

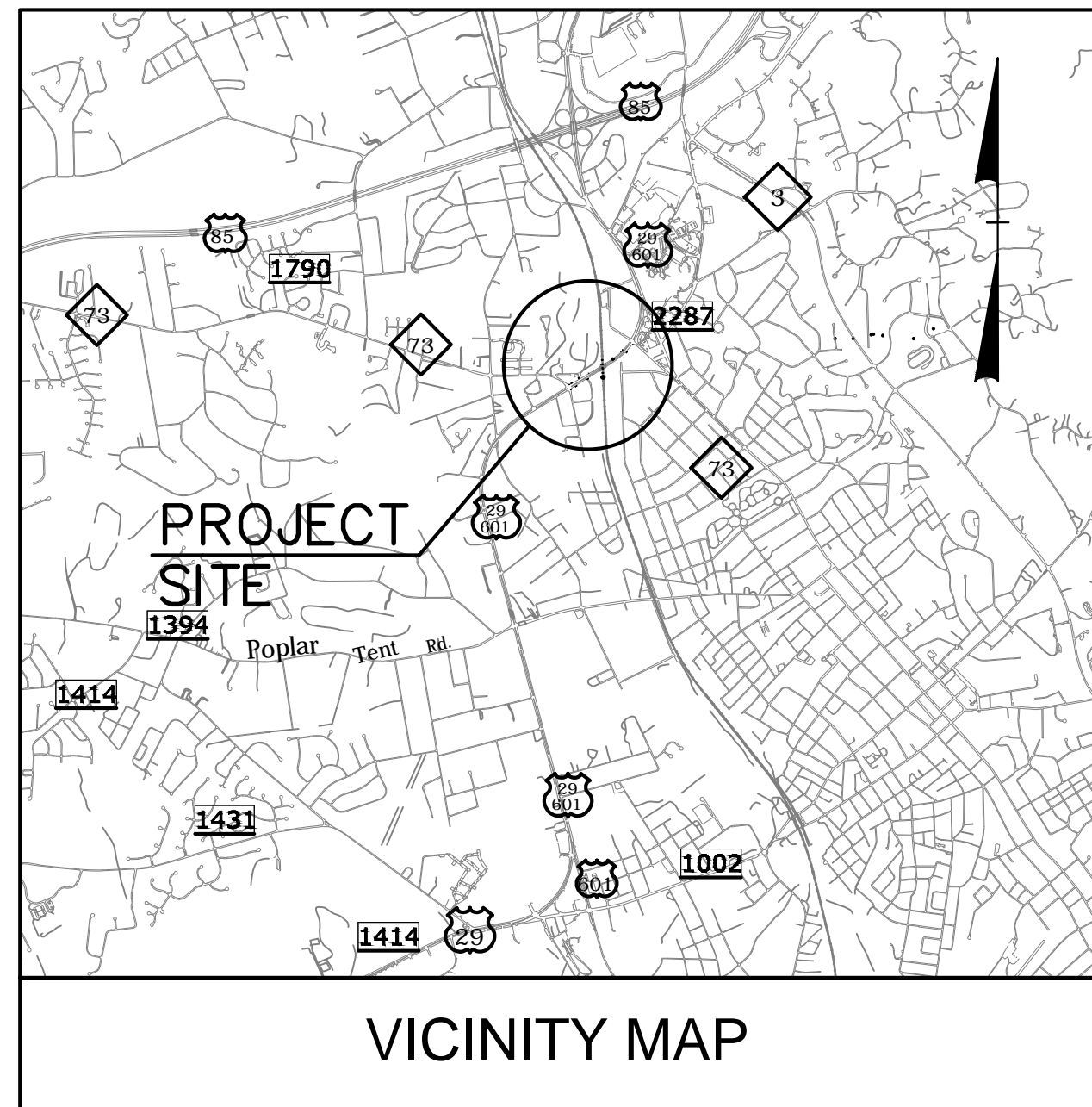
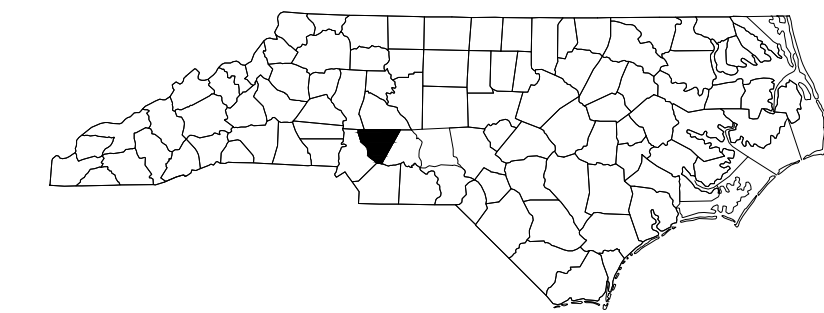
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TIP PROJECT: B-5136

T.I.P. NO.	SHEET NO.
B-5136	UC-1

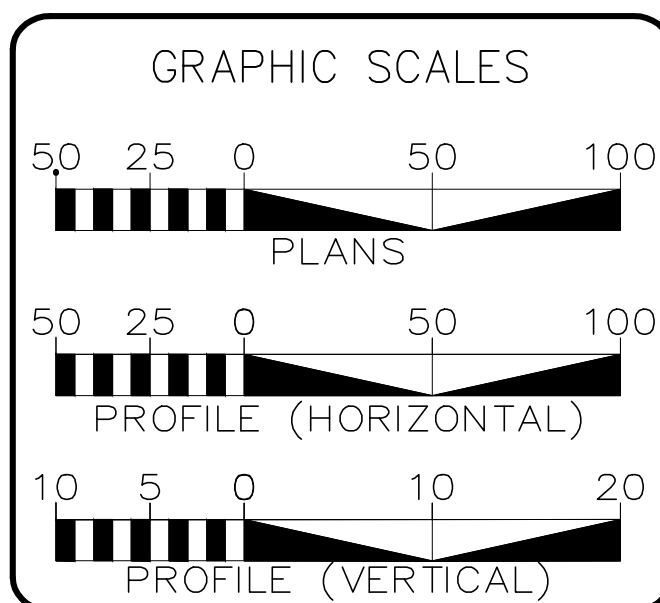
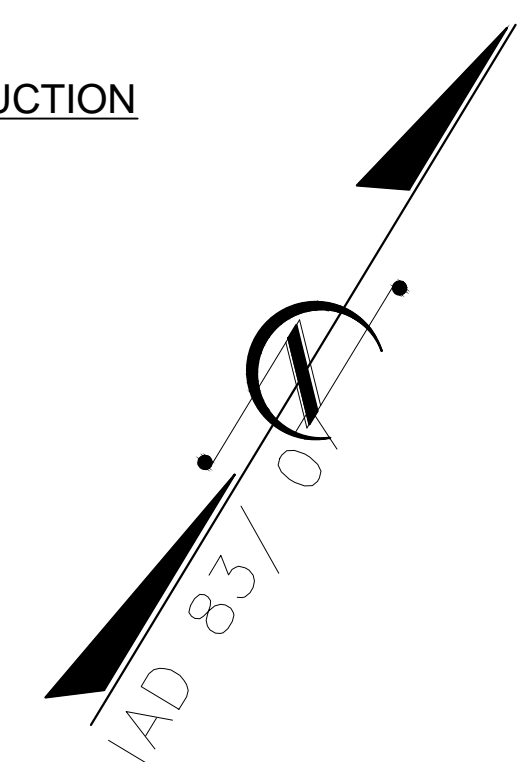
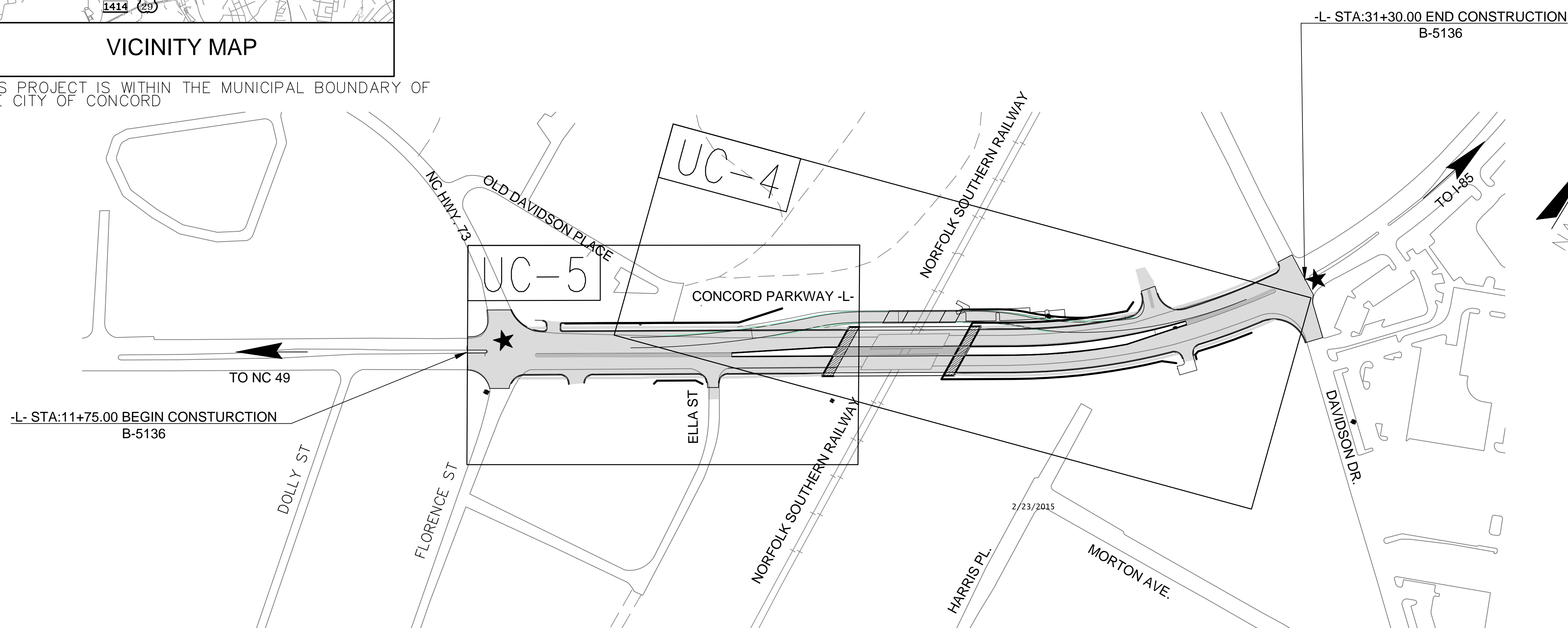


THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARY OF THE CITY OF CONCORD

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS CABARRUS COUNTY

LOCATION: BRIDGES 66 AND 69 OVER NORFOLK SOUTHERN RAILWAY ON US 29/ US 601
TYPE OF WORK: WATER LINE RELOCATIONS.



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	NOTES/ SYMBOLS
UC-3 THRU UC-3a	DETAILS
UC-4 THRU UC-5	UTILITY CONSTRUCTION SHEETS

WATER AND SEWER OWNERS ON PROJECT: CITY OF CONCORD

- ALL 24" WATER MAINS TO BE RESTRAINED D.I.P. WITH FKM GASKETS
- ALL 8" WATER MAINS TO BE C-900 P.V.C.
- ALL 24" VALVES TO BE GATE VALVES

PREPARED BY
ENGINEERING DEPARTMENT
CITY OF CONCORD
P.O. BOX 308
CONCORD N.C. 28026
(704) 920-5425

SEAL

Engineer's Seal

DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl A. Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
James E. Swinson UTILITIES PROJECT DESIGNER

CONSTRUCTION SEQUENCE

1. CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS HAVE BEEN RECEIVED AND THAT THOSE REQUIRED TO BE DISPLAYED ON-SITE ARE AVAILABLE.
2. CONTRACTOR SHALL HOLD PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS BEFORE THE ACTUAL START OF CONSTRUCTION.
3. CONTRACTOR SHALL CONTACT CAROLINA ONE CALL AND ALL ENTITIES HAVING BURIED UTILITIES AT LEAST 72 HOURS PRIOR TO DIGGING OR AS DIRECTED AT THE PRE-CONSTRUCTION MEETING.
4. CONTRACTOR SHALL MAINTAIN TRAFFIC AND SAFETY CONTROL MEASURES AT ALL TIMES ON THE PROJECT. (SEE TRAFFIC CONTROL.)
5. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES (IF ANY) AT EACH POINT OF ACCESS TO STORAGE AND CONSTRUCTION AREAS.
6. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH PLANS AND BEFORE STARTING WORK.
7. CONTRACTOR SHALL CLEAR RIGHT-OF-WAY IF NECESSARY.
8. STOCKPILE RIP-RAP ON SITE AND INSTALL ALL OTHER EROSION CONTROL MEASURES WHERE THE WORK IS OCCURRING. THE CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES IN AREAS WHERE THE WORK WILL NOT OCCUR FOR SOME TIME. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE CITY/PROJECT ENGINEER OR UPON RECOMMENDATION OF NC DENR PERSONNEL AS CONDITIONS WARRANT.
9. IN AREAS WHERE IT IS NOT FEASIBLE TO INSTALL EROSION CONTROL DEVICES, ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED BY THE CONTRACTOR WITHIN THREE DAYS OF INITIAL DISTURBANCE. TEMPORARY SEEDING SHALL BE REQUIRED ON ALL OTHER AREAS TO BE DISTURBED FOR A PERIOD OF 10 DAYS OR LONGER.
10. CONTRACTOR SHALL COORDINATE ALL BLOW-OFFS AND TESTING WITH THE CITY ENGINEERING DEPARTMENT'S CONSTRUCTION ADMINISTRATOR AT LEAST 24 HOURS IN ADVANCE OF SUCH WORK. NOTIFY THE RESPONSE AREA FIRE DEPARTMENT IF EXISTING SYSTEM VALVES NEED TO BE SHUT OFF IN THE COURSE OF THE WORK.
11. UPON COMPLETION OF THE INSTALLATION AND WITH APPROVAL OF NC DENR-DLR, ALL EROSION CONTROL DEVICES EXCEPT FOR CREEK/STREAM BANK STABILIZATION SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. EACH SECTION SHALL BE SEEDED AT EARLIEST POSSIBLE DATE AFTER INSTALLATION OF PIPE, STRUCTURE, OR ACCESS.
12. ONCE GROUND COVER IS FIRMLY ESTABLISHED, ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITH THE APPROVAL OF NC DENR-DLR.
13. CONTRACTOR SHALL REFERENCE SPECIAL CONDITIONS FOR JOB SEQUENCE AND OTHER DIRECTIONS, IF ANY. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITY WITH THE CITY ENGINEERING DEPARTMENT.

GENERAL NOTES

1. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKMANSHIP IS TO BE IN ACCORDANCE WITH AND SUBJECT TO THE WATER AND SEWER AUTHORITY OF CABARRUS COUNTY'S STANDARD SPECIFICATIONS; THE CITY OF CONCORD'S ORDINANCES, POLICIES, AND STANDARD SPECIFICATIONS, AND NCDOT STANDARD SPECIFICATIONS, AND THE NORTH CAROLINA ADMINISTRATIVE CODE FOR WASTEWATER COLLECTION AND WATER DISTRIBUTION SYSTEMS. IN THE EVENT OF CONFLICT BETWEEN THE WATER AND SEWER AUTHORITY OF CABARRUS COUNTY'S STANDARD SPECIFICATION; THE CITY OF CONCORD'S ORDINANCES, POLICIES, AND STANDARD SPECIFICATIONS, AND NCDOT STANDARD SPECIFICATIONS, OR THE NORTH CAROLINA ADMINISTRATIVE CODE, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.
2. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE LATEST STANDARDS OF THE N.C. SEDIMENTATION POLLUTION CONTROL ACT AND APPLICABLE LOCAL AND FEDERAL REQUIREMENTS.
3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION ADMINISTRATOR OF THE CITY OF CONCORD ENGINEERING DEPARTMENT AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK.
4. INDIVIDUAL WATER, GAS, SEWER, TELEPHONE, AND CABLE SERVICES MAY OR MAY NOT BE SHOWN ON THE PLANS. CONTRACTOR TO CONTACT APPROPRIATE AGENCY FOR FIELD LOCATIONS.
5. CITY OF CONCORD ELECTRIC, WATER, AND SEWER DEPARTMENT PERSONNEL WILL ASSIST THE CONTRACTOR IN LOCATING ALL CITY OF CONCORD UTILITY SERVICES AND LINES.
6. IF MAILBOX PULL-OFF AREAS ARE DISTURBED, CRUSHED STONE STABILIZER SHALL BE PLACED WITH SUFFICIENT LENGTH TO ACCOMMODATE VEHICULAR TRAFFIC. THESE AREAS SHALL BE MAINTAINED FOR THE ONE-YEAR WARRANTY PERIOD. THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE COST OF LAYING PIPE.
7. THIS PROJECT IS NOT SUBJECT TO 100 YEAR FLOOD PER FIRM MAP 3710562100J, NOVEMBER 5, 2008.
8. FIRE HYDRANT EXTENSIONS, IF NEEDED, SHALL BE INCLUDED IN THE COST OF THE HYDRANT INSTALLATION.
9. GATE OR BUTTERFLY VALVES, BLOW-OFFS, AND FIRE HYDRANTS MAY BE FIELD ADJUSTED 50 FEET IN EITHER DIRECTION WITH THE PERMISSION OF THE ENGINEERING AND WATER RESOURCES DEPARTMENTS.

RIGHT-OF-WAY NOTES

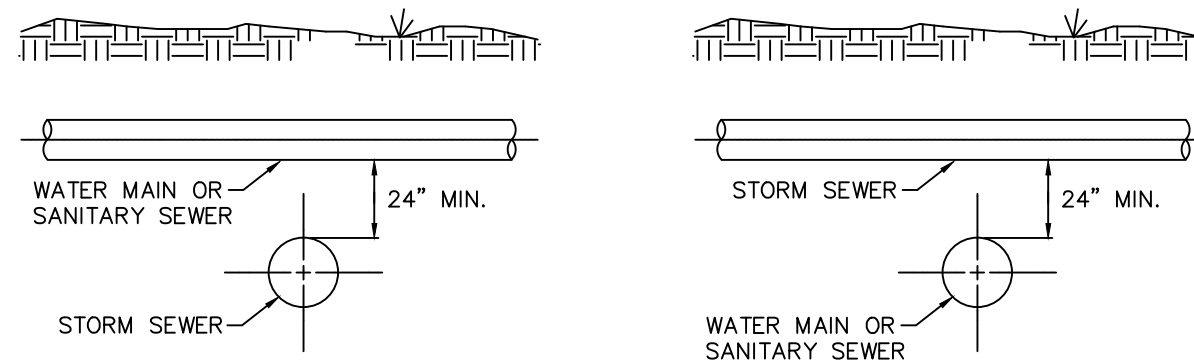
1. RIGHT-OF-WAY LINES AND PROPERTY LINES ARE SHOWN ON THE DESIGN DRAWINGS AND ARE FOR REFERENCE ONLY. FOR EXACT LOCATIONS REFER TO THE SURVEY PLATS BY THE CITY OF CONCORD'S CONSULTING REGISTERED LAND SURVEYOR OR BY THE CITY SURVEYOR.
2. REFER TO STANDARDS AND SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION FOR FURTHER DETAILS CONCERNING THE RIGHT-OF-WAY.

TRAFFIC CONTROL

1. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR WORK ZONE TRAFFIC SAFETY AND CONTROL.
2. ALL WORK ZONE TRAFFIC CONTROL DEVICES AND OPERATIONS USED ON STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY OR INCIDENT MANAGEMENT SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS IN THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD).
3. ALL TRAFFIC/SAFETY CONTROL DEVICES SHALL BE IN GOOD REPAIR AND SHALL BE POSITIONED AT ALL TIMES IN THE APPROPRIATE LOCATIONS FOR THE WORK OPERATION. THE CONTRACTOR SHALL CAREFULLY MONITOR SITE CONDITIONS SUCH AS LIGHT, WEATHER, TRAFFIC VOLUME, ETC. TO ENSURE THAT ALL TRAFFIC/SAFETY CONTROL MEASURES ARE OPERATING EFFECTIVELY.
4. THE CONTRACTOR SHALL PREPARE A PROPOSAL ON THE TRAFFIC CONTROL OPERATIONS AND PRESENT THEM TO THE CITY OF CONCORD'S ENGINEERING DEPARTMENT CONSTRUCTION ADMINISTRATOR (PHILLIP KINGSLAND) @ 920-5404 AT LEAST 48 HOURS BEFORE BEGINNING WORK.

UTILITY NOTE

THERE WILL BE A MINIMUM 10-FOOT HORIZONTAL SEPARATION BETWEEN THE SEWER LINE AND THE WATER MAIN. WHEN THE 10-FOOT MINIMUM HORIZONTAL SEPARATION CANNOT BE MAINTAINED, AND WHEN THE WATER MAIN IS ABOVE THE SEWER, BUT WITH LESS THAN 24 INCHES OF CLEARANCE, OR WHEN THE SEWER IS ABOVE THE WATER MAIN, BOTH THE WATER MAIN AND THE SEWER LINE SHALL BE CONSTRUCTED OF FERROUS MATERIALS WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM LATERAL DISTANCE, MEASURED AT RIGHT ANGLES TO THE SEWER, OF 10 FEET ON EACH SIDE OF THE CROSSING. (SEE DETAIL BELOW)



LEGEND

	PROPOSED WATER LINE
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	PROPOSED BLOW-OFF
	PROPOSED ENCASEMENT
	EXISTING SEWER AND MANHOLE
	EXISTING SEWER FORCE MAIN
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING TELEPHONE (OVERHEAD OR UNDERGROUND)
	EXISTING ELECTRIC (OVERHEAD OR UNDERGROUND)
	PROPERTY LINE AND IRON PIN
	PROPOSED RIGHT OF WAY/PERMANENT EASEMENT
	EXISTING RIGHT OF WAY/PERMANENT EASEMENT
	WATERWAY/DITCH LINE
	EXISTING BARBED WIRE FENCE
	EXISTING WOVEN WIRE FENCE
	EXISTING CHAIN LINK FENCE
	TREE/WOODS LINE
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING WATER METER
	EXISTING WELL
	EXISTING TELEPHONE/POWER RISER
	EXISTING LIGHT POLE
	EXISTING POWER POLE/GUY WIRE
	EXISTING STREET OR LOCATION SIGN
	EXISTING CONCRETE R/W MONUMENT
	BENCHMARK/TEMPORARY BENCHMARK
	EXISTING RCP OR CMP
	EXISTING MAILBOX

PROJECT REFERENCE NO. B-5136	SHEET NO. UC-2
DESIGNED BY: SM DRAWN BY: BCC CHECKED BY: SM APPROVED BY: DATE: 12/09/14 REVISED:	 UTILITIES UNIT UTILITIES ENGINEERING SECTION 1555 MAIL SERVICES CENTER RALEIGH NC 27699-1555 PHONE (919) 707-6690 FAX (919) 250-4151

UTILITY CONSTRUCTION

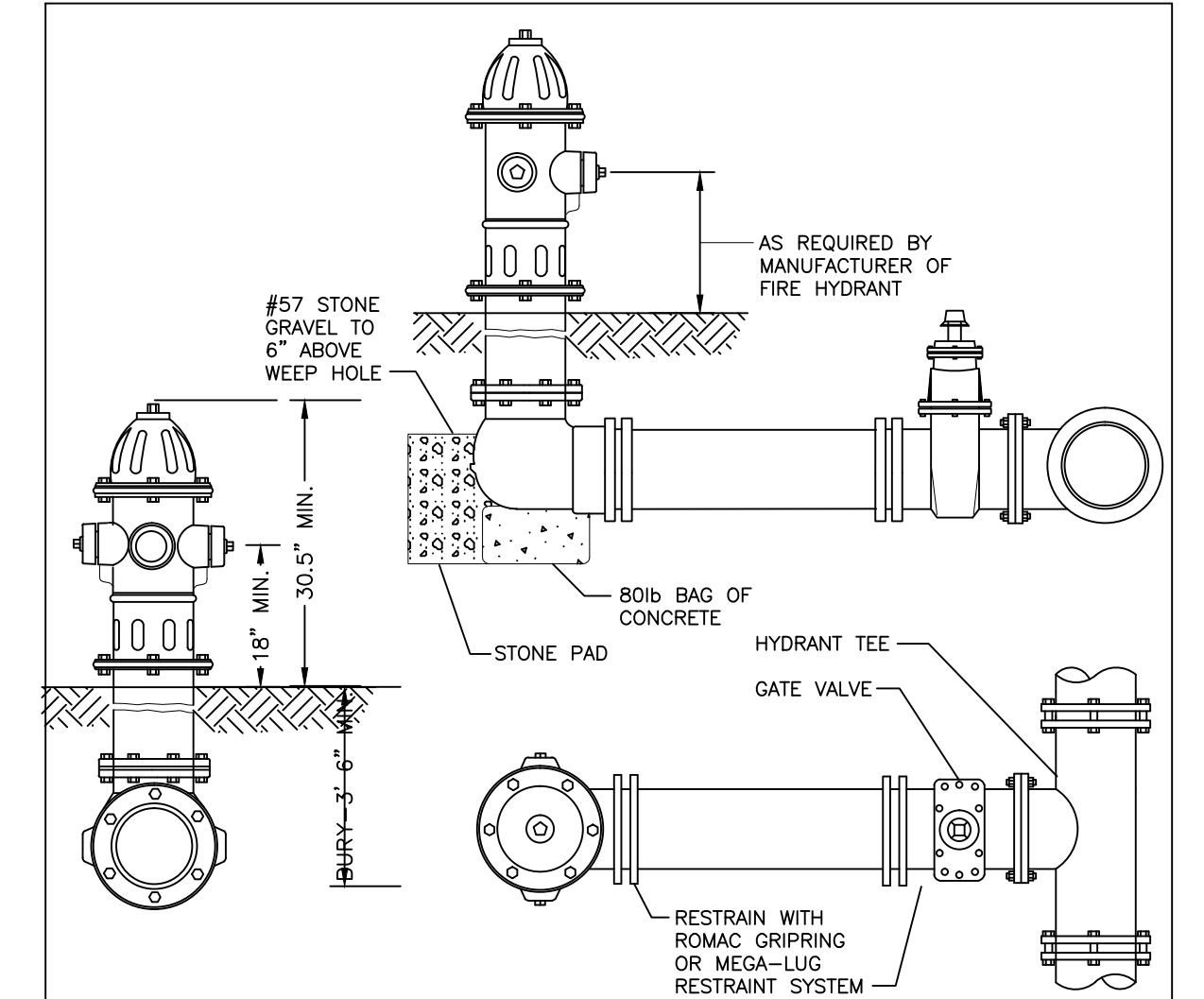


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ENGINEERING DEPARTMENT
CITY OF CONCORD
P.O. BOX 308
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2/6/2015
Engineer's Seal

UTILITY CONSTRUCTION



GENERAL NOTES:

- HYDRANTS SHALL BE MUELLER COMPANY - MODEL: SUPER CENTURION 250; AMERICAN FLOW CONTROL - MODEL 5K" B-84-B; CLOW VALVE COMPANY - MODEL: MEDALLION; OR EQUAL WITH BLACK PRIMER FINISH.
- HYDRANT SHALL HAVE INTEGRAL SNAP-TIGHT STYLE STORZ CONNECTION WITH 5/8" VALVE OPENING, OPEN LEFT, 1 1/2" PENTAGON NUTS, TWO-2 1/2" NST CONNECTIONS, ONE-5" STORZ CONNECTION, DRAIN HOLES OPEN, AND 6" MJ SHOE.
- MINIMUM BURY DEPTH OF 3'-6".
- ALL HYDRANTS SHALL STAND PLUMB. HYDRANTS WITH PUMPER NOZZLES SHALL HAVE HOSE NOZZLES PARALLEL WITH, AND THE PUMPER NOZZLE PERPENDICULAR TO, THE CURB LINE. ALL HYDRANTS SHALL BE ORIENTED SO THAT THE PUMPER NOZZLE FACES THE CURB OR AS DIRECTED BY THE CITY.
- HYDRANT SHALL BE LOCATED AT LEAST 3' BEHIND THE CURB AND LESS THAN 10' FROM THE EDGE OF THE ROAD PAVEMENT OR AS DIRECTED BY THE CITY.
- ALL OTHER MATERIALS AND INSTALLATION MUST CONFORM WITH THE TECHNICAL STANDARDS OF WSACC AND CITY OF CONCORD.

FIRE HYDRANT PAINT COLOR CODE REQUIREMENTS:
 ALL NEW FIRE HYDRANTS INSTALLED IN THE CITY OF CONCORD SHALL BE PAINTED IN ACCORDANCE WITH THE FOLLOWING COLORS:

- HYDRANTS ON PUBLIC WATER MAINS SHALL BE PAINTED SAFETY YELLOW, SHERWIN WILLIAMS STEEL MASTER 9500 B56-300 SERIES LRV 30% OR EQUAL.
- PRIVATE HYDRANTS ON PRIVATE WATER MAINS SHALL BE PAINTED SAFETY RED, SHERWIN WILLIAMS SW4081 LVR 11% OR EQUAL.

FOR ALL FIELD PAINTING, ALL SURFACES SHALL BE SANDBLASTED AND PROPERLY PREPARED ACCORDING TO THE PAINT MANUFACTURER'S RECOMMENDATION PRIOR TO PAINTING. ALL FIRE HYDRANTS AND ANY PORTIONS OF THE HYDRANT ASSEMBLY EXPOSED TO VIEW (ABOVE ADJACENT GROUND ELEVATION) SHALL BE PAINTED WITH TWO (2) OR MORE EVENLY APPLIED COATS OF HYDRANT ENAMEL PAINT. HYDRANTS WILL BE RETOUCHEDED / REPAINTED AS NECESSARY AFTER INSTALLATION AND PRIOR TO ACCEPTANCE.

TYPICAL FIRE HYDRANT

TABLE OF EMBEDMENT DEPTHS BELOW PIPE

D	MIN SOIL	MIN ROCK
27" & SMALLER	6"	6"
30" TO 60"	6"	9"
66" & LARGER	6"	12"

NOTES:

- GRANULAR EMBEDMENT MATERIAL SHALL BE CRUSHED ROCK, PEA GRAVEL COARSE AGGREGATE SIZE NUMBER 57. EMBEDMENT MATERIAL SHALL BE PLACED IN LAYERS NOT MORE THAN 6" DEEP AND COMPACTED AS SPECIFIED.
- HAND PLACED EMBEDMENT SHALL BE COMPACTED FINELY DIVIDED MATERIAL FREE FROM DEBRIS AND STONES.
- EMBEDMENT ABOVE THE TOP OF THE PIPE SHALL BE AN UNCOMPACTED LAYER FOR ALL INSTALLATIONS.
- REFER TO SPECIFICATIONS FOR GEOTECHNICAL FABRIC OR SPECIAL EMBEDMENT REQUIREMENTS FOR TRENCHES IN FINE SOILS EXTENDING BELOW GROUNDWATER LEVEL.
- TRENCH OUTLINES DO NOT INDICATE ACTUAL TRENCH EXCAVATION SHAPE, SOIL CONDITIONS, OR PRESENCE OF SHEETING LEFT IN PLACE. EMBEDMENT MATERIAL SHALL EXTEND THE FULL WIDTH OF THE ACTUAL TRENCH EXCAVATION.

LEGEND

- Bc: OUTSIDE DIAMETER OF PIPE COVER ABOVE TOP OF PIPE
- D: NOMINAL PIPE SIZE
- o: EMBEDMENT BELOW PIPE (SEE TABLE)
- HAND PLACED EMBEDMENT
- GRANULAR EMBEDMENT
- CONCRETE

CLASS A ARCH ENCASEMENT

CLASS B

CLASS C

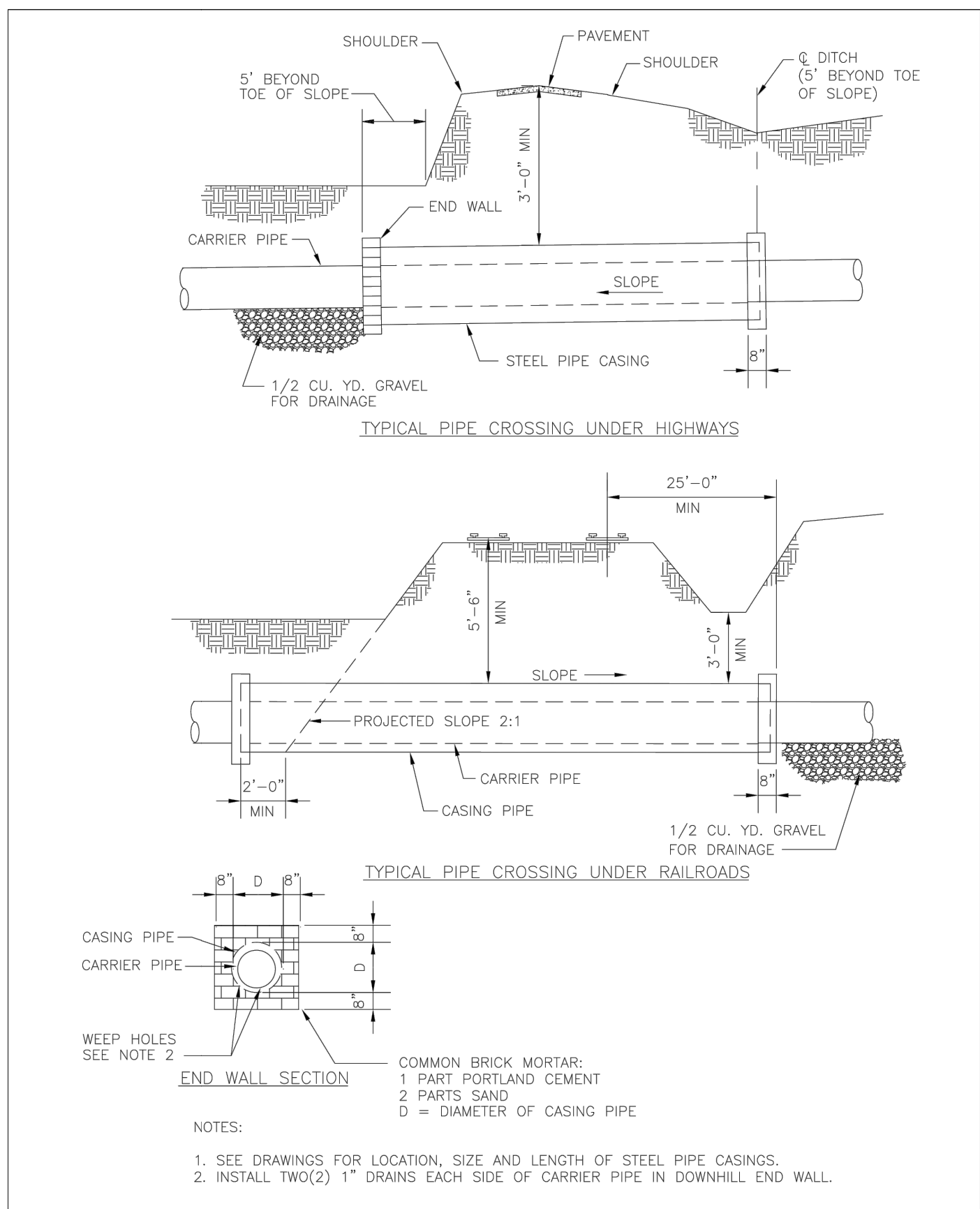
CLASS D

WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY

EMBEDMENTS FOR MAINS

FILE NAME: WS_1.0 DATE: 8/06

REVISION NO.	DATE	BY	CHKD

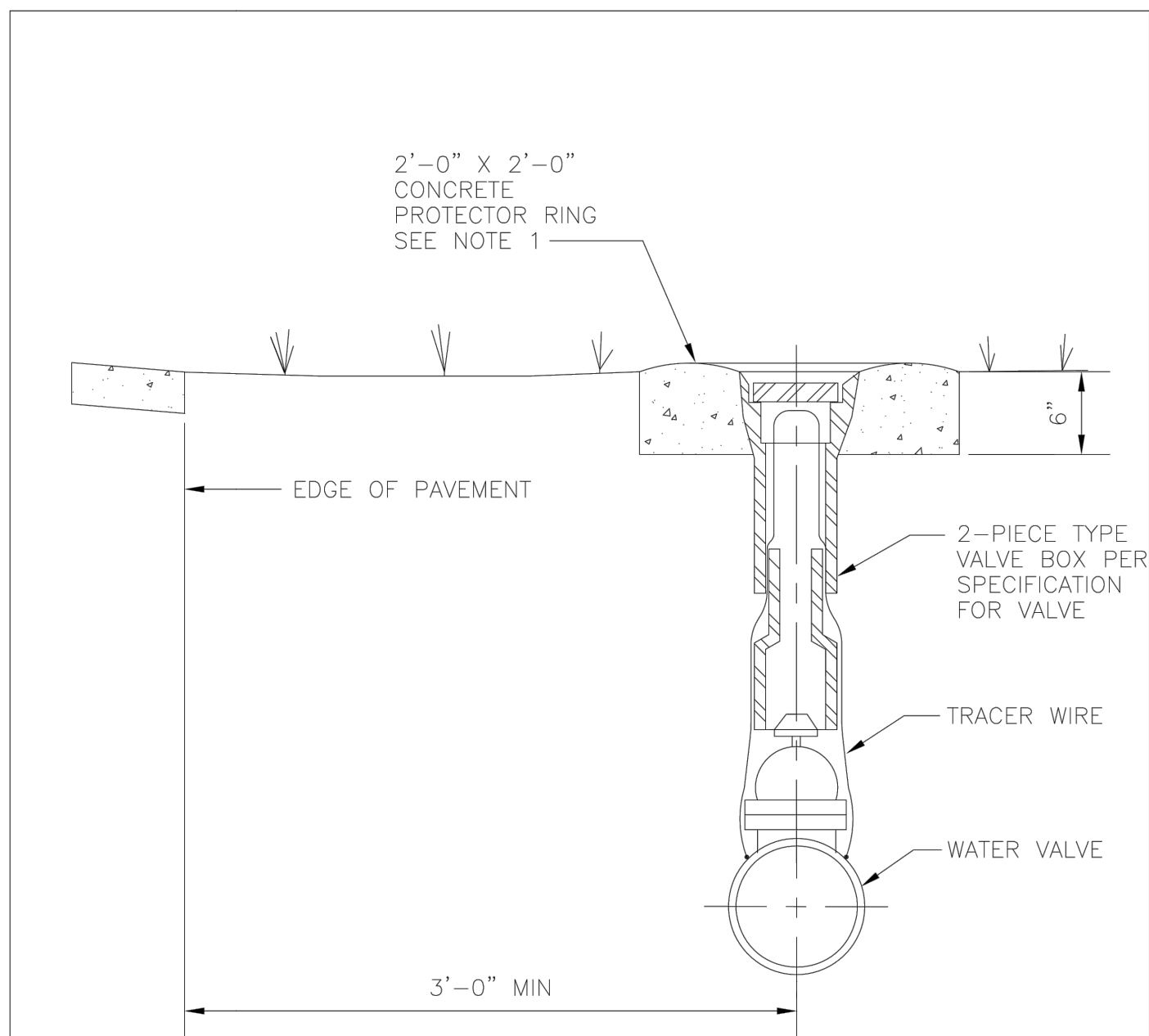


REVISION NO.	DATE	BY	CHKD

WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY

ENCASEMENT PIPE UNDER HIGHWAYS AND RAILROADS

FILE NAME: M1.0 DATE: 8/06



NOTE:

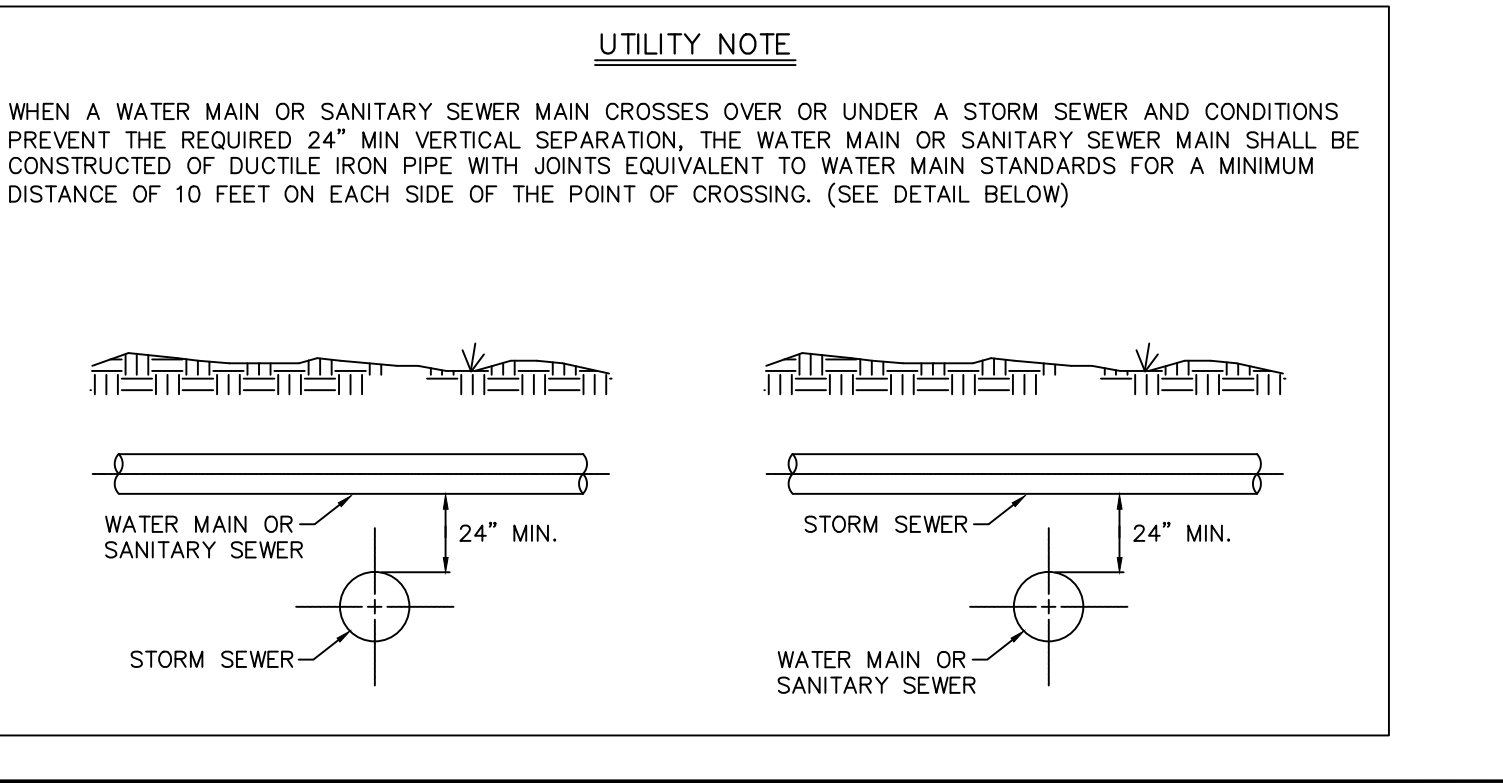
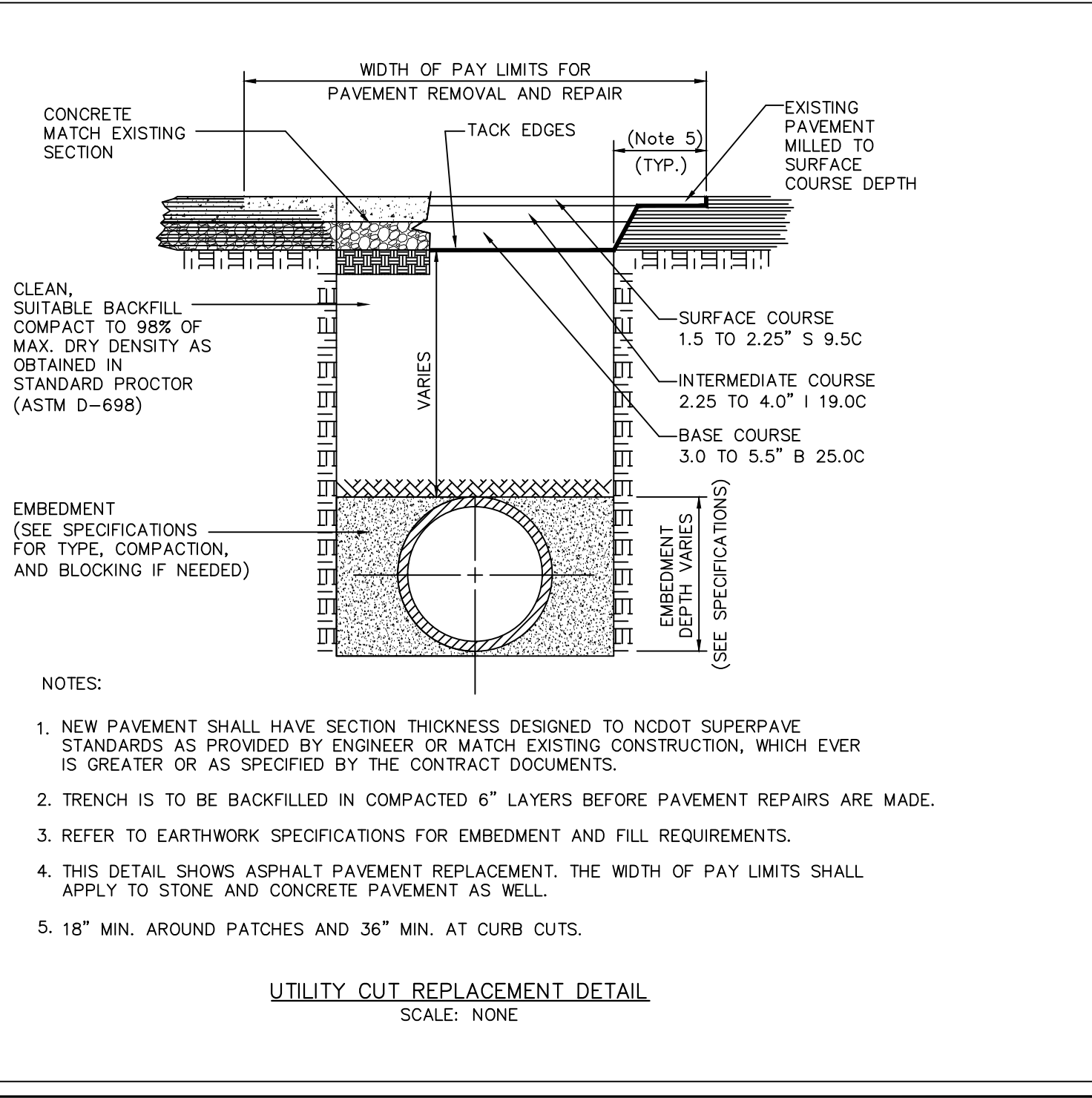
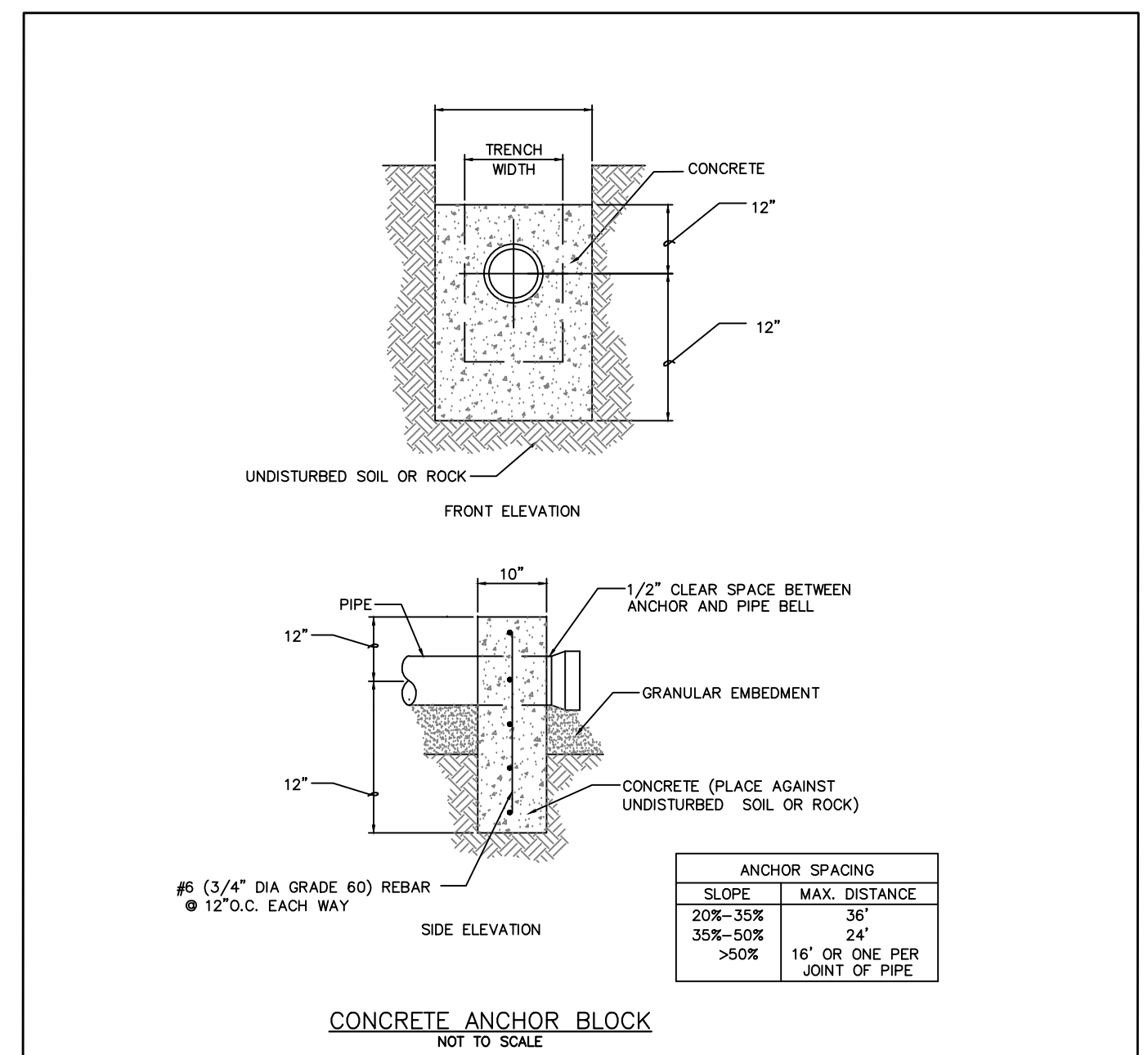
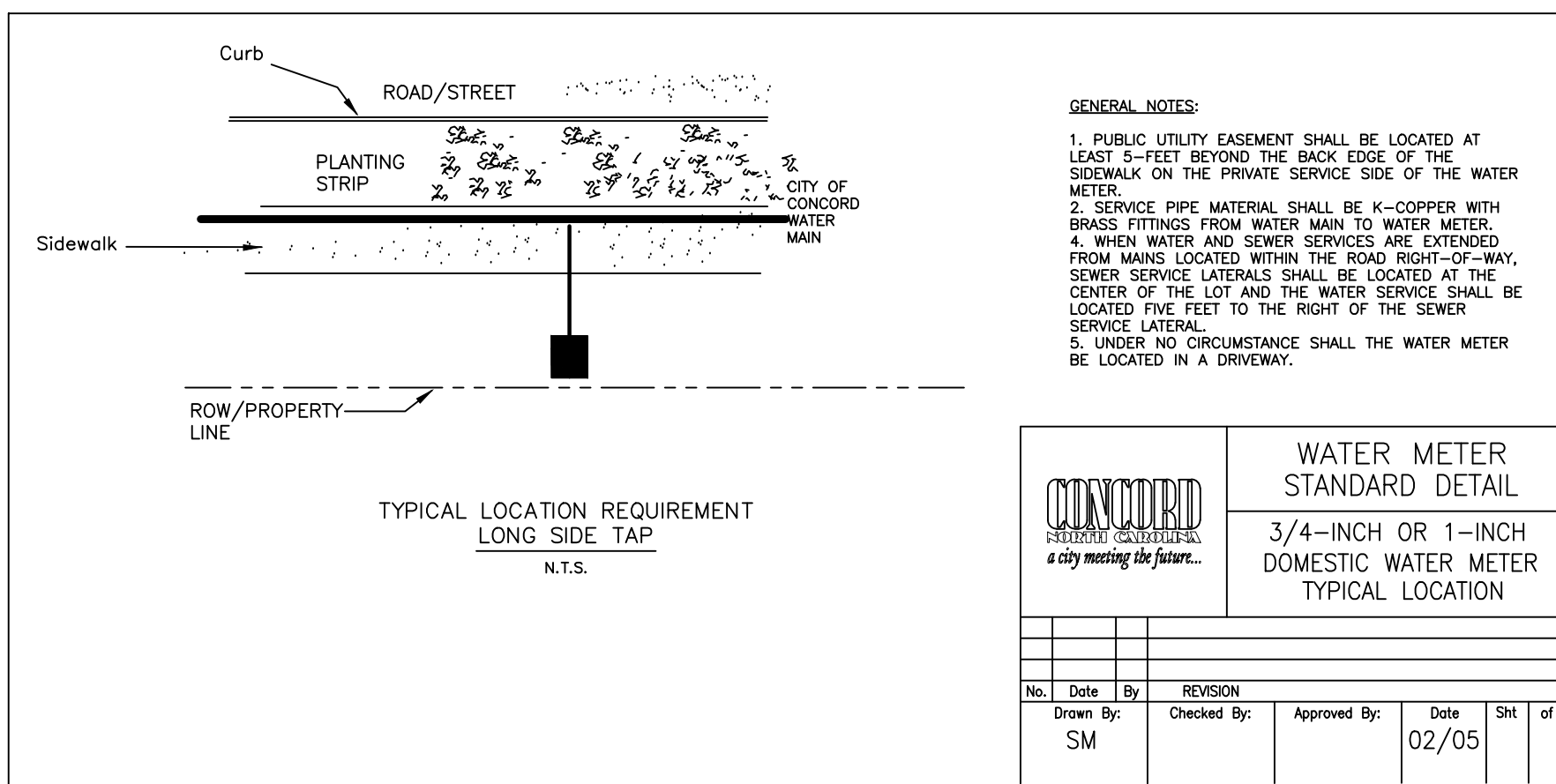
- USE PROTECTION RING IN SHOULDER OF ROAD.

REVISION NO.	DATE	BY	CHKD

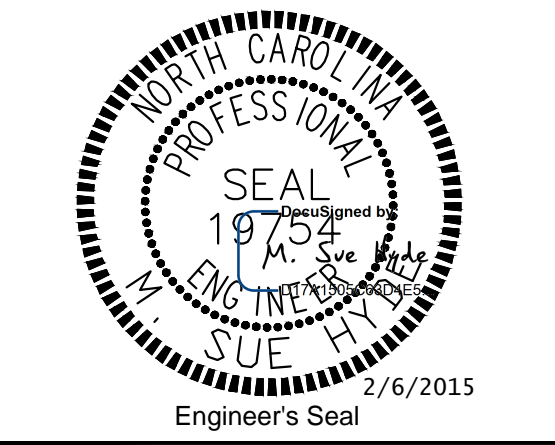
WSACC WATER AND SEWER AUTHORITY OF CABARRUS COUNTY


VALVE BOX INSTALLATION

FILE NAME: W1.0 DATE: 8/06

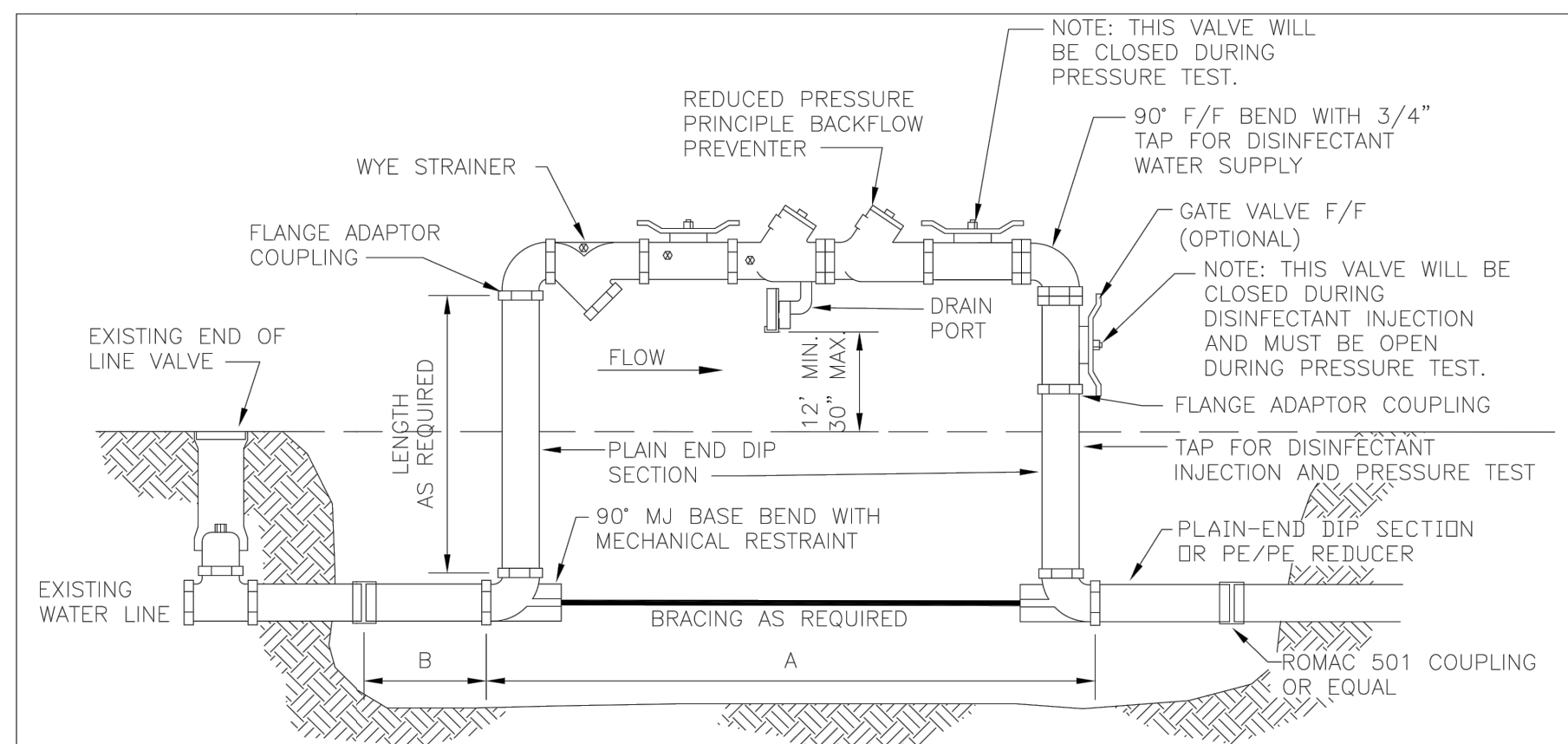


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DESIGNED BY: SM	 UTILITIES UNIT ENGINEERING SECTION 1555 MAIL SERVICES CENTER RALEIGH NC 27699-1555 PHONE (919) 707-6690 FAX (919) 250-4151
DRAWN BY: BCC	
CHECKED BY: SM	
APPROVED BY:	
DATE: 12/09/14	
REVISED:	

UTILITY CONSTRUCTION

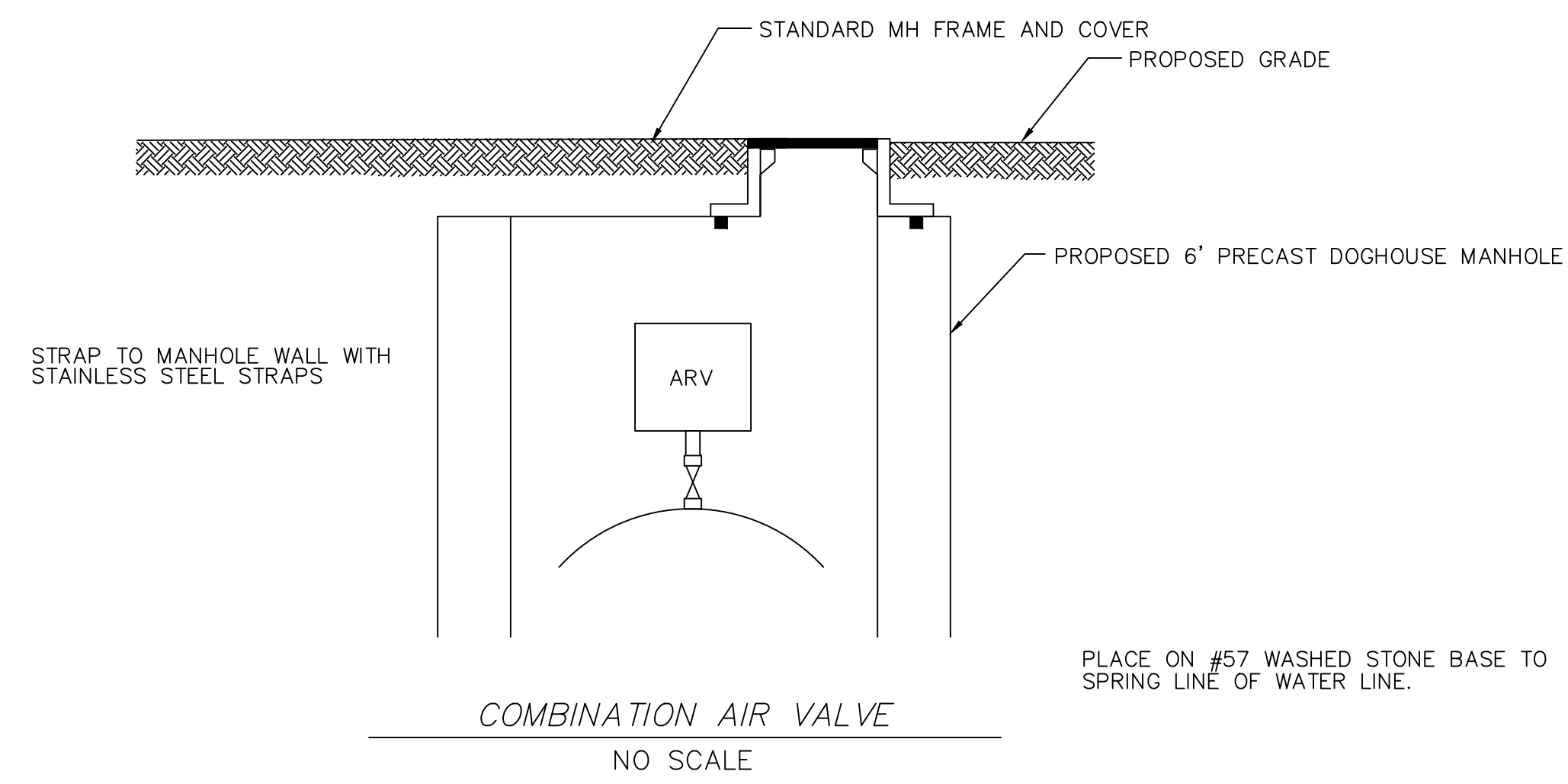


BACKFLOW DEVICE	A	WATER MAIN SIZE	B	WATER MAIN SIZE	MIN. BACKFLOW DEVICE SIZE	MIN. END OF LINE BLOWOFF
4"	6'-3"	6"	17"	6" OR 8"	2"	2"
6"	9"	8"	19"	12"	4"	2.5
8"	11'-2"	12"	22"	16"	6"	4"
		16"	26"	24"	8"	6"

WSACC
WATER AND SEWER AUTHORITY
OF CABARRUS COUNTY

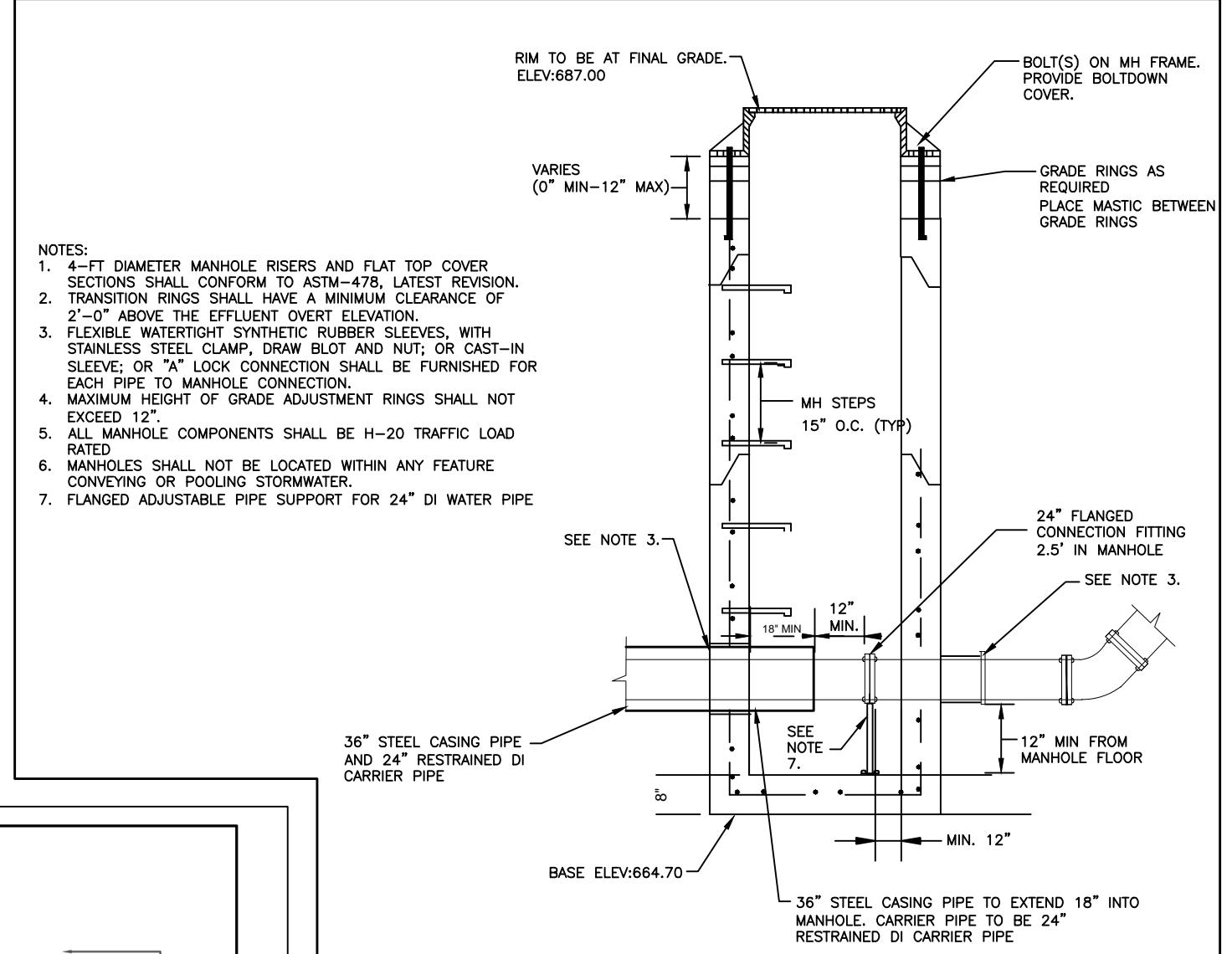
BACKFLOW PREVENTOR BY-PASS CONNECTION FOR FILLING NEW WATER MAINS
FILE NAME: W2.0 DATE: 8/06

REVISION NO.	DATE	BY	CHKD



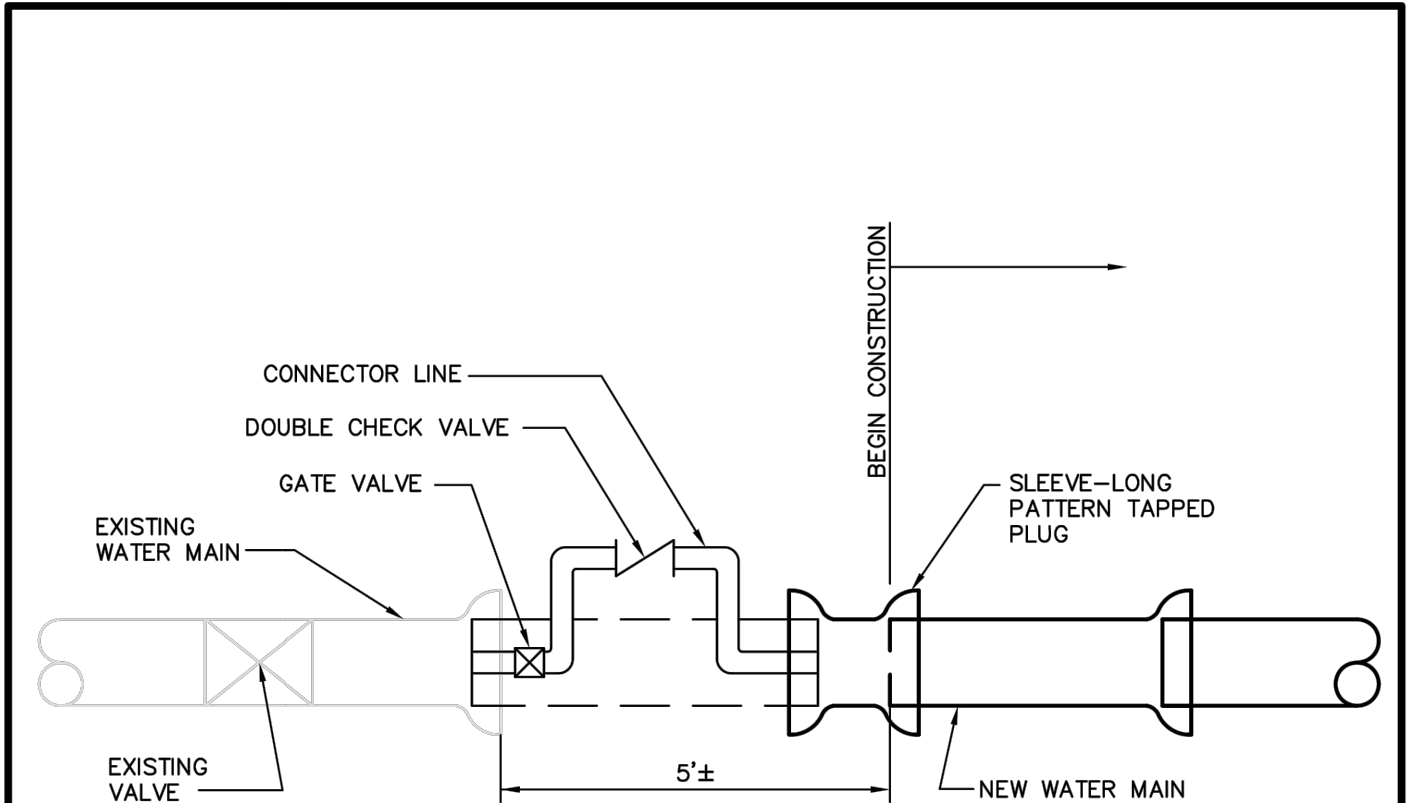
- MANHOLE SHALL BE RATED FOR NCDOT SH-20 LOADING
- ALL CONCRETE SHALL BE MINIMUM 4000 PSI COMPRESSIVE STRENGTH.
- STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857
- REBARS SHALL BE GRADE 60 PER ASTM 185
- DIAGONAL REINFORCING SHALL BE ADDED TO ALL OPENINGS.
- VALVE TO BE LOCATED AT THE CENTER LINE OF MANHOLE.
- FRAME TO BE FLUSH WITH THE GROUND IN MAINTAINED ROAD OR YARD R/W.
- ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC

COMBINATION VALVE SIZES		
STA.	AIR/VACUUM VALVE	
	3"	



- NOTES:
- 4'-FT DIAMETER MANHOLE RISERS AND FLAT TOP COVER SECTIONS SHALL CONFORM TO ASTM-478, LATEST REVISION.
 - TRANSITION RINGS SHALL HAVE A MINIMUM CLEARANCE OF 2'-0" ABOVE THE EFFLUENT OVERT ELEVATION.
 - FLEXIBLE WATERTIGHT SYNTHETIC RUBBER SLEEVES, WITH STAINLESS STEEL CLAMP, DRUM BOLT AND NUT, OR CAST-IN SLEEVE, OR "A" LOCK CONNECTION SHALL BE FURNISHED FOR EACH PIPE TO MANHOLE CONNECTION.
 - MAXIMUM HEIGHT OF GRADE ADJUSTMENT RINGS SHALL NOT EXCEED 12".
 - ALL MANHOLE COMPONENTS SHALL BE H-20 TRAFFIC LOAD RATED.
 - MANHOLES SHALL NOT BE LOCATED WITHIN ANY FEATURE CONVEYING OR POOLING STORMWATER.
 - FLANGED ADJUSTABLE PIPE SUPPORT FOR 24" DI WATER PIPE.

CITY OF CONCORD STANDARD DETAIL							
WATER MAIN FLANGE & FITTINGS							
4" DIAMETER PRECAST CONCRETE MANHOLE							
No.	Date	By	REVISION	Approved By:	Date	Sh#	of



- NOTES:
- INSTALL CONNECTOR LINE FROM EXISTING BLOW OFF ASSEMBLY TO NEW MAIN FOR FILLING, TESTING AND STERILIZING NEW MAIN.
 - CONNECTOR LINE TO BE ASSEMBLED WITH CHECK VALVE AND TO BE OPERATED INDEPENDENT OF EXISTING MAIN.
 - BLOCKING ON EXISTING LINE NOT TO BE DISTURBED.
 - FINAL CONNECTION TO EXISTING MAIN TO BE MADE ONLY AFTER TOTAL PROJECT IS ACCEPTED BY THE OWNER.
 - VALVES ON EXISTING SYSTEM TO BE OPERATED BY OWNER FORCES ONLY.
 - ONLY ONE CONNECTION WILL BE ALLOWED BETWEEN THE EXISTING SYSTEM AND THE NEW CONSTRUCTION UNTIL TESTING AND DISINFECTATION IS COMPLETE.

WSACC
WATER AND SEWER AUTHORITY
OF CABARRUS COUNTY

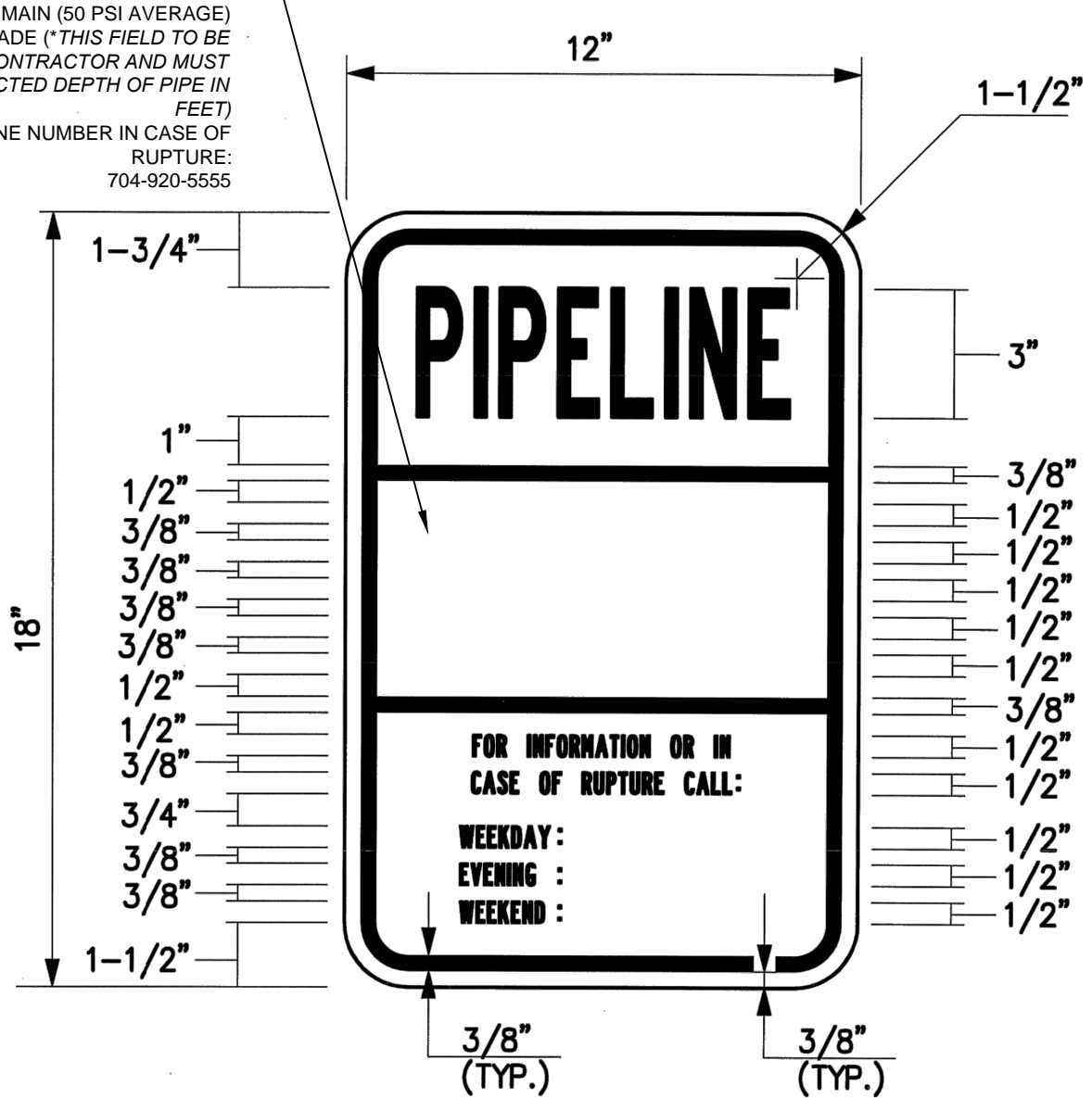
JUMPER CONNECTION

FILE NAME: W 13.0 DATE: 2/08

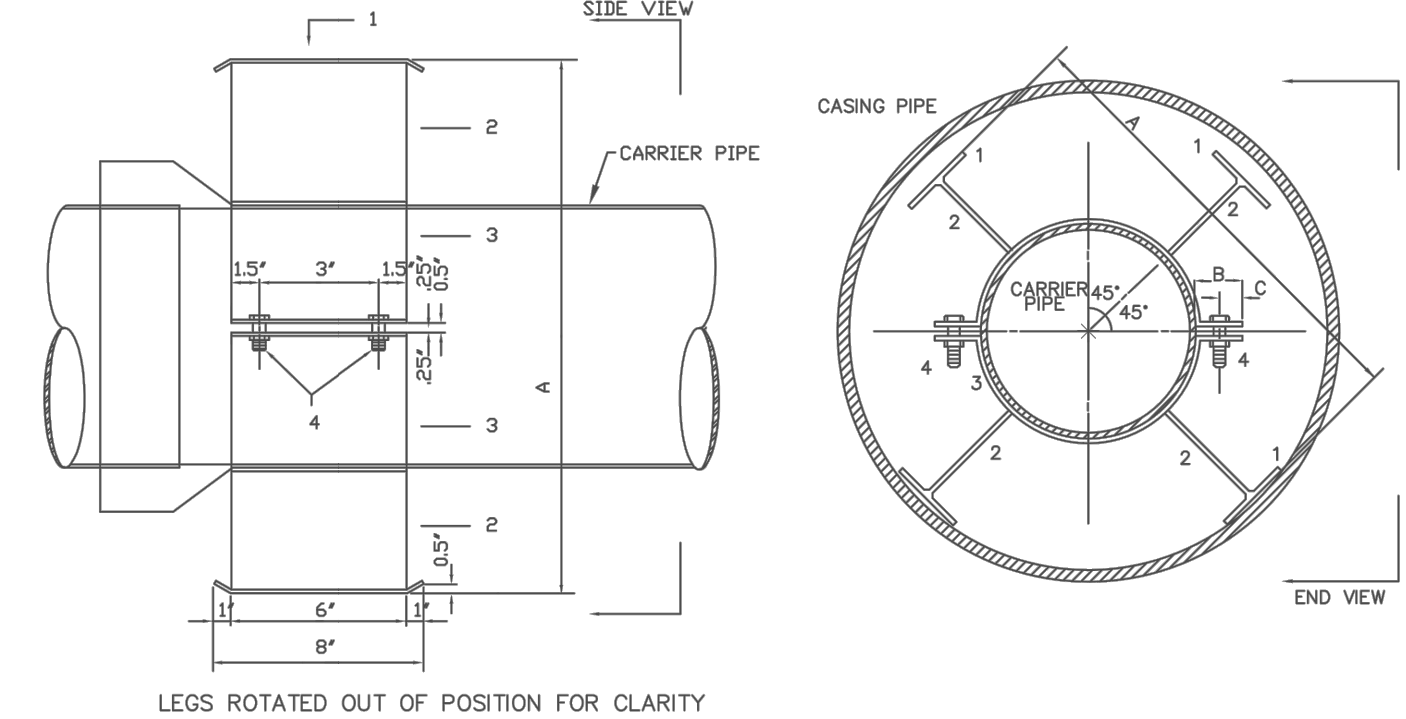
REVISION NO.	DATE	BY	CHKD

PLATE XI
SAMPLE WEATHERPROOF SIGN

THIS AREA SHOULD CONTAIN THE FOLLOWING:
CITY OF CONCORD
PO BOX 308, CONCORD, NC 28026
24" RAW WATER MAIN (50 PSI AVERAGE)
"XX" BELOW GRADE (THIS FIELD TO BE COMPLETED BY THE CONTRACTOR AND MUST REFLECT THE CONSTRUCTED DEPTH OF PIPE IN FEET)
EMERGENCY TELEPHONE NUMBER IN CASE OF RUPTURE:
704-920-5555



- SIGN DATA:**
- 1/8" ALUMINUM PANEL
 - 3M SCOTCH LITE "ENGINEER GRADE" SHEETING OR APPROVED EQUAL
 - RED COPY ON WHITE BACKGROUND
 - MOUNT SIGN PANEL 5' ABOVE GRADE (MIN.)
 - USE 2 LB/FT U-CHANNEL POST (MIN.)
 - MOUNT SIGNS BACK-TO-BACK ON POST.



CARRIER PIPE NOMINAL DIA.	CASING PIPE				SPIDER DIMENSIONS			
	O. D.	O. D.	WALL	O. D.	WALL	A	B	C
6"	6.90"	12.75"	0.188"	12.75"	0.250"	11"	1 1/4"	5/8"
8"	9.05"	18"	0.250"	18"	0.312"	16 1/2"	2 1/4"	1"
12"	13.20"	24"	0.250"	24"	0.406"	22 1/2"	3"	1 1/4"
16"	17.40"	30"	0.312"	30"	0.500"	28 1/2"	3 1/2"	1"
24"	25.80"	36"	0.375"	36"	0.5625"	34 1/2"	4"	2"

- NOTES:
- CARRIER PIPE IS RESTRAINED PUSH-ON JOINT DIP, PROVIDE TWO SPIDERS PER JOINT OF CARRIER PIPE.
 - SPIDERS, NUTS, BOLTS & WASHERS SHALL BE STAINLESS STEEL.
 - ADJUST HEIGHT OF SPIDERS AS NECESSARY TO MAINTAIN SPECIFIED SLOPE.
 - CASING PIPE MATERIAL IS STEEL.

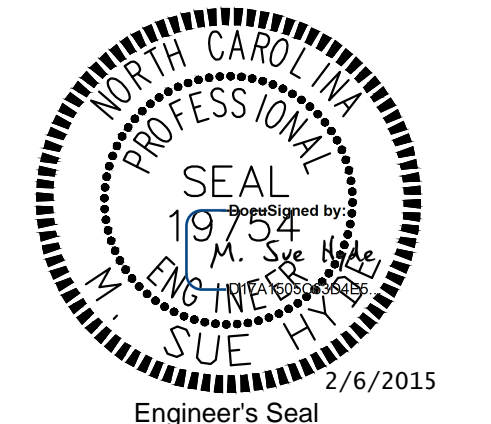
CONCORD
NORTH CAROLINA
High Performance Living

CITY OF CONCORD
STANDARD DETAIL
CASING PIPE
SPIDERS


No.	Date	By	REVISION	Approved By:	Date	Sh#	of

CONCORD
NORTH CAROLINA
High Performance Living

PREPARED BY
ENGINEERING DEPARTMENT
CITY OF CONCORD
P.O. BOX 308
CONCORD N.C. 28026
(704) 920-5425

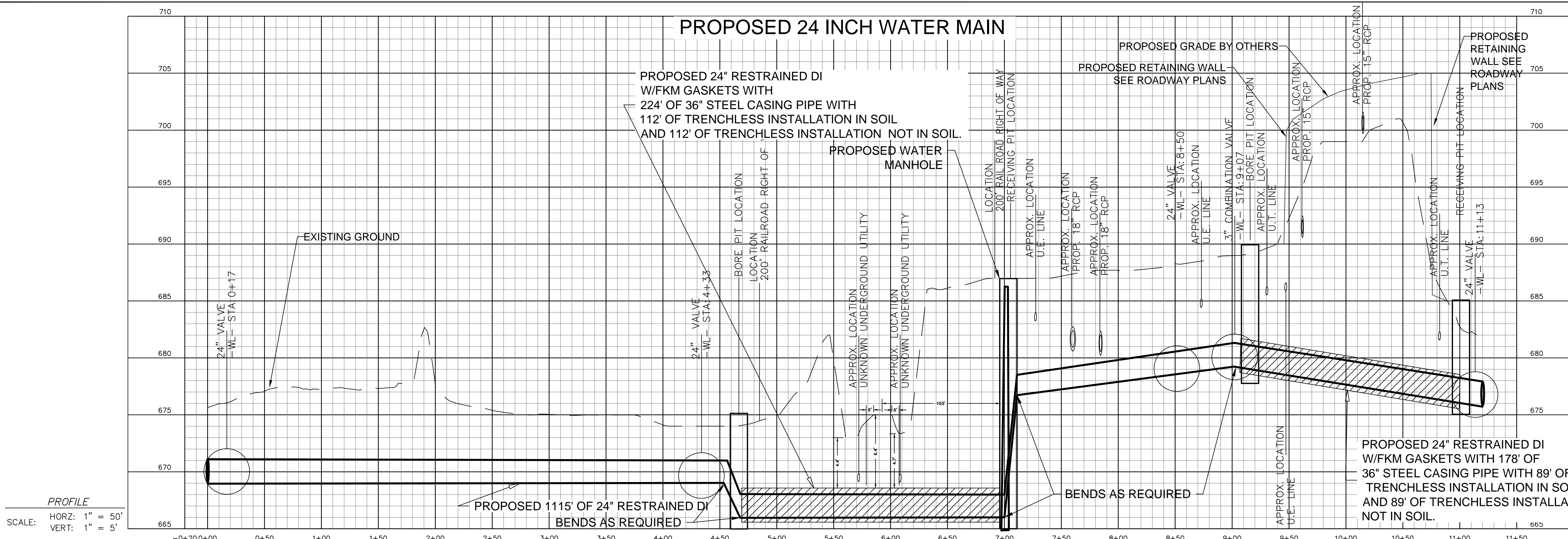


PROPOSED 24 INCH WATER MAIN

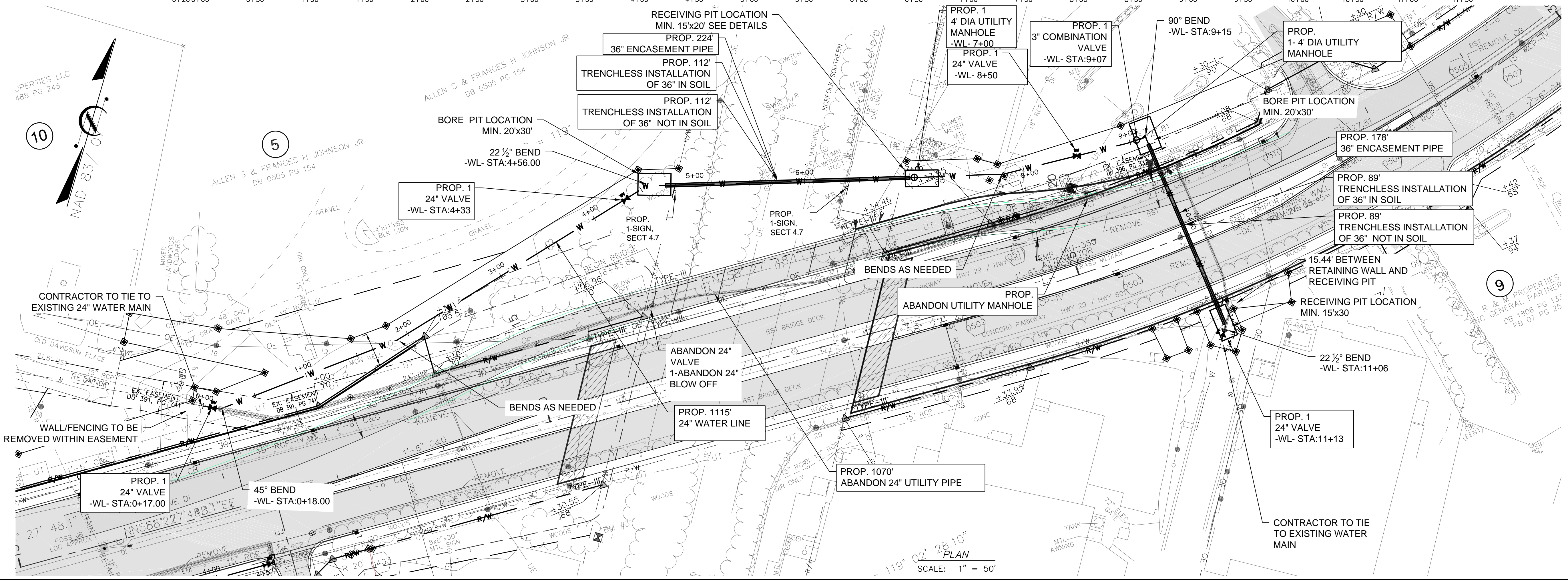
PROJECT REFERENCE NO. B-5136	SHEET NO. UC-4
DESIGNED BY: SM	 UTILITIES UNIT UTILITIES ENGINEERING SECTION 1555 MAIL SERVICES CENTER RALEIGH NC 27699-1555 PHONE (919) 707-6690 FAX (919) 250-4151
DRAWN BY: BCC	
CHECKED BY: SM	
APPROVED BY:	
DATE: 12/09/14	
REVISED:	

UTILITY CONSTRUCTION

NOTE:
CONTRACTOR TO CONFIRM LOCATION OF UNKNOWN UTILITIES PRIOR TO BORE. ANY ADJUSTMENTS WILL REQUIRE RAIL ROAD APPROVAL



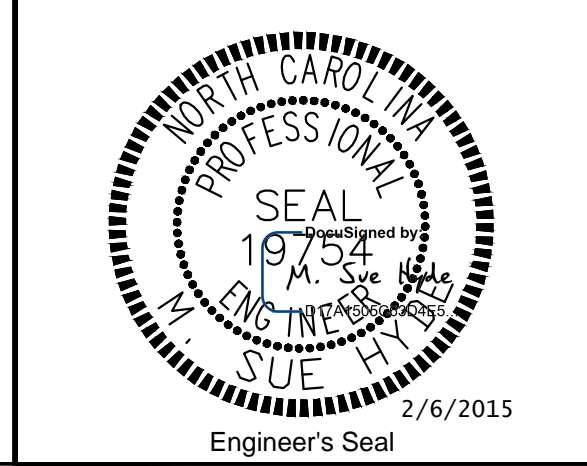
PROFILE
SCALE: HORZ: 1" = 50'
VERT: 1" = 5'



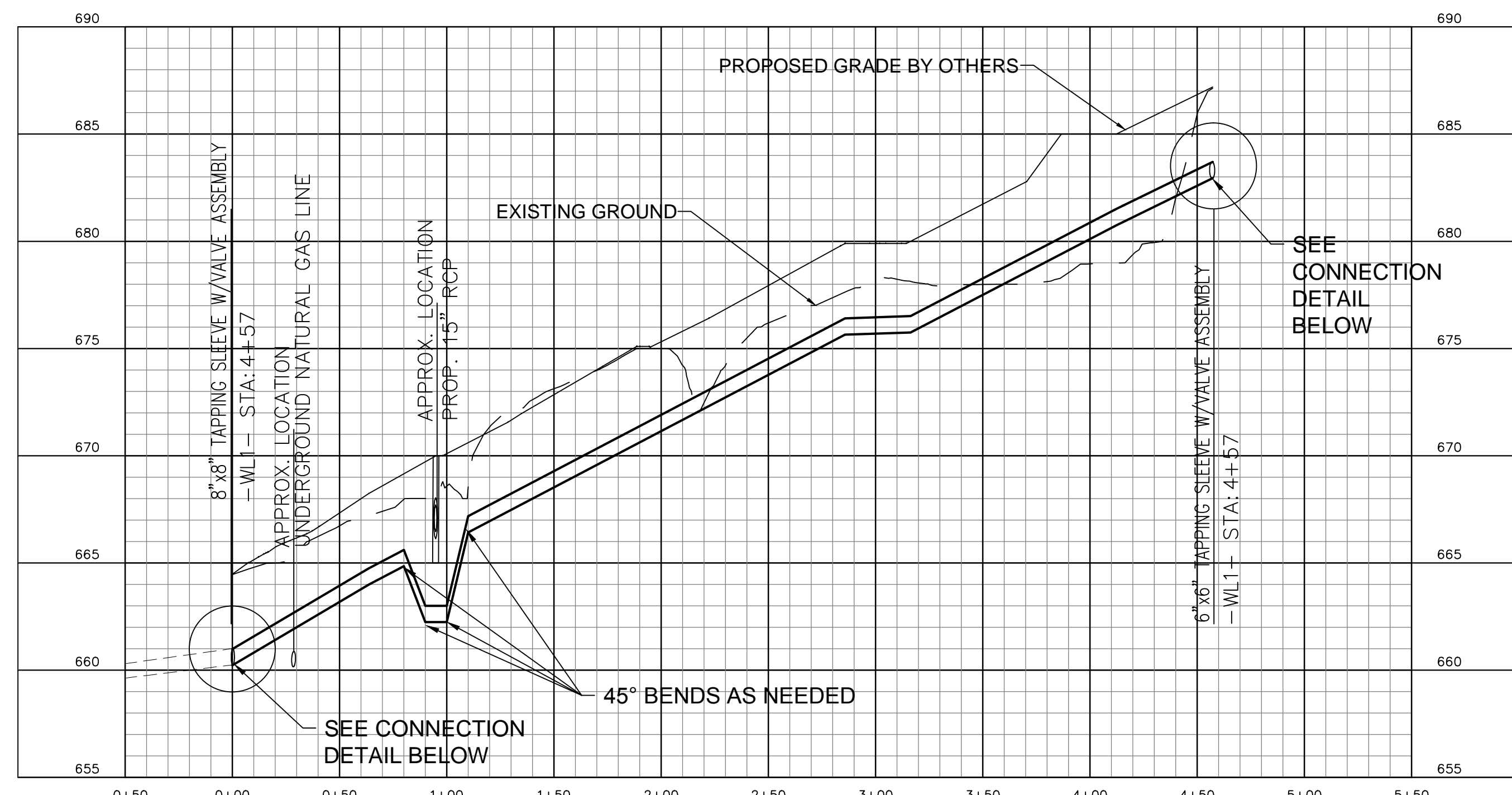
119° 02' 28.10"
SCALE: 1" = 50'



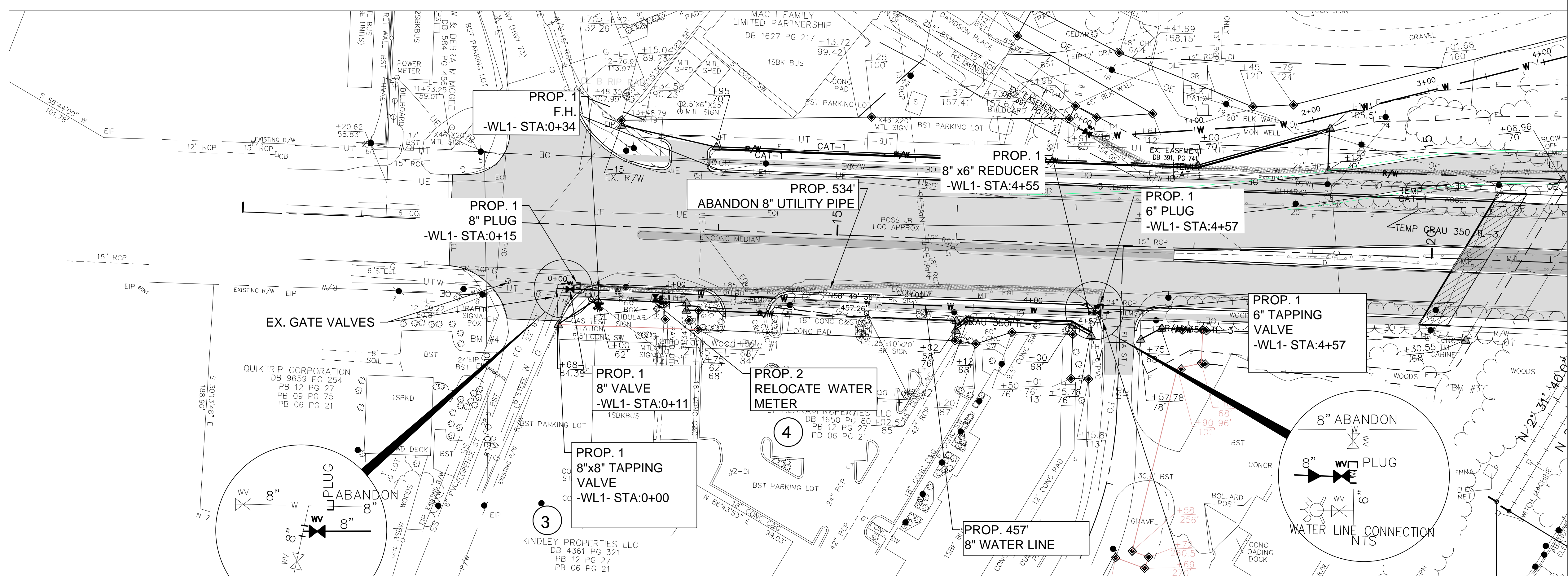
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PROPOSED 8 INCH WATER MAIN



PROFILE
 SCALE: HORZ: 1" = 50'
 VERT: 1" = 5'



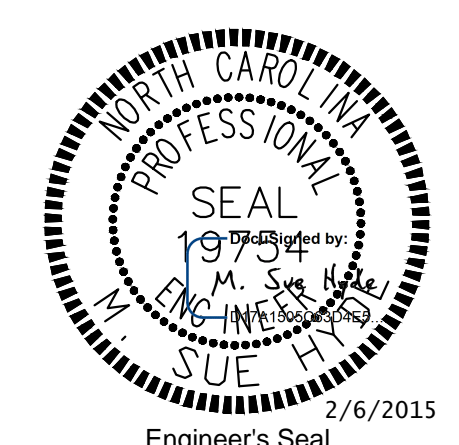
PLAN
 SCALE: 1" = 50'

DESIGNED BY: SM	 UTILITIES UNIT UTILITIES ENGINEERING SECTION 1555 MAIL SERVICES CENTER RALEIGH NC 27689-1555 PHONE (919) 707-6690 FAX (919) 250-4151
DRAWN BY: BCC	
CHECKED BY: SM	
APPROVED BY:	
DATE: 12/09/14	
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UTILITY CONSTRUCTION



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