



Engineer's Seal

Surveyor's Seal

**CITY OF CONCORD  
CONCORD, NORTH CAROLINA**

**SHAMROCK ST  
CULVERT REPLACEMENT  
PROJECT # :2015-008**

**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. STABILIZATION FOR THIS PROJECT SHALL COMPLY WITH THE TIME FRAME GUIDELINES AS SPECIFIED BY THE NC-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.
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 SEED 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 (WSACC) 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 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**

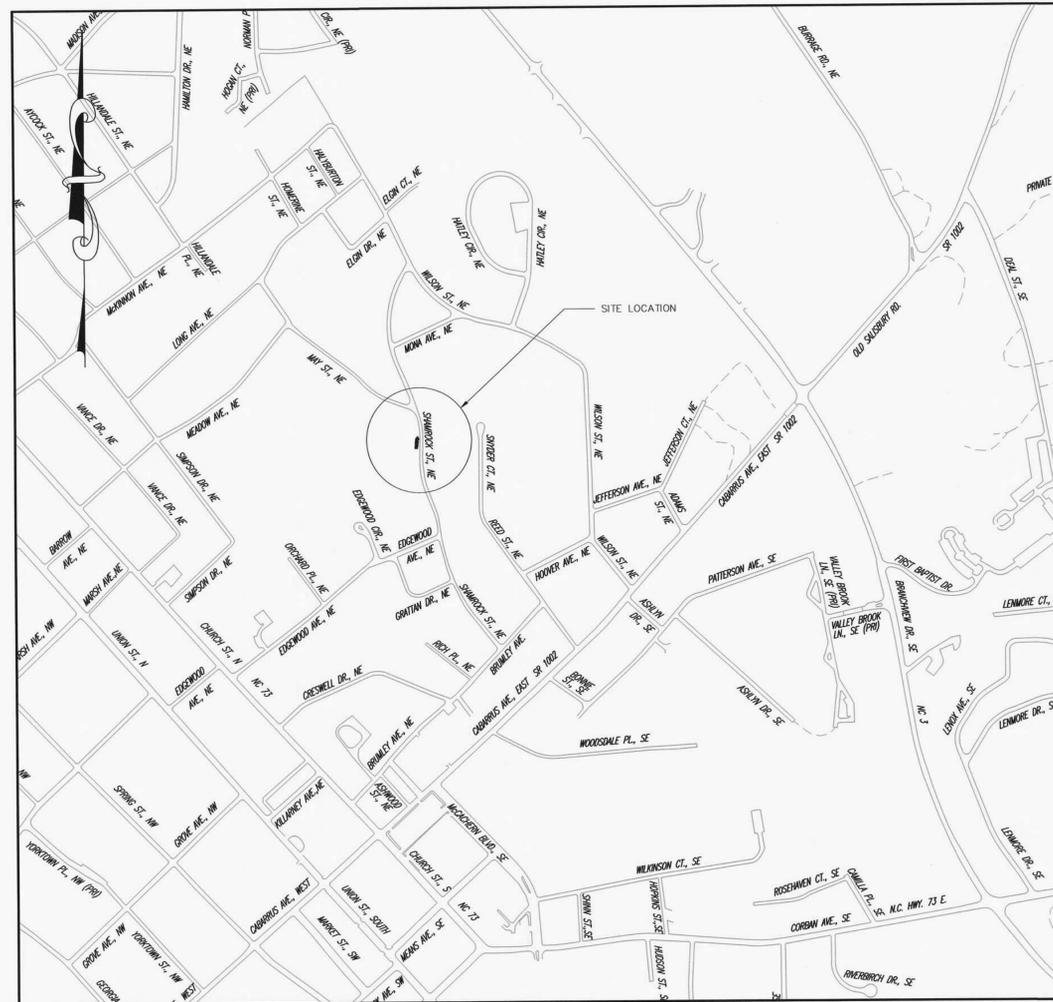
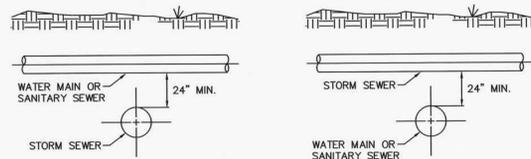
1. RIGHT-OF-WAY LINES AND PROPERTY LINES ARE SHOWN ON THE DESIGN DRAWINGS AND ARE FOR REFERENCE ONLY. FOR EXACT LOCATIONS REFER TO THE SURVEY PLATS BY THE CITY OF CONCORD'S CONSULTING REGISTERED LAND SURVEYOR OR BY THE CITY SURVEYOR.
2. REFER TO STANDARDS AND SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION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

**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)



VICINITY MAP  
SCALE: N.T.S.

**NARRATIVE DESCRIPTION**

THIS PROJECT CONSISTS OF THE INSTALLATION OF A 58' LONG, 9'x6' CONCRETE BOX CULVERT TO REPLACE EXISTING 36" CMP. THIS PROJECT ALSO CONSISTS OF THE INSTALLATION OF APPROXIMATELY 58± LINEAR FEET OF 10" GRAVITY SEWER AND APPROXIMATELY 88± LINEAR FEET OF 8" DI WATER MAIN ALONG WITH APPURTENANCES AND OTHER ASSOCIATED PROJECT WORK, FOR THE PURPOSE OF REPLACING THE FAILING CULVERT ON SHAMROCK ST.

THE PROJECTED AMOUNT OF GROUND DISTURBANCE IS 0.25 ± ACRES.

WORK SHALL PROCEED IN SUCH A MANNER SO AS TO LIMIT THE AMOUNT OF GROUND DISTURBANCE BY HAVING ONLY ONE SECTION OF THE DITCH OPEN AT A TIME THEREBY REDUCING THE POTENTIAL FOR LARGE QUANTITIES OF SEDIMENT TO BE TRANSPORTED OFF SITE.

SEEDING OF DENUDE AREAS SHALL BE DONE AS SOON AS POSSIBLE, BUT IN NO CASE LONGER THAN 10 DAYS AND IN ACCORDANCE WITH THE SPECIFICATIONS GIVEN IN THE PLANS. REMOVAL OF ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL ONLY BE DONE AFTER APPROVAL HAS BEEN COORDINATED WITH THE DEPARTMENT OF ENVIRONMENTAL HEALTH AND NATURAL RESOURCES, THE CITY OF CONCORD, AND THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION.

LOCATION AND PROTECTION OF ALL UTILITIES IN THE WORK AREA SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR (SEE "PROTECTION OF EXISTING UTILITIES") PLEASE NOTICE THAT THIS PROJECT CROSSES SEVERAL UNDERGROUND UTILITIES ALONG THE ROUTE OF WORK. MINIMUM SEPARATIONS BETWEEN THE NEW SEWER LINES AND THESE UTILITIES SHALL BE HELD AT ALL TIMES. IN THE EVENT OF AN UNFORESEEN CONFLICT, THE CONTRACTOR SHALL NOTIFY THE CITY OF CONCORD ENGINEERING DEPARTMENT IMMEDIATELY. ALL TRAFFIC CONTROL AND SAFETY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONDUCTED IN STRICT ACCORDANCE WITH THE LATEST REVISION OF PART IV OF THE M.U.T.C.D., NCDOT, OSHA AND ALL OTHER LOCAL, STATE AND FEDERAL REGULATIONS.

COMPLETION OF THIS PROJECT IS ANTICIPATED TO TAKE 60 DAYS AFTER NOTICE BY THE CITY OF CONCORD TO PROCEED. FINAL COMPLETION AND ACCEPTANCE OF THE WORK IS ANTICIPATED TO BE SUMMER 2016.

**LEGEND**

- PROPOSED SEWER LINE, MANHOLE & CLEAN-OUT
- PROPOSED WATER LINE
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED BLOW-OFF
- SEDIMENT FENCING
- DA-GLO ORANGE PERSONNEL FENCING
- 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
- TEMPORARY CONSTRUCTION EASEMENT
- 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

**DRAWING INDEX**

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6	WATER MAIN PLAN & PROFILE
7	STANDARD CULVERT DETAILS
8	STANDARD STEP POOL DETAILS
9	STANDARD PUMP AROUND STREAM DETAIL
10	STANDARD STORM SEWER DETAILS
11	STANDARD SANITARY SEWER DETAILS
12	STANDARD WATER DETAILS
13	STANDARD EROSION CONTROL DETAILS
14	TRAFFIC CONTROL PLAN

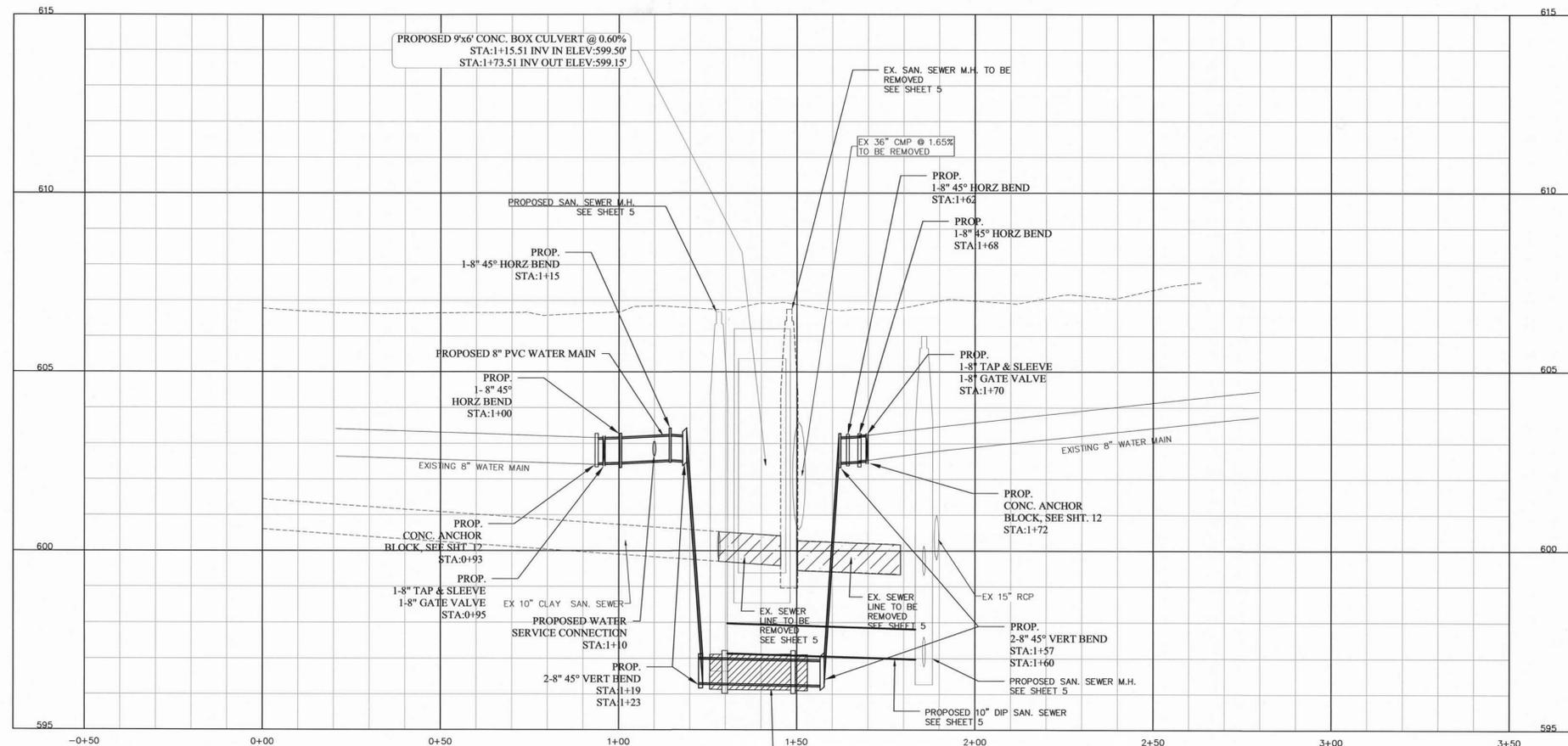
REV. #	DATE	DESCRIPTION	BY



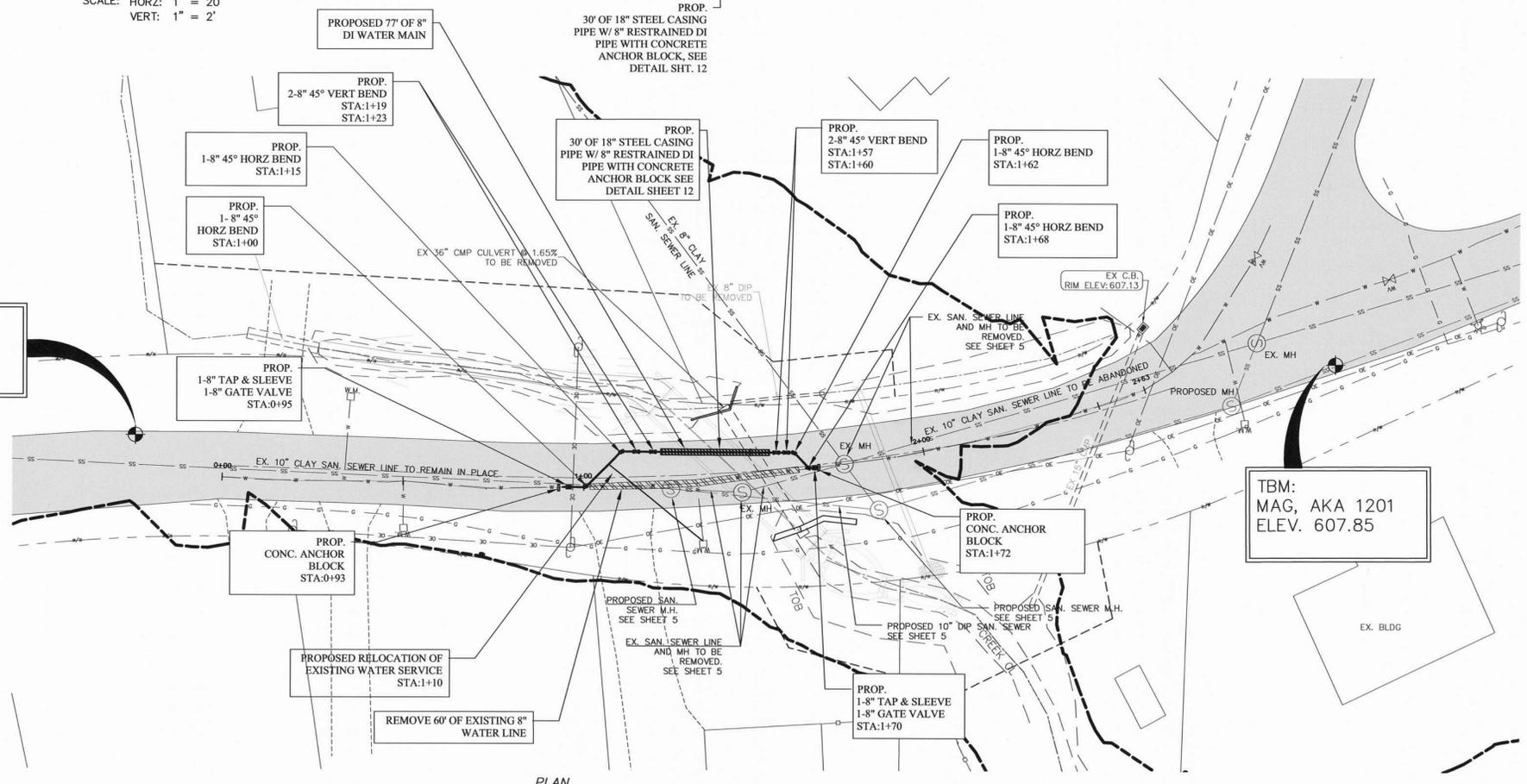








PROFILE  
SCALE: HORIZ: 1" = 20'  
VERT: 1" = 2'



PLAN  
SCALE: 1" = 20'

NOTE:  
1. ALL PROPOSED WATER MAIN TO HAVE RESTRAINED JOINTS.  
2. PROPOSED WATER LINE LENGTH IS APPROXIMATE, ACTUAL LENGTH AND LOCATION TO BE DETERMINED IN THE FIELD.

TBM:  
TP-NAIL  
ELEV. 607.33

TBM:  
MAG, AKA 1201  
ELEV. 607.85

PROTECTION OF EXISTING UTILITIES  
THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AGENCY FOR THE EXACT FIELD LOCATIONS OF ALL WATER, SEWER, ELECTRIC, TELEPHONE, TELEVISION AND ANY OTHER UNDERGROUND AND OVERHEAD UTILITY BEFORE STARTING CONSTRUCTION. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE CONTRACT DRAWINGS IS NOT TO BE CONSIDERED AS THE RESPONSIBILITY OF OR A DUTY OF THE LOCATION OF EXISTING UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF WORK.

THE FOLLOWING LISTING OF UTILITY COMPANIES (WHICH MAY OR MAY NOT BE COMPLETE) MAY HAVE EXISTING UNDERGROUND OR OVERHEAD UTILITIES IN THE CONTRACT VICINITY.

COMPANY NAME	OFFICE	AFTER HOURS EMERGENCY
Attract	319.26.6277.5335	1.800.331.9080
Carolina Water - Utilities Inc. (Zemosa Area)	704.920.2143	704.920.3600
Carolina Water - Utilities Inc. (Zemosa Area)	704.920.7990	704.920.7990
City of Concord Electric Systems	704.920.5315	704.920.5555
City of Concord Emergency Mgmt	704.920.5528	704.920.5555
Colonial Pipeline Company	704.392.8610	704.392.8610
CSX Railroad	N/A	1.800.332.6144
Duke Energy	1.800.769.3766	1.800.769.3766
NC Dept. of Transportation	704.982.0104	704.966.7700 Steady Co Comm
NC One Call Center Area Rep.	1.336.825.5760	1.800.632.6949
North Carolina Railroad Company	319.354.7601	N/A
North Carolina Southern Railway	N/A	1.800.453.2530
Piedmont Natural Gas (aka NCGN)	704.364.3120	1.800.752.7044
Plantation Pipeline	N/A	1.800.518.6078
PSNC Energy Concord	704.723.4310	1.877.776.2427
Sprint Embargo	N/A	1.888.723.8010
Time Warner Cable Concord	704.378.2856	1.800.769.3766
Union Power	N/A	1.800.922.6840
USOneLocator Concord	704.964.8333	1.800.632.6949 NC One Call
Water & Sewer Authority of Cabarrus Co.	704.786.1783	704.786.1783 RRWWTP
Westminster	704.722.2090	1.800.806.6069

NOTE: SOME OF THE ABOVE COMPANIES DO NOT SUBSCRIBE TO CAROLINA ONE CALL (FORMERLY ILLCO)  
NORTH CAROLINA ONE CALL 1-800-632-4949



PREPARED BY  
ENGINEERING DEPARTMENT  
CITY OF CONCORD  
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Engineer's Seal

Surveyor's Seal

SHAMROCK ST  
CULVERT REPLACEMENT  
WATER MAIN  
PLAN & PROFILE  
PROJECT # : 2015-008

REV. #	DATE	DESCRIPTION	BY
1	02/25/16	REVISED NOTES PER PERMITTING COMMENTS	BCC

DESIGNED BY: CMS  
DRAWN BY: BCC  
CHECKED BY: EAB  
SCALE: AS SHOWN  
DATE: 12/18/15  
PROJECT NUMBER: 2015-008  
SHEET: 6 OF: 14















