

GENERAL UTILITY NOTES

- SUPPLY AND INSTALL ALL MATERIALS AND METHODS FOR WATERLINES, SANITARY SEWERS AND STORM DRAINAGE IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF THE CITY OF ROANOKE, THE WESTERN VIRGINIA WATER AUTHORITY, AND/OR THE VIRGINIA DEPARTMENT OF TRANSPORTATION "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS", LATEST EDITION.
- OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS 48 HOURS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM WESTERN VIRGINIA WATER AUTHORITY AND/OR CITY OF ROANOKE CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES.
- ALL WORK SHALL BE SUBJECT TO INSPECTION BY WESTERN VIRGINIA WATER AUTHORITY AND/OR CITY OF ROANOKE. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.
- SITE SHALL BE TO SUBGRADE PRIOR TO INSTALLATION OF UTILITIES. ALL UTILITIES SHALL BE IN PLACE PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIAL.
- USE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES, AND DEBRIS FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12) INCHES ABOVE THE PIPE.
- MINIMIZE ANY DISTURBANCE TO EXISTING WATER SERVICE, SEWER LINES OR ANY OTHER UTILITY DURING CONSTRUCTION AND PROVIDE QUALITY WORKMANSHIP.
- MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND/OR WESTERN VIRGINIA WATER AUTHORITY SPECIFICATIONS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.
- MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MANHOLES; MEASURE THE DISTANCE EDGE-TO-EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER. WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, CONSTRUCT THE SEWER OF AWWA APPROVED WATER PIPE AND PRESSURE TREAT IN PLACE PRIOR TO BACKFILLING. THE SEWER MANHOLE SHALL BE OF WATERTIGHT CONSTRUCTION TESTED IN PLACE.
- SEWER AND WATER TAPS SHALL BE LOCATED BY THE CONTRACTOR, PERFORMED BY THE CONTRACTOR/DEVELOPER AND INSPECTED BY THE WESTERN VIRGINIA WATER AUTHORITY.
- LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS WHERE UTILITIES ENTER THE BUILDING.
- PRIOR TO COMMENCING WITH ANY UNDERGROUND PIPE CONSTRUCTION OR GRADING (EXCAVATION), THE GENERAL CONTRACTOR SHALL CALL MISS UTILITY OF VIRGINIA (TOLL FREE 1-800-552-7001) AT LEAST 48 HOURS PRIOR TO COMMENCING. THE G.C. IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF NOT CONTACTING MISS UTILITY AND SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER/DEVELOPER.
- EXISTING UTILITY LOCATIONS SHOWN ARE A RESULT OF FIELD SURVEYS, AND AVAILABLE RECORDS AND PREVIOUSLY APPROVED PLANS. LOCATIONS ARE APPROXIMATE. GENERAL CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF: 1) ANY LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, 2) IF THERE APPEARS TO BE ANY CONFLICT, UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS, G.C. SHALL CALL "MISS UTILITY" OF VIRGINIA AND/OR CITY OF ROANOKE AND/OR WESTERN VIRGINIA WATER AUTHORITY.
- PROVIDE A CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL PIPE. REMOVE STONES AND ROCKS FOUND IN THE TRENCH FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMP SELECT FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, BACKFILL THE TRENCH WITH SELECT MATERIAL, THOROUGHLY COMPACT TO 90% (95% UNDER PAVEMENT OR CONCRETE SLAB) OF THE STANDARD PROCTOR (ASTM D-698) USING CARE NOT TO DAMAGE THE PIPE. USE VDOT STANDARD PB-1 TRENCH FOR STORM SEWER AND UB-1 FOR SANITARY SEWER AND WATER.
- PLACE BACKFILL FOR ALL WATER AND SEWER UTILITIES IN ACCORDANCE WITH WESTERN VIRGINIA WATER AUTHORITY SPECIFICATIONS, AND THE FOLLOWING CRITERIA: 1) BACKFILL NO TRENCH UNTIL INSPECTED BY WESTERN VIRGINIA WATER AUTHORITY. MATERIALS USED FOR BACKFILL FROM THE BOTTOM OF THE TRENCH TO TOP OF THE PIPE SHALL BE CRUSHER RUN, OR APPROVED EQUAL MATERIAL, THOROUGHLY AND CAREFULLY COMPACT THE BACKFILL MATERIAL. 2) COMPACT BACKFILL BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO ENSURE A SUITABLE SUBBASE ACCEPTABLE TO THE ROAD ENGINEER. IF THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACKFILLING, REMOVE IT AND USE AN ACCEPTABLE MATERIAL FOR BACKFILLING THE TRENCH.
- IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINAL GRADE PRIOR TO BEGINNING CONSTRUCTION.
- MINIMUM COVER OVER ALL WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.
- THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.
- CONNECT PIPE TO MANHOLES THROUGH PRE CAST OPENINGS AND JOIN WITH EITHER A FLEXIBLE BOOT ADAPTER OR A PIPE SEAL GASKET.

CONSTRUCTION SITE PLAN GENERAL NOTES
CONSTRUCTION METHODS

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, AND LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS, WHERE APPLICABLE. ANY WORK WITHIN SOUTH JEFFERSON AND RESERVE AVENUE SHALL ADHERE TO THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION WORK AND NOTIFY ENGINEER IMMEDIATELY IF LOCATIONS DIFFER FROM PLANS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-552-7001 OR 811 PRIOR TO ANY CONSTRUCTION WORK IN THIS AREA.

UNDERGROUND UTILITIES

- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING LINE AND GRADE FOR ALL DRY UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING DRY UTILITY LINES AND GRADES AGAINST ALL PROPOSED UTILITIES SHOWN ON THE PLANS. POTENTIAL CONFLICTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING TELEPHONE, CABLE, FIBER OPTIC, AND ELECTRICAL SERVICES TO THE PROJECT. CONTACT UTILITY PROVIDERS AS SOON AS POSSIBLE TO BEGIN COORDINATION.
- THE CONTRACTOR SHALL REVIEW SITE AND BUILDING DRAWINGS TO VERIFY COORDINATION OF UTILITY INVERTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.

TELEPHONE, FIBER OPTIC, CABLE, AND GAS LINE SERVICES

- CONTRACTOR SHALL HAVE "MISS UTILITY" MARK EXISTING UTILITY LINES PRIOR TO START OF CONSTRUCTION AND AS NECESSARY THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL REVIEW PLANS TO VERIFY EXISTING LOCATIONS MARKED IN THE FIELD MATCH THOSE SHOWN ON THE PLANS.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ANY POTENTIAL DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL POT-HOLE EXISTING UTILITIES AT CRITICAL CROSSING LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND PROVIDE ENGINEER WITH LINE AND GRADE INFORMATION.

SANITARY SEWER SCHEDULE:

EX	S.S. MANHOLE	TOP=99.66 INV. IN=90.11 INV. OUT=90.01
EX (B)	29 LF OF 8" PVC SDR-35 AT 2.74%	
(B)	S.S. MANHOLE	TOP=99.75 INV. IN=91.01 INV. OUT=90.51
(B) (A)	120 LF OF 8" PVC SDR-35 AT 2.40%	
(A)	S.S. MANHOLE	TOP=100.0 INV. IN=94.00 INV. OUT=93.90

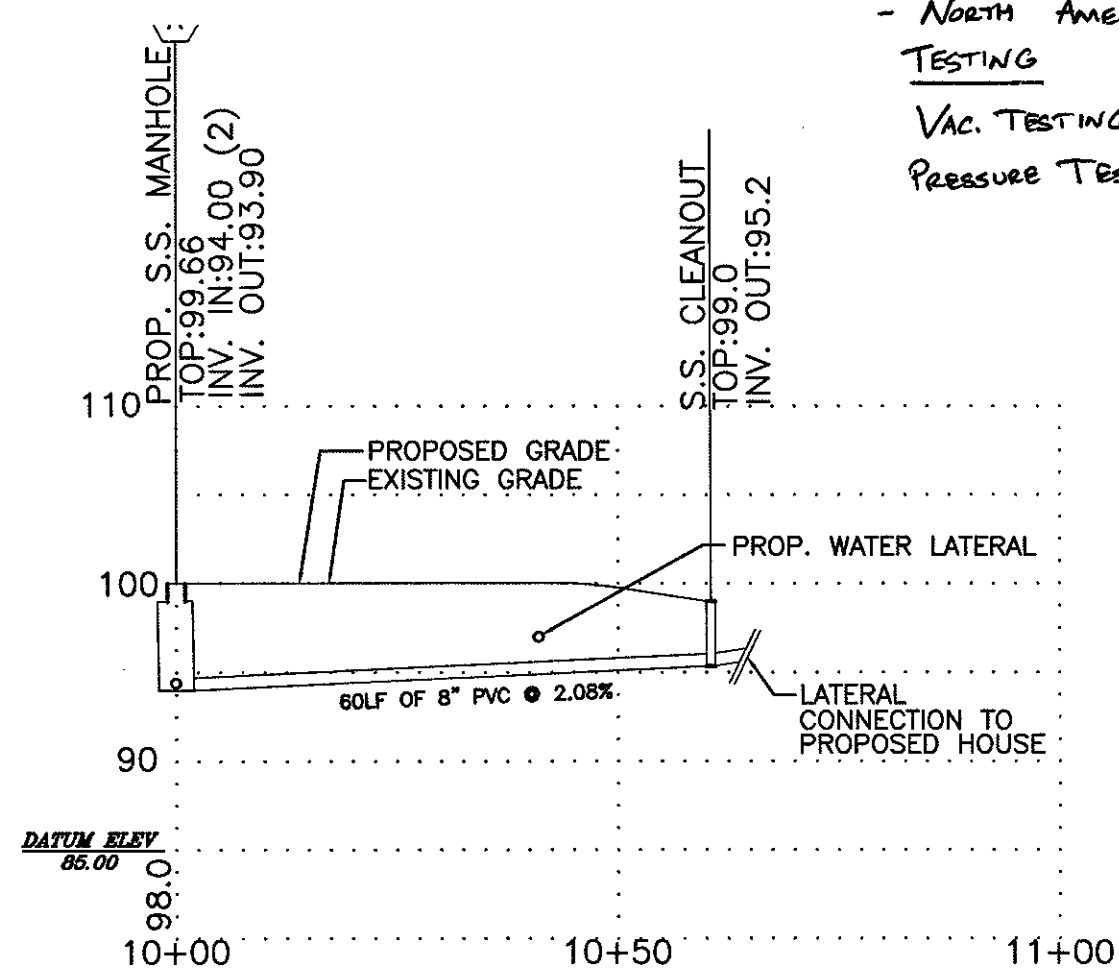
(G.C. SHALL VERIFY ELEVATIONS AND NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED PRIOR TO ANY CONSTRUCTION)

MATERIALS

- CP & P PRE-CAST MAN-HOLES 4' DIAMETER
- U.S. FORDWAY FRAME & COVERS WATER TIGHT
- NORTH AMERICAN 8" SDR 35 PVC
- SANDERSON 8" DR 14 C900 PVC
- NORTH AMERICAN 4" & 6" SDR 26 PVC

TESTING

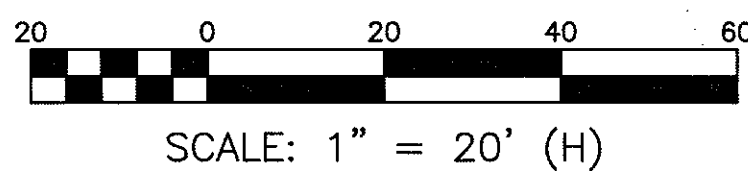
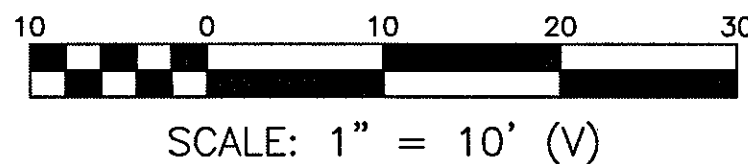
VAC. TESTING 04-13-18 PASSED
PRESSURE TESTING 04-13-18 PASSED



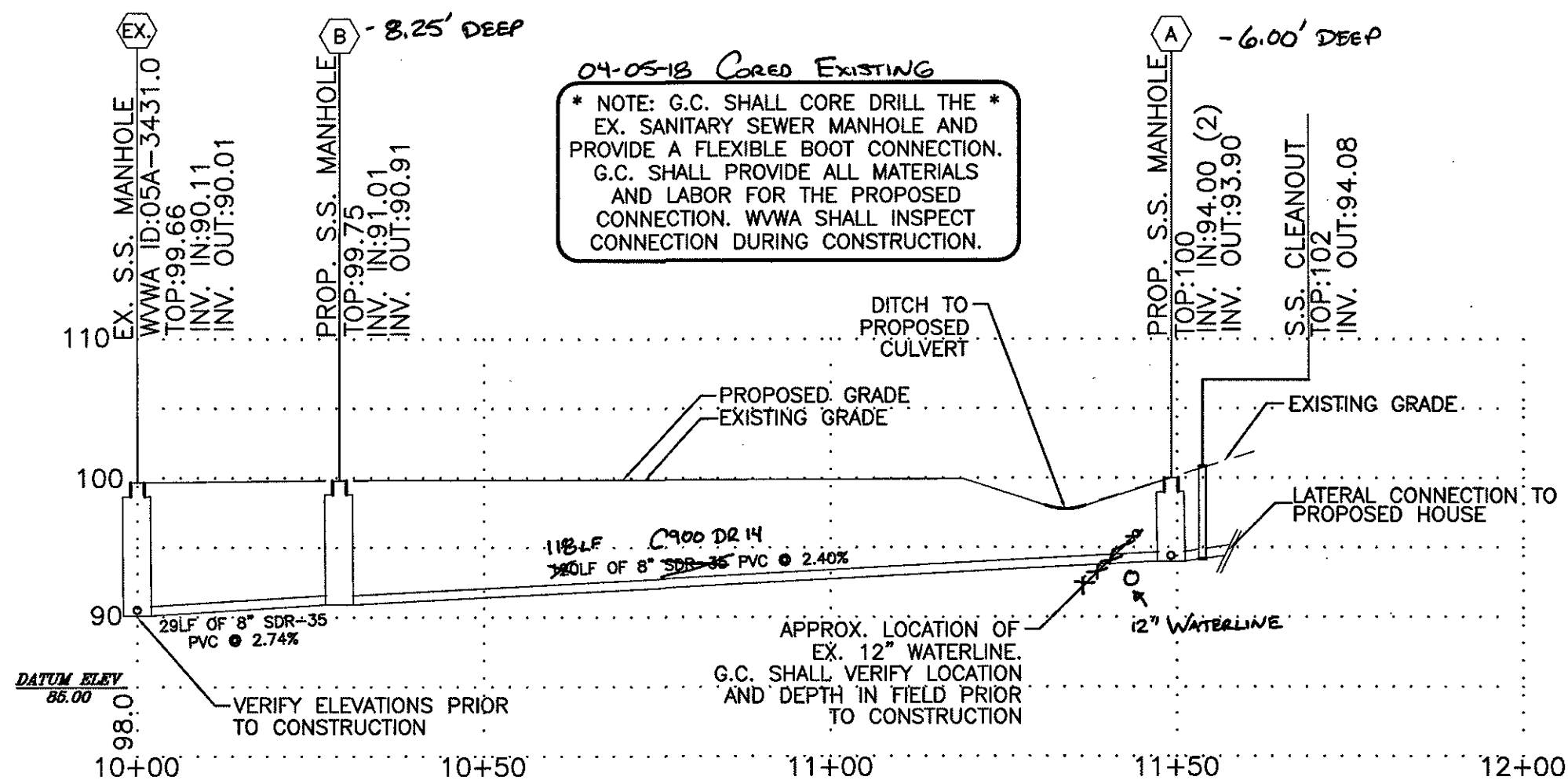
SANITARY SEWER PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

SANITARY SEWER PROFILES SCALES:



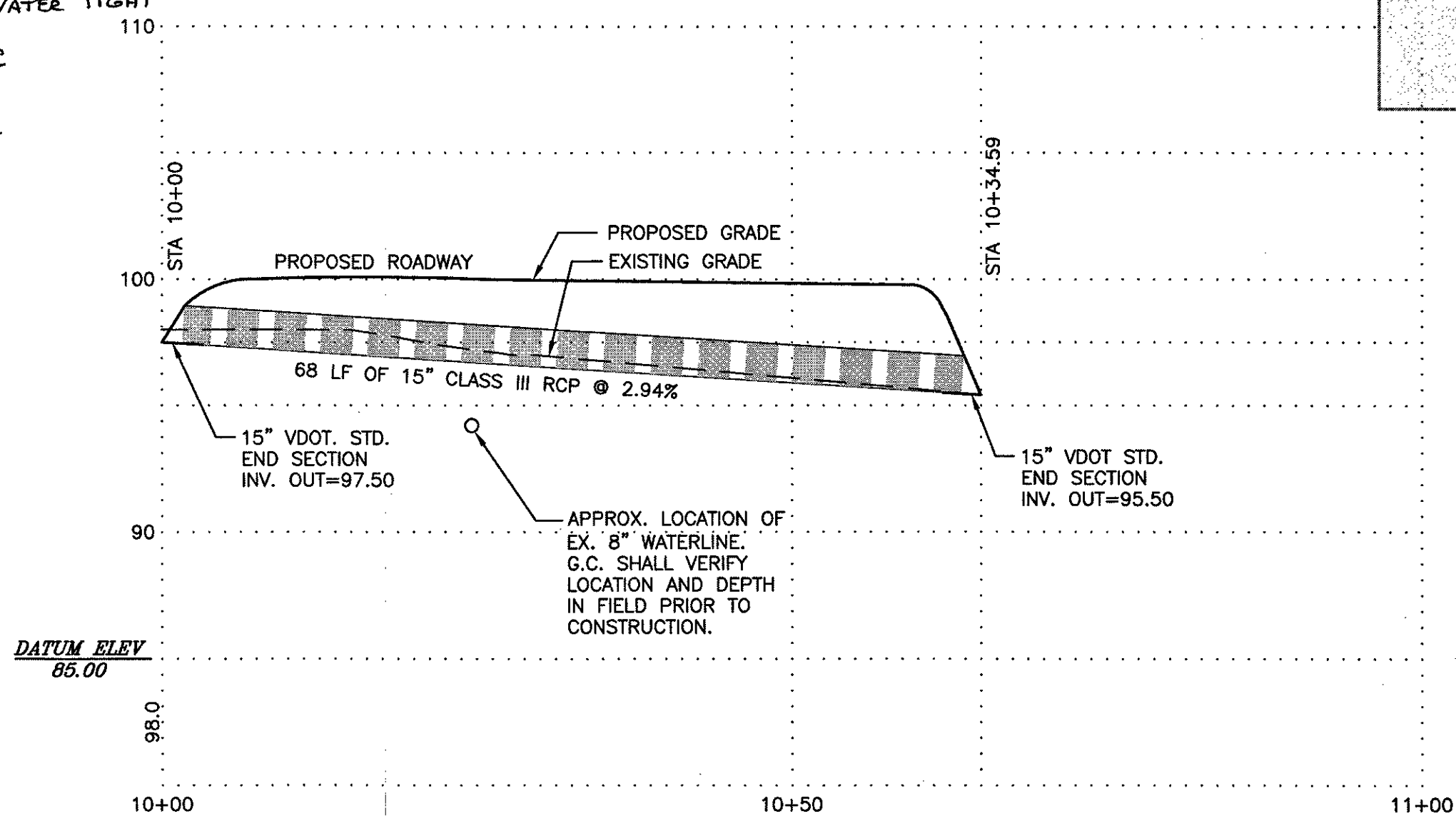
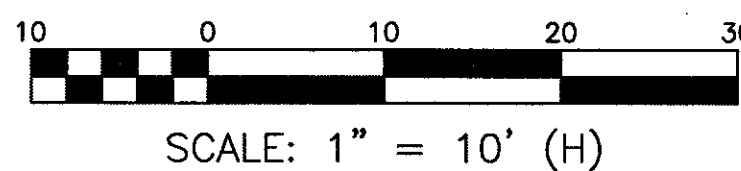
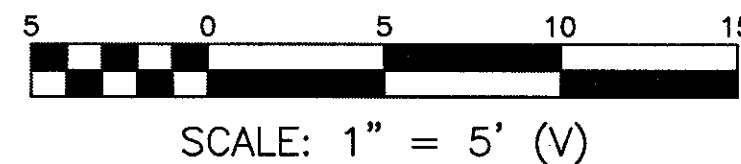
PROFILES:



SANITARY SEWER MAIN PROFILE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

DRIVEWAY PIPE PROFILE SCALES:



DRIVEWAY PIPE PROFILE

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

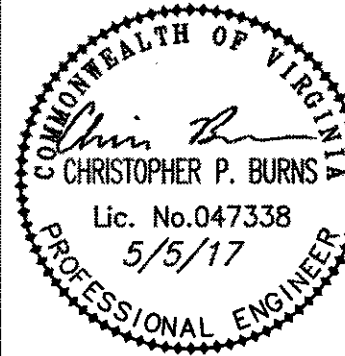
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GENERAL NOTES AND PROFILES

CITY OF ROANOKE, VIRGINIA

DRAWN BY LAR

DESIGNED BY BTC

CHECKED BY CPB

DATE 3/9/2017

SCALE AS NOTED

REVISIONS:
4/18/2017
5/5/2017

SHEET NO.

C5

JOB NO. 04170009.00