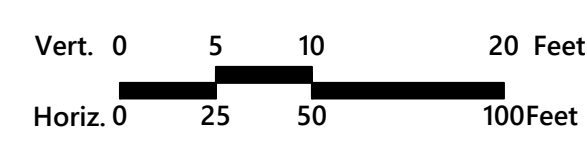
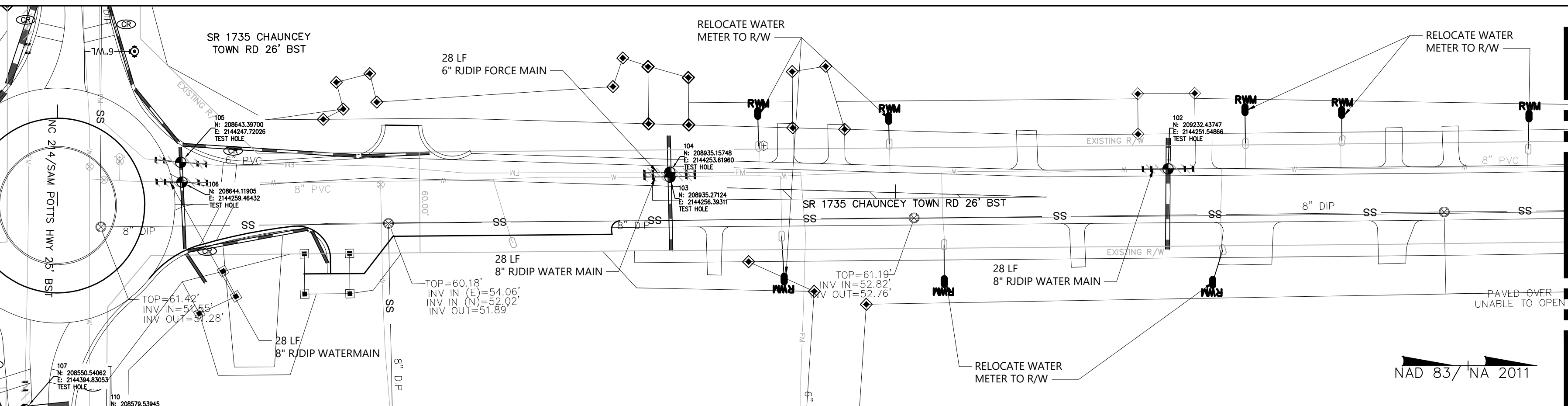


Tuesday, April 12, 2022 ANSI A (8.50 X 11.00 Inches)

4/12/2022 \\vhb.com\gbl\proj\Raleigh\38564.19 NCDOT Utilities\Ray\_Ut\Proj\Plan Sheets\R5819\_UC\_PLAN.dwg Mark Edwards



- GENERAL NOTES:**
- EX. TOPOGRAPHIC SURVEY AND SUE BY OTHERS. CONTRACTOR TO CONFIRM FINAL CONNECTION POINTS IN FIELD.
  - EX. WATER MAIN AND FORCE MAIN DEPTHS SHOWN ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION. ACTUAL DEPTH IS TO BE CONFIRMED IN FIELD.
  - EX. WATER MAIN AND FORCE MAIN MATERIALS SHOWN ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR IS RESPONSIBLE TO PROVIDE ADEQUATE PIPE MATERIAL TRANSITION AT ALL CONNECTIONS.

PROJECT REFERENCE NO. R5819/R5820	SHEET NO. UC-3
REVISION NO. 90% DESIGN - 11/30/21 100% DESIGN - 3/02/22	UTILITIES ENGINEER [Signature] SEAL 14101 [Signature]

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

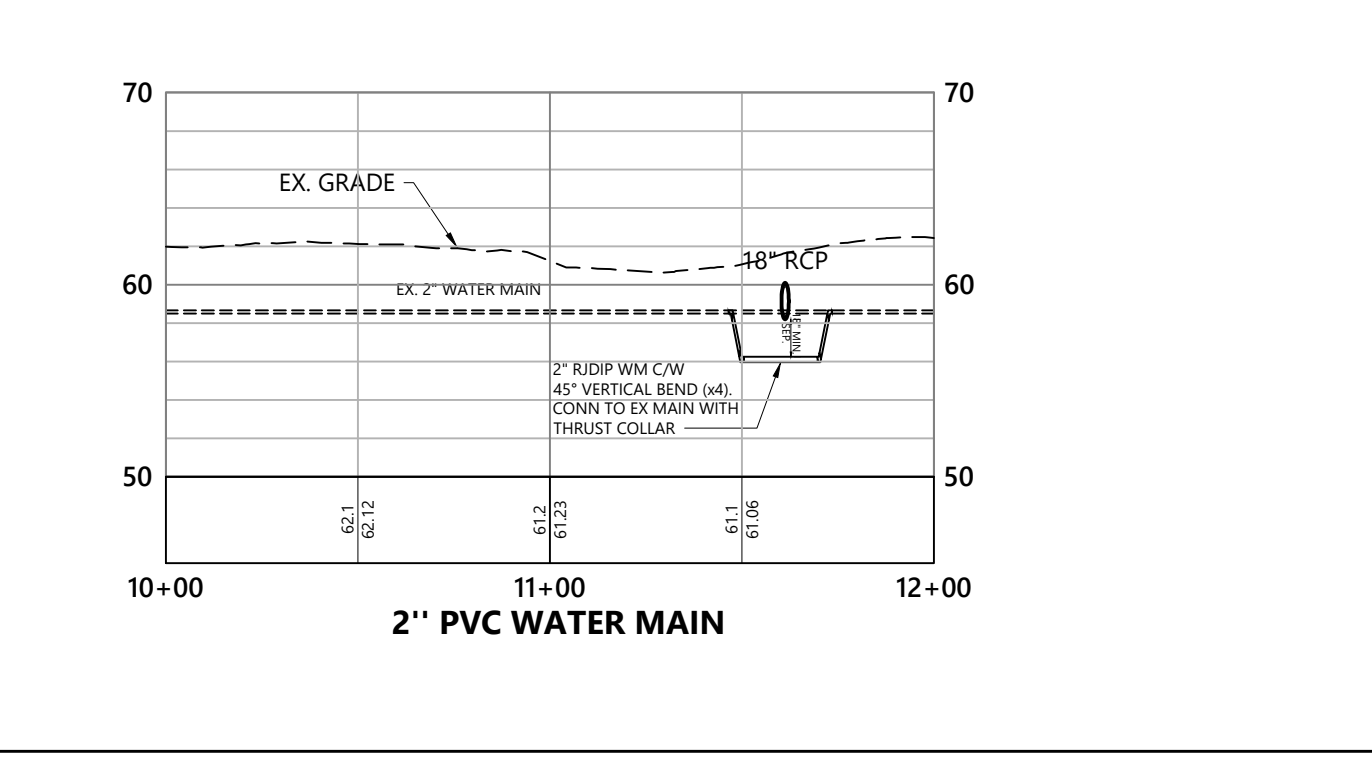
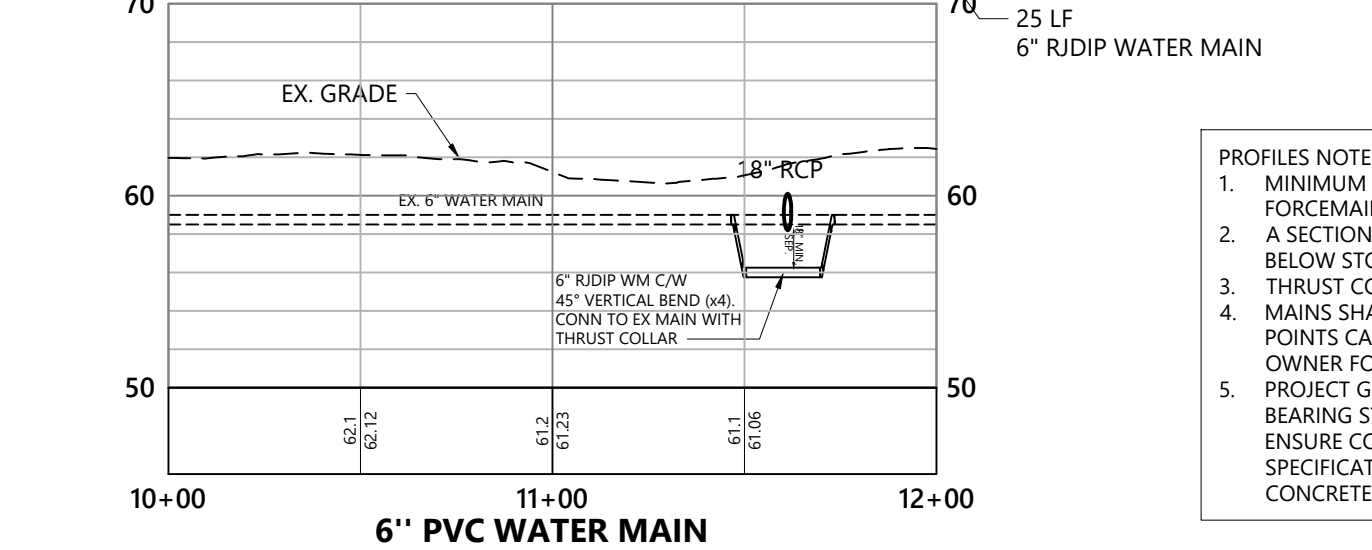
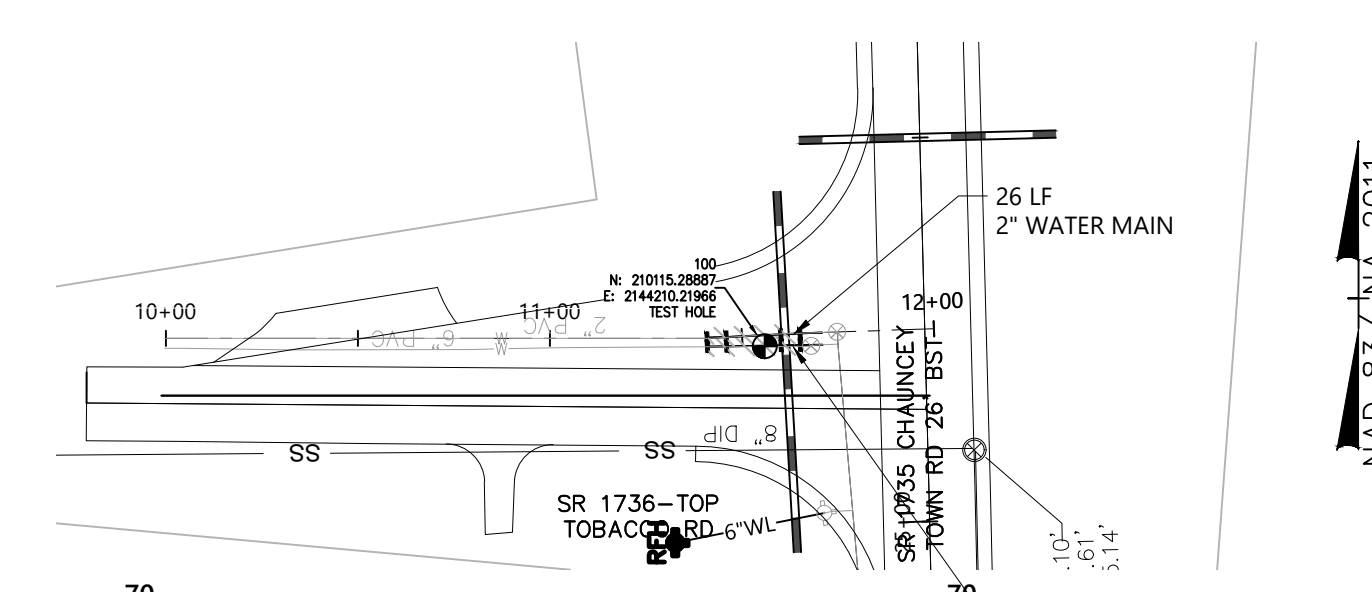
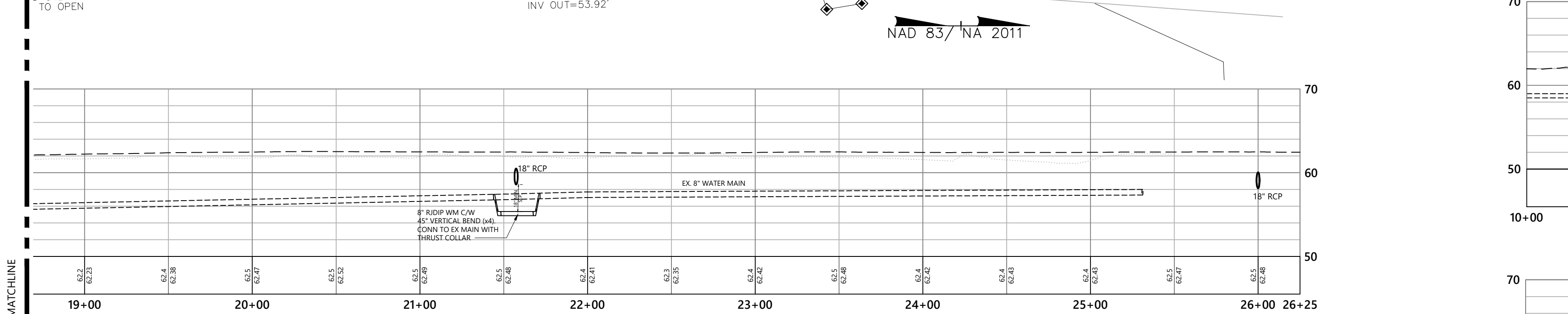
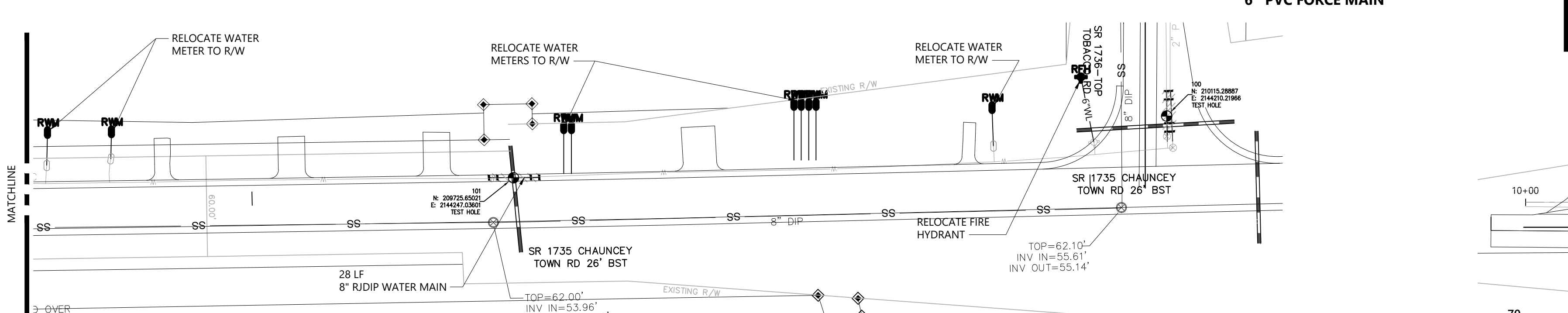
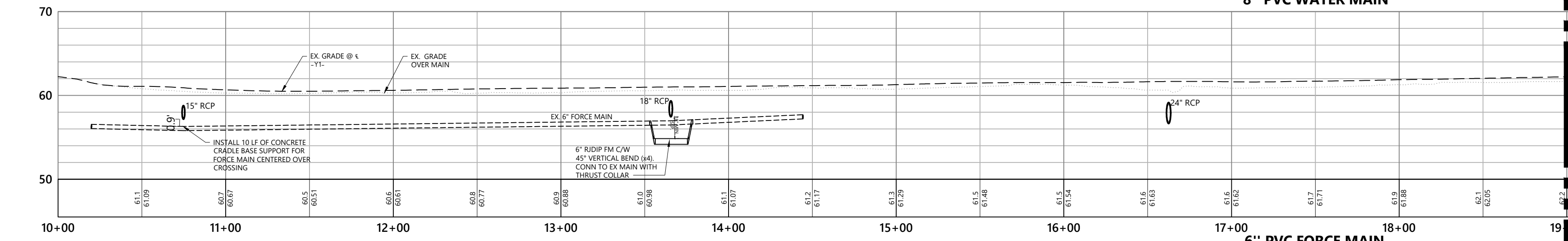
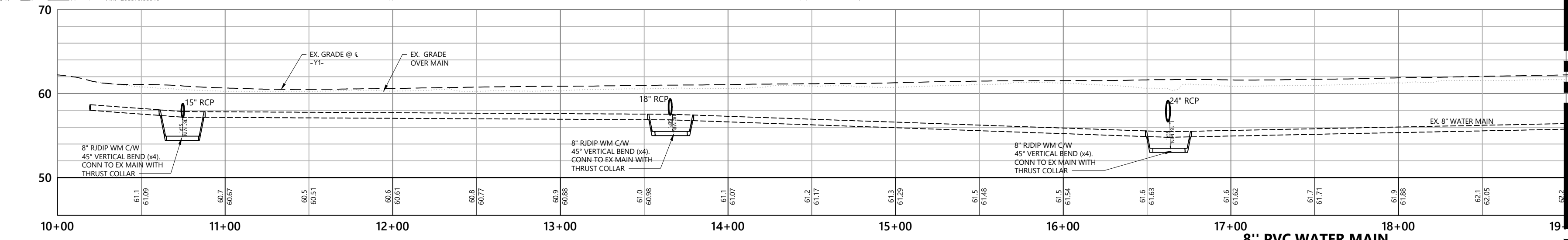
Prepared by  
  
 VHB Engineering NC, P.C. (C-3705)  
 940 Main Campus Drive, Suite 500  
 Raleigh, NC 27606

**LEGEND**

- EX. WATERLINE TO REMAIN
- EX. WATERLINE TO BE REMOVED/ABANDONED
- PROPOSED WATERLINE
- EX. SANITARY FORCEMAIN TO REMAIN
- EX. SANITARY FORCEMAIN TO BE REMOVED/ABANDONED
- PROPOSED 8" PVC FM

**Notes**

- ALL WORK ASSOCIATED WITH THE RELOCATION OF WATERMAINS OR SANITARY SEWER FORCEMAINS SHALL BE COMPLETED AS PER THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, LATEST EDITION, SUPPLEMENTED (AS REQUIRED) WITH THE FACILITIES OWNER STANDARD SPECIFICATIONS AS DESCRIBED IN THE PROJECT SPECIFIC SPECIAL PROVISIONS.
- ALL MAINS SHALL BE INSTALLED WITH A MINIMUM OF 36 INCHES OF COVER.
- WATER MAINS SHALL BE AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS. WHERE LOCAL CONDITIONS PREVENT A SEPARATION OF 10 FEET, THE WATER MAIN MAY BE LAID CLOSER, PROVIDED THAT THE ELEVATION OF THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER WITH A HORIZONTAL SEPARATION OF AT LEAST 3 FEET.
- WATER MAINS SHALL MAINTAIN A MINIMUM 24" HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER MAIN AND STORM SEWER OR OTHER DRY UTILITIES.
- WHEN A PROPOSED WATER MAIN CROSSES UNDER A PROPOSED OR EXISTING SANITARY SEWER, CONSTRUCT BOTH THE WATER MAIN AND THE SEWER OF FERROUS MATERIALS WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. CENTER THE SECTION OF WATER PIPE AT THE POINT OF CROSSING.
- VERIFY ALL ILLUSTRATED UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF CONFLICTS ARE ENCOUNTERED.
- CONTRACTOR SHALL COORDINATE UTILITY RELOCATION OR ABANDONMENT WITH LOCAL UTILITY COMPANIES AS REQUIRED.
- ALL CONNECTIONS TO EXISTING WATER MAINS OR FORCE MAINS TO BE MADE WITH THRUST COLLAR AS PER THE DETAIL OF THESE PLANS.
- CONTRACTOR SHALL PROVIDE A VACUUM TRUCK ON-SITE TO CLEAN UP WASTEWATER SPILLAGE DURING CONNECTIONS TO EXISTING FORCE MAIN.
- CONTRACTOR SHALL COORDINATE CONNECTIONS TO EXISTING WATER MAINS AND FORCE MAINS WITH THE UTILITY OWNER SO AS TO MINIMIZE SERVICE INTERRUPTIONS.



- PROFILES NOTES:**
- MINIMUM COVER OF 36" TO BE MAINTAINED WITH WATER AND SANITARY FORCEMAIN INSTALLATION.
  - A SECTION OF DIP MAIN LINE SHALL BE CENTERED AT EVERY POINT OF CROSSING BELOW STORM SEWER.
  - THRUST COLLARS TO BE INSTALLED AT EVERY DEFLECTION POINT.
  - MAINS SHALL BE INSTALLED WITHOUT INTERMEDIATE HIGH POINTS. WHERE HIGH POINTS CAN NOT BE AVOIDED CONTRACTOR TO COORDINATE WITH UTILITY OWNER FOR AIR RELEASE REQUIREMENTS.
  - PROJECT GEOTECHNICAL ENGINEER TO VERIFY NATIVE OR PLACED SITE SOIL BEARING STRENGTH AND RESISTANCE AT EACH BEND AND THE LOCATION TO ENSURE CONCRETE THRUST BLOCK MINIMUM DESIGNS AS PER PROJECT SPECIFICATIONS ARE SUFFICIENT. WHERE MAINS ARE PLACED IN FILL ADDITIONAL CONCRETE AND REINFORCEMENT MAY BE WARRANTED.