SIZE	90° BEND			45° BEND			22-1/2° BEND			11-1/4° BEND			TEE OR PLUG		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
2"	8"	8"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	8"	8"	6"
3"	1'-0"	1'-0"	8"	8"	8"	6"	8"	8"	6"	6"	6"	6"	1'-6"	1'-0"	8"
4 & 6"	2'-0"	1'-4"	9"	1'-6"	1'-0"	6"	1'-1"	0'-8"	6"	0'-9"	0'-6"	6"	2'-5"	1'-7"	1'-0"
8"	2'-8"	1'-10"	1'-0"	2'-0"	1'-4"	8"	1'-5"	1'-0"	8"	1'-0"	0'-8"	8"	3'-2"	2'-2"	1'-3"
10"	3'-4"	2'-3"	1'-3"	2'-6"	1'-8"	10"	1'-9"	1'-2"	8"	1'-3"	0'-10"	8"	4'-0"	2'-8"	1'-7"
12"	4'-0"	2'-8"	1'-6"	3'-0"	2'-0"	1'-0"	2'-2"	1'-5"	8"	1'-6"	1'-0"	8"	4'-10"	3'-2"	1'-11"
14"	4'-8"	3'-2"	1'-9"	3'-6"	2'-4"	1'-2"	2'-6"	1'-8"	8"	1'-9"	1'-2"	8"	5'-7"	3'-9"	2'-3"
16"	5'-4"	3'-7"	2'-0"	3'-11"	2'-8"	1'-4"	2'-10"	1'-11"	9"	2'-0"	1'-4"	8"	6'-4"	4'-3"	2'-6"
18"	6'-0"	4'-0"	2'-3"	4'-5"	3'-0"	1'-6"	3'-2"	2'-2"	10"	2'-3"	1'-6"	8"	7'-2"	4'-9"	2'-10"
20"	6'-8"	4'-5"	2'-6"	4'-11"	3'-4"	1'-8"	3'-6"	2'-4"	11"	2'-6"	1'-8"	8"	7'-11"	5'-4"	3'-2"
24"	8'-0"	5'-4"	3'-0"	5'-11"	3'-11"	2'-0"	4'-3"	2'-10"	1'-1"	3'-0"	2'-0"	8"	9'-6"	6'-4"	3'-9"

HORIZONTAL THRUST BLOCK DETAILS

N.T.S.

DIAMETER, SERVICE	TEST PRESS. P.S.I.	MINIMUM LENGTH OF PIPE TO BE RESTRAINED ON BOTH SIDES OF A:			
		VERT.	22 1/2°	11 1/4°	HORZ. BEND
6" FINISHED	125	2	4	8	19
8" FINISHED	125	3	5	8	24
10" FINISHED	125	3	6	12	29



VERTICAL THRUST RESTRAINT-UPWARD BEND

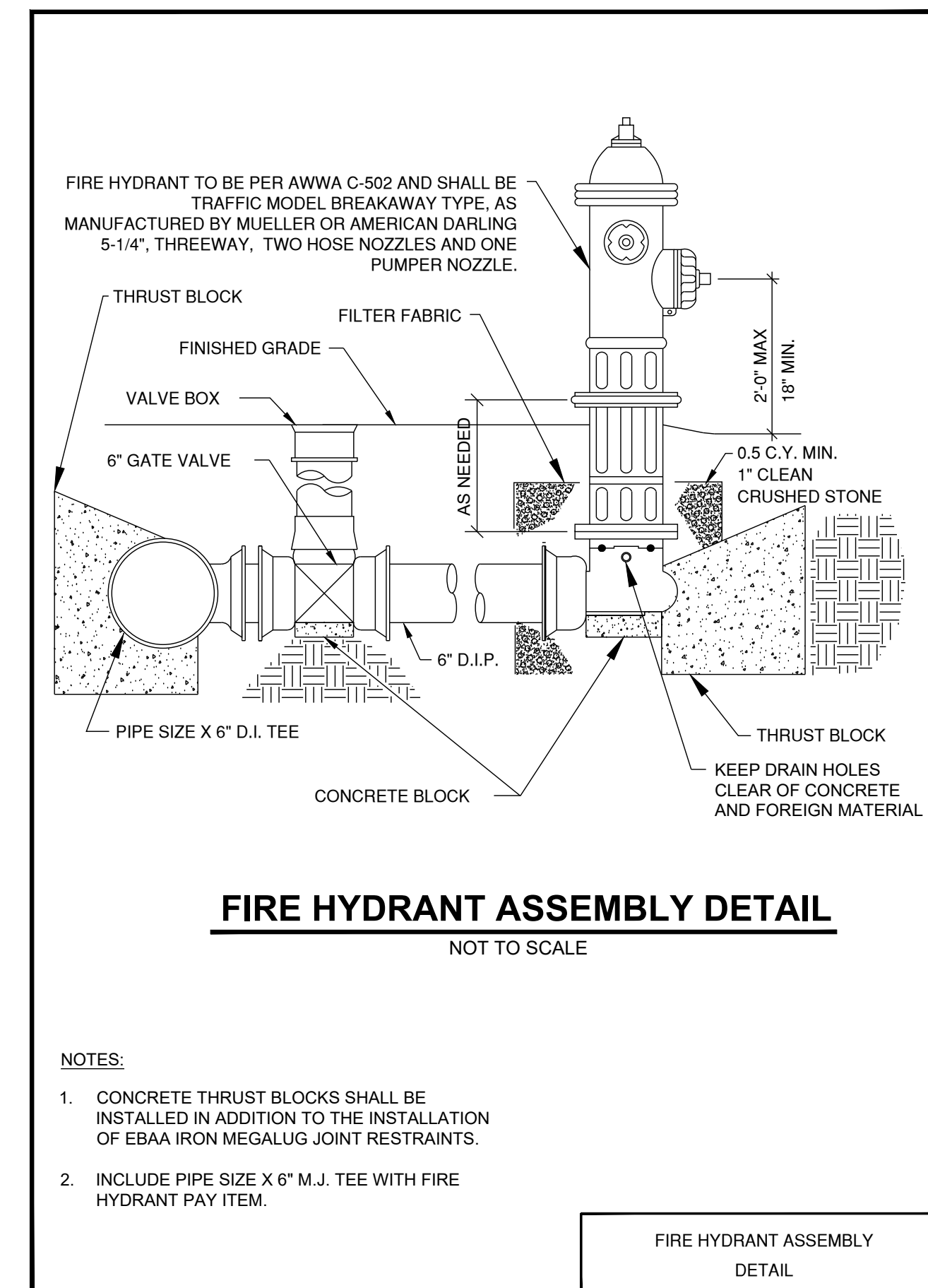
BEND	SIZE								
	6"	8"	10"	12"	16"	20"	24"	30"	36"
1/4"	G 6"	8"	10"	1'-0"	1'-4"	1'-8"	2'-0"	2'-6"	3'-0"
1/2"	H 1'-2"	1'-4"	1'-6"	1'-8"	2'-0"	2'-4"	2'-8"	3'-2"	3'-10"
1"	J 7"	7"	8"	8"	9"	10"	1'-0"	1'-1"	1'-2"
2"	G 9"	1'-0"	1'-6"	1'-4"	2'-3"	3'-0"	3'-6"	4'-2"	5'-4"
2 1/2"	H 1'-2"	1'-4"	1'-6"	1'-8"	2'-0"	2'-4"	2'-8"	3'-2"	4'-0"
3"	J 8"	9"	10"	11"	1'-2"	1'-4"	1'-6"	1'-9"	2'-0"
4"	G 1'-3"	1'-8"	2'-1"	2'-6"	3'-4"	4'-2"	5'-0"	6'-3"	7'-6"
4 1/2"	H 1'-2"	1'-4"	1'-6"	1'-10"	2'-6"	3'-0"	3'-4"	4'-0"	5'-0"
5"	J 8"	9"	10"	11"	1'-2"	1'-4"	1'-9"	2'-3"	2'-8"

VERTICAL THRUST RESTRAINT-DOWNWARD BEND

BEND	SIZE								
	6"	8"	10"	12"	16"	20"	24"	30"	36"
1/4"	D 1'-6"	1'-9"	2'-0"	3'-0"	3'-6"	4'-0"	4'-3"	4'-6"	5'-0"
1/2"	E 1'-3"	1'-6"	1'-9"	2'-0"	2'-3"	2'-6"	2'-9"	3'-0"	4'-0"
1"	F 2'-0"	2'-6"	2'-9"	3'-0"	4'-0"	5'-0"	5'-9"	6'-6"	7'-0"
2"	D 2'-0"	3'-4"	3'-8"	4'-0"	4'-4"	4'-8"	5'-0"	5'-4"	6'-0"
2 1/2"	E 1'-9"	2'-3"	2'-6"	2'-6"	2'-6"	2'-8"	3'-8"	4'-6"	5'-6"
3"	F 2'-6"	2'-8"	3'-10"	4'-0"	5'-6"	7'-6"	8'-6"	8'-6"	10'-0"
4"	D 2'-6"	3'-0"	4'-0"	4'-6"	5'-2"	5'-6"	6'-0"	6'-6"	7'-6"
4 1/2"	E 2'-6"	2'-9"	3'-0"	3'-6"	4'-0"	4'-6"	5'-6"	6'-0"	6'-0"
5"	F 3'-0"	4'-0"	4'-6"	4'-9"	6'-6"	8'-0"	9'-6"	11'-0"	11'-6"

NOTES:

- IN ADDITION TO MEGALUGS, ALL BENDS, TEES, PLUGS, FITTINGS OR OTHER SIGNIFICANT CHANGES IN ALIGNMENT SHALL BE BRACED WITH CAST-IN-PLACE CONCRETE THRUST BLOCKS. CONCRETE SHALL ACHIEVE 3,000 P.S.I. COMPRESSIVE STRENGTH @ 28 DAYS.
- ALL H & J DIMENSIONS TO BE AS REQUIRED TO BEAR AGAINST UNDISTURBED EARTH BUT NOT LESS THAN LISTED IN THRUST BLOCK TABLE.
- ALL CAST-IN-PLACE CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS.
- ALL CAST-IN-PLACE CONCRETE SHALL BE PLACED THE FULL WIDTH OF TRENCH FROM UNDISTURBED WALL TO UNDISTURBED WALL.
- RESTRAINED JOINTS SHALL BE ACCEPTABLE FOR PUSH ON PIPE IN LIEU OF CONCRETE THRUST BLOCKING. RESTRAINED JOINTS SHALL BE SERIES 2800 BELL RESTRAINING HARNESS AS MANUFACTURED BY EBBA IRON WORKS OR EQUAL.



FIRE HYDRANT ASSEMBLY DETAIL

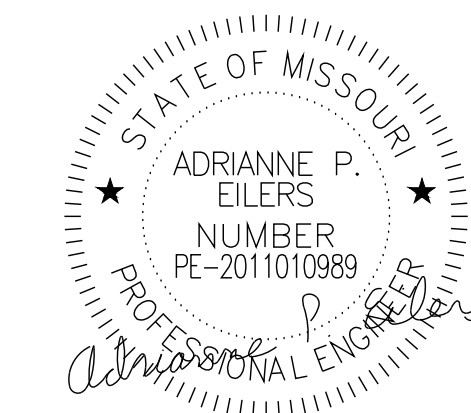
NOT TO SCALE

NOTES:

- CONCRETE THRUST BLOCKS SHALL BE INSTALLED IN ADDITION TO THE INSTALLATION OF EBBA IRON MEGALUG JOINT RESTRAINTS.
- INCLUDE PIPE SIZE X 6" M.J. TEE WITH FIRE HYDRANT PAY ITEM.

FIRE HYDRANT ASSEMBLY DETAIL

CONSULTANTS



ADRIANNE P. EILERS
CIVIL ENGINEER, MO# PE-2011010989
DATE 7/6/2023

CONSTRUCTION PLANS
JULY 2023

N. KIRKWOOD ROAD AT
E. JEWEL AVENUE
WATER MAIN REPLACEMENT



WHERE COMMUNITY AND SPIRIT MEET

CITY OF KIRKWOOD
139 S. KIRKWOOD RD.
KIRKWOOD, MO 63122
314.822.5800

MARK DATE DESCRIPTION

PROJECT NO:	20040101-00
CAD DWG FILE:	2004010100-C-DETL 2.DWG
DESIGNED BY:	APE
DRAWN BY:	TLL
CHECKED BY:	RAA
APPROVED BY:	APE
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SHEET TITLE
**MISCELLANEOUS
DETAILS II**