

AS-BUILTS

LEGEND

The map shows the project location at the intersection of Tinker Creek Rd and US Highway 87. Key features include:

- Project Location:** Indicated by a label and an arrow pointing to the intersection of Tinker Creek Rd and US Highway 87.
- Highways:**
 - US Highway 87 (labeled 87)
 - US Highway 111 (labeled 111)
 - US Highway 252 (labeled 252)
 - US Highway 63 (labeled 63)
- Geographical Features:**
 - Craney Cove Reservoir (labeled CRANEY COVE RESERVOIR)
 - Tinker Creek (labeled TINKER CREEK)
 - Tinker Creek Rd (labeled TINKER CREEK RD)
 - Cloverdale (labeled CLOVERDALE)
- Directions:**
 - TO ROANOKE (indicated by an arrow pointing left)
 - TO LEXINGTON (indicated by an arrow pointing up and right)
- Other Labels:**
 - BOTETOURT COUNTY, VA
 - ROWNOKE COUNTY, VA
 - HOLLINS COLLEGE
 - North arrow (labeled N)

VICINITY MAP
SCALE: 1"=3000





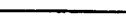





EXISTING	NEW	DESCRIPTION	EXISTING	NEW	DESCRIPTION
		CONTOUR (INTERVAL AS INDICATED ON SITE PLAN)			STRUCTURE
		SPOT ELEVATION			DEMOLISH OR ABANDON STRUCTURE
		TREE LINE			WATER METER
		HEDGEROW			FIRE HYDRANT
		TOP OF BANK/ TOE OF SLOPE			WATER VALVE
		CENTER/EDGE OF STREAM			GAS VALVE
		FENCE AND GATE			SANITARY OR STORM MANHOLE
		EDGE OF PAVEMENT			CATCH BASIN
		PROPERTY LINE			DROP INLET
		RAILROAD TRACKS			SANITARY CLEAN OUT
		RIGHT-OF-WAY			LIGHT POLE
		OVERHEAD UTILITY			TELEPHONE POLE, WITH GUY AND ANCHOR
		OVERHEAD POWER AND/OR TELEPHONE			POWER POLE
		SANITARY SEWER			GUY POLE
		STORM SEWER AND END WALL, TYPE AS INDICATED			TREE
		WATER LINE			BUSH
		FORCE MAIN			RIPRAP
		TRAFFIC WIRE			IRON PIN
		UNDERGROUND ELECTRICAL LINE			STATION EQUALITY
		UNDERGROUND FIBER OPTIC LINE			BENCHMARK
		UNDERGROUND TELEPHONE LINE			NORMAL WATER LEVEL
		ABANDONED OR REMOVED UTILITY			MAILBOX
		EXISTING 20' SANITARY EASEMENT			MONUMENT
		TEMPORARY CONSTRUCTION EASEMENT			
		PERMANENT EASEMENT			
		100 YR. FLOOD PLAIN			

ABBREVIATIONS

AFB	ABOVE FINISHED FLOOR	EX OR	EXIST	EXISTING	RCP	REINFORCED CONCRETE PIPE
AHD	AHEAD		FF	FINISHED FLOOR	REQ'D	REQUIRED
ARV	AIR RELEASE VALVE		FL	FLUORIDE	RT	RIGHT
BC	BACK OF CURB		FM	FORCE MAIN	R/W	RIGHT OF WAY
BF	BLIND FLANGE		FOC	FACE OF CURB	SAN	SANITARY SEWER
BM	BENCH MARK		GALV	GALVANIZED	SD	STORM DRAIN
BK	BACK		HC	HANDICAP	SQ	SQUARE
C/C	CENTER TO CENTER		HDPE	HIGH DENSITY POLYETHYLENE	S.S.	STAINLESS STEEL
C & G	CURB & GUTTER		HK	HOOK	STA	STATION
CIP	CAST IRON PIPE		INV	INVERT	STD	STANDARD
CL	CENTER LINE		IPS	IRON PIN SET	STL	STEEL
C.L	CHAIN LINK		IPF	IRON PIN FOUND	SW	SIDEWALK
CMP	CORRUGATED METAL PIPE		JB	JUNCTION BOX	TBA	TO BE ABANDONED
CO	CLEAN OUT		LF	LINEAR FEET	TBR	TO BE REMOVED
CONC	CONCRETE		LT	LEFT	TC	TOP OF CURB
CP	CONTROL POINT		MH	MANHOLE	TYP	TYPICAL
CY	CUBIC YARDS		NIC	NOT IN CONTRACT	UG	UNDERGROUND
DIA	DIAMETER		NPS	NATIONAL PARK SERVICE	UON	UNLESS OTHERWISE NOTED
DIP	DUCTILE IRON PIPE		NTS	NOT TO SCALE	W	WATER LINE
EL	ELEVATION		O.C.	ON CENTER	WM	WATER METER
ELEC	ELECTRIC		PE	POLYETHYLENE	WT	WATERTIGHT
EOP	EDGE OF PAVEMENT		PROP	PROPOSED	WWF	WOVEN WIRE FABRIC
EQPT	EQUIPMENT		PS	PLANTED STONE FOUND	YDS	YARDS
			PVC	POLYVINYL CHLORIDE		

NOTES:
1. ALL ABBREVIATIONS SHOWN MAY NOT BE USED.
2. ALL SYMBOLS SHOWN IN LEGEND MAY NOT BE USED.

WATER & SEWER:	BOTETOURT COUNTY DEPARTMENT OF PUBLIC WORKS ATTN: PAUL PEERY CONTACT: 1-540-473-8316	GAS:	ROANOKE GAS ATTN: KEITH PANNEL CONTACT: 1-540-992-3981
TELEPHONE:	VERIZON ATTN: DEAN RASMUSSEN CONTACT: 1-540-942-8192	CABLE:	COMCAST CONTACT: 1-800-266-2278
	NTELOS CONTACT: 1-877-468-3567	VDOT LAND USE PERMIT:	VDOT SALEM DISTRICT ATTN: BRIAN BLEVINS CONTACT: 1-540-387-5490
ELECTRICITY:	APPALACHIAN POWER CONTACT: 1-800-956-4237	MISS UTILITY DESIGN TICKET NO.	B113000851-00B

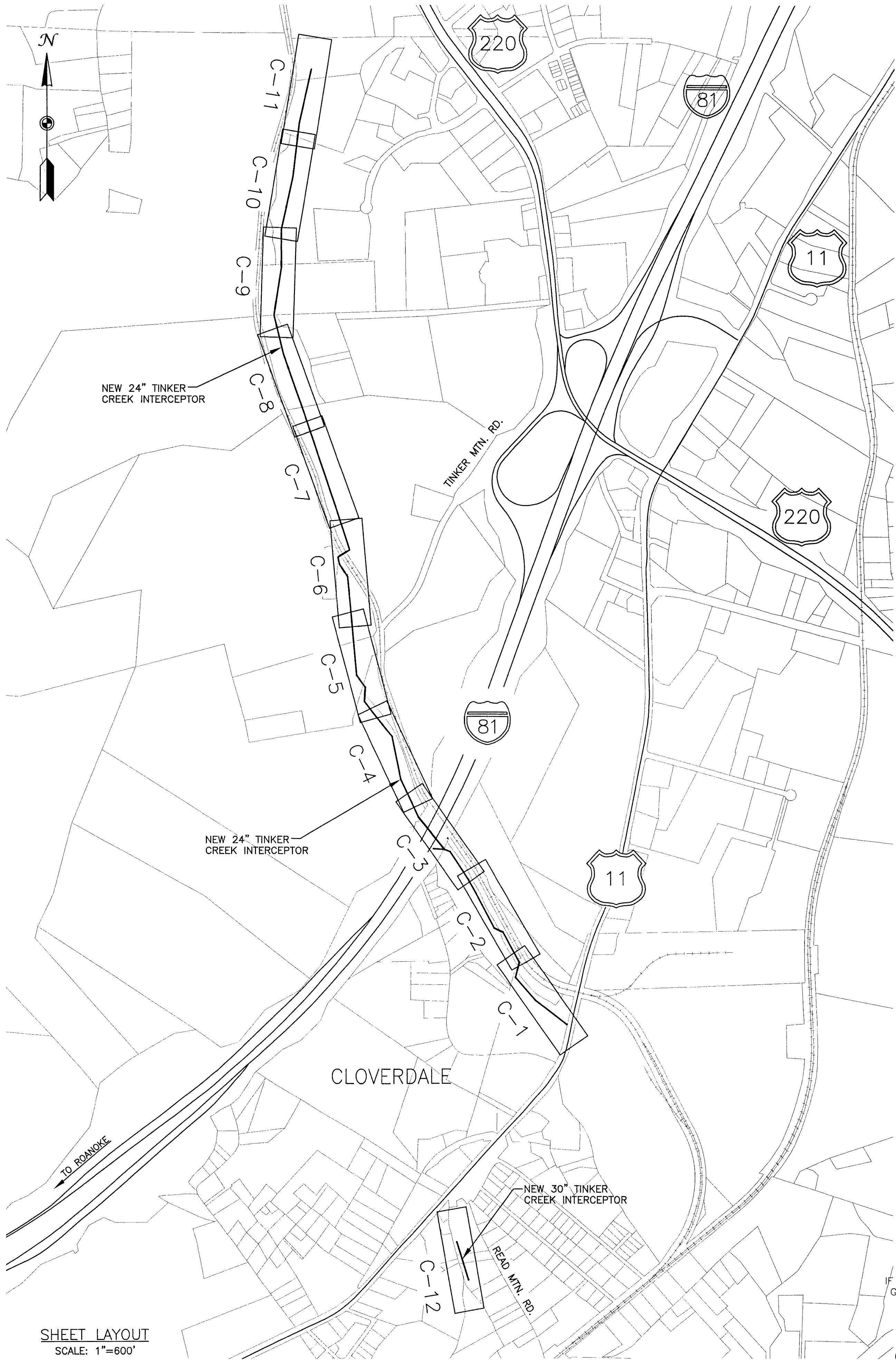
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	(CE)		3.25	UTILITY STREAM CROSSING	(USC)	
3.05	SILT FENCE	(SF)		3.31	TEMPORARY SEEDING	(TS)	
3.19	RIPRAP	(RR)		3.32	PERMANENT SEEDING	(PS)	
3.20	ROCK CHECK DAMS	(CD)		3.35	MULCHING	(MU)	
3.24	TEMPORARY VEHICULAR STREAM CROSSING	(SC)		3.36	SOIL STABILIZATION BLANKETS & MATTING	(B/M)	

[illegible]

[illegible]

GENERAL NOTES

1. PHYSICAL FEATURES, PROPERTY BOUNDARIES, AND UNDERGROUND UTILITY LOCATIONS ARE BASED ON FIELD SURVEY PERFORMED BY WW ASSOCIATES, INC. IN MAY 2011. BENCHMARK AND CONTROL POINT LOCATIONS ARE SHOWN ON THE DRAWINGS. HORIZONTAL POSITION IS BASED ON VIRGINIA STATE GRID, SOUTH ZONE, NAD-83(93). VERTICAL ELEVATION IS BASED ON NAVD88 DATUM.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS AND THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ) SEWAGE COLLECTION AND TREATMENT REGULATIONS AND THE LATEST EDITION OF THE BOTETOURT COUNTY WATER AND SEWER CONSTRUCTION STANDARDS AND SPECIFICATIONS. ALL WORK IN PUBLIC ROADS SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE 2008 STANDARDS AND 2007 SPECIFICATIONS. ALL WORK IN PUBLIC RIGHT OF WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE CONTRACT DRAWINGS, PROJECT MANUAL, SUBMITTALS, AND SHOP DRAWINGS AT THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
3. THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING STRUCTURES, PIPING, AND UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION. THE DIAMETERS OF EXISTING PIPING ARE APPROXIMATE AND SHALL BE VERIFIED PRIOR TO PERFORMING FINAL CONNECTIONS. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICE AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES OR STRUCTURES. EXISTING UNDERGROUND UTILITIES ARE BASED ON MARKS PROVIDED BY MISS UTILITY OF VIRGINIA AND BOTETOURT COUNTY. CONTACT MISS UTILITY (TELEPHONE NO. 811) (TICKET NO: B113000851-00B) 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.
4. CHANGES IN NEW PIPING FROM THAT SHOWN ON THE DRAWINGS, IN ORDER TO AVOID CONFLICTS WITH EXISTING ELECTRICAL SYSTEMS, MECHANICAL SYSTEMS, EQUIPMENT, STRUCTURES, OR EXISTING PIPING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHETHER THE CONFLICTS ARE SHOWN OR ARE DISCOVERED IN THE FIELD. LIKEWISE, ALTERATIONS TO EXISTING ELECTRICAL SYSTEMS, MECHANICAL SYSTEMS, EQUIPMENT, OR EXISTING PIPING IN ORDER TO ACCOMMODATE NEW PIPING AND EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE OWNER AND THE ENGINEER MUST APPROVE ALL SUCH CHANGES.
5. MAINTAIN AND PROTECT ALL OVERHEAD AND UNDERGROUND ELECTRICAL, TELEPHONE, CABLE TV, WATER, GAS, SEWER, AND ALL OTHER UTILITIES DURING ENTIRE CONSTRUCTION PERIOD. SEPTIC SYSTEM AND WATER SERVICE INTERRUPTIONS AND OTHER UTILITY OUTAGES WILL NOT BE ALLOWED.
6. ALL SANITARY SEWER PIPING SHALL MAINTAIN A MINIMUM COVER OF 3.5 FEET UNLESS OTHERWISE INDICATED. NEW PIPING SHALL BE INSTALLED AS REQUIRED TO ALLOW FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN NEW PIPING AND EXISTING UTILITIES UNLESS OTHERWISE INDICATED.
7. PROVIDE ALL CONNECTING PIECES AND TRANSITION PIECES REQUIRED TO MAKE FINAL PIPING CONNECTIONS.
8. PROVIDE A MINIMUM OF 18 INCHES CLEARANCE BETWEEN PIPING AND FOOTINGS, STRUCTURES, AND OTHER PIPING UNLESS OTHERWISE INDICATED.
9. VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED AND MAINTAINED FOR ALL DISTURBED AREAS IN ACCORDANCE WITH ALL LOCAL REQUIREMENTS AND THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED AS A FIRST STEP IN CONSTRUCTION AND BEFORE EXCAVATION BEGINS. SILT FENCE, CULVERT INLET PROTECTION, INLET PROTECTION, AND OTHER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED TO PREVENT THE MOVEMENT OF SEDIMENT DOWNSTREAM. CONTRACTOR SHALL CONTROL EROSION AND SEDIMENTATION IN ACCORDANCE WITH SPEC. SECTION 02200. NO MORE THAN 100 LINEAR FEET OF TRENCH SHALL BE OPEN AT ONE TIME. CONTRACTOR SHALL PROVIDE SEEDING AND MULCH RESTORATION OPERATIONS DURING THE PIPE INSTALLATION SO THAT NO MORE THAN 10,000 SQUARE FEET MAXIMUM AREA SHALL BE THE ACCUMULATED, TOTAL UNRESTORED SQUARE FOOTAGE IN ALL WORK AREAS OF THE PROJECT.
10. CONSTRUCTION LIMITS ARE DEFINED AS THE LIMITS OF PERMANENT AND TEMPORARY EASEMENTS AS SHOWN. ALL DISTURBED AREAS SHALL BE SEEDED AND PROVIDED WITH EROSION CONTROL DURING AND AT THE END OF CONSTRUCTION.
11. UNLESS OTHERWISE NOTED, REMOVE AND DISPOSE OF ALL ITEMS INDICATED TO BE DEMOLISHED OFF THE OWNER'S PROPERTY IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
12. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CONFINED SPACE ENTRY REGULATIONS.
13. SUBSURFACE EXPLORATION HAS NOT BEEN PERFORMED FOR THE PROJECT SITE. ROCK EXCAVATION SHALL BE CLASSIFIED. ALL EARTHWORK EXCAVATION SHALL BE PERFORMED TO THE INDICATED ELEVATIONS. SEE SPEC. SECTION 02200 FOR ADDITIONAL INFORMATION.
14. THE CONTRACTOR SHALL BE FULLY LIABLE FOR REPAIR OF ANY DAMAGES ON PUBLIC OR PRIVATE PROPERTY CAUSED BY HIS CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL REPLACE ALL DISTURBED SURFACES IN KIND, INCLUDING PAVEMENT, STONE, DITCHES, MAILBOXES, STORM CULVERTS, DRIVEWAY CULVERTS, ETC. CONTRACTOR SHALL REPLACE ROADSIDE SHOULDERS, DITCHES, FILL SLOPES/CUTS TO STABILIZED PRECONSTRUCTION CONDITIONS. TREES SHALL BE PROTECTED AS MUCH AS POSSIBLE. IF TREES ARE DAMAGED, THEY SHALL BE TRIMMED OR REPAIRED TO PRESERVE THEIR LIFE. ROAD CULVERTS IMPACTED BY THE PROJECT SHALL BE SUPPORTED PROPERLY DURING SANITARY SEWER CONSTRUCTION. CULVERTS SHALL BE BACKFILLED AND PROPERLY COMPACTED PER VDOT SPECIFICATION. CULVERT ENDS SHALL BE GRADED WITH POSITIVE DRAINAGE WITH SUFFICIENT EROSION AND SEDIMENT CONTROLS INSTALLED. PRIVATE ENTRANCE CULVERTS SHALL BE MAINTAINED FOR POSITIVE ROADSIDE DRAINAGE. ANY IMPACTED PRIVATE ENTRANCE CONCRETE APRONS SHALL BE REPLACED IN THEIR ENTIRETY.
15. THE CONTRACTOR SHALL PROTECT EXISTING PAVED SURFACES. ANY DAMAGED PAVEMENT SHALL BE REPAIRED TO MATCH EXISTING. TRACKED EQUIPMENT WILL NOT BE ALLOWED ON PAVED SURFACES. ANY PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION SHALL BE REPLACED IN KIND BY A PAVEMENT MARKING CONTRACTOR FROM THE VDOT PRE-QUALIFICATION LIST.
16. ALL PROPERTY PINS, AND RIGHT OF WAY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LAND SURVEYOR LICENSED BY THE COMMONWEALTH OF VIRGINIA.
17. ALL CONSTRUCTION ACTIVITIES ASSOCIATED WITH WORKING IN OR CROSSING A STREAM OR WETLAND SHALL BE UNDER THE JURISDICTIONAL AUTHORITY OF THE U.S. ARMY CORPS OF ENGINEERS. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS IN THE APPLICABLE CORPS NATIONWIDE PERMITS, AS WELL AS ALL APPLICABLE STATE AND LOCAL REGULATIONS.
18. SURFACE DRAINAGE: COMPLETELY DRAIN CONSTRUCTION SITE DURING PERIODS OF CONSTRUCTION TO KEEP SOIL MATERIALS SUFFICIENTLY DRY. PROVIDE TEMPORARY DITCHES, SWALES, AND OTHER DRAINAGE FEATURES AND EQUIPMENT AS REQUIRED TO MAINTAIN DRY SOILS. WHEN UNSUITABLE WORKING PLATFORMS FOR EQUIPMENT OPERATION AND UNSUITABLE SOIL SUPPORT FOR SUBSEQUENT CONSTRUCTION FEATURES DEVELOP, REMOVE UNSUITABLE MATERIAL AND PROVIDE NEW SOIL MATERIAL AS SPECIFIED IN SPEC. SECTION 02200 AT NO ADDITIONAL COST TO THE OWNER.
19. SUBSURFACE DRAINAGE: CONSIDER SITE SURFACE AND SUBSURFACE CONDITIONS, AVAILABLE SOIL, AND HYDROLOGICAL DATA. REMOVE WATER BY BENCHING, SUMP PUMPING, DEEP WELL PUMPING, OR OTHER METHODS TO PREVENT SOFTENING OF SURFACES EXPOSED BY EXCAVATION. USE FILTERS ON DEWATERING DEVICES TO PREVENT REMOVAL OF FINES FROM SOIL. PROVIDE EROSION CONTROL AT OUTLET OR PIPING TO PREVENT EROSION. OPERATE DEWATERING SYSTEM CONTINUOUSLY UNTIL CONSTRUCTION WORK BELOW EXISTING WATER LEVELS IS COMPLETE.
20. VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT: PREPARE STORMWATER POLLUTION PREVENTION PLAN, SECURE VSMP PHASE I LAND CLEARING GENERAL PERMIT AND PAY PERMIT APPLICATION FEE TO DEPARTMENT OF CONSERVATION AND RECREATION (DCR). CONTACT DCR - RICHMOND FOR ADDITIONAL INFORMATION. TELEPHONE NUMBER: (804) 786-1712, E-MAIL ADDRESS: SWMESQUESTIONS@DCR.VIRGINIA.GOV.
21. CONSTRUCT EXCAVATION SUPPORT SYSTEMS AS REQUIRED BY OSHA AND U.S. ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1, SECTIONS 25 A THROUGH E TO ADEQUATELY SUPPORT EXISTING SOIL AND ADJACENT STRUCTURES DURING EXCAVATION ACTIVITIES.
22. MAINTAIN TRAFFIC TO ALL PROPERTIES AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. WHENEVER CONSTRUCTION IS IN OR ADJACENT TO VDOT STREETS, THE CONTRACTOR SHALL PROVIDE SIGNS, DRUMS, AND TRAFFIC CONTROL DEVICES AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ALL SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS AS PUBLISHED BY THE U.S. DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, THE VIRGINIA SUPPLEMENT TO MUTCD, AND THE VIRGINIA WORK AREA PROTECTION MANUAL. SEE SPEC. SECTION 02055 FOR ADDITIONAL INFORMATION. VDOT MAINTAINS THE RIGHT TO ADJUST THE WORK HOURS IF NECESSARY.
23. THE FLOOD INSURANCE RATE INDEX MAPS FOR BOTETOURT COUNTY, VIRGINIA (COMMUNITY PANEL No. 51023C0368C), DATED JANUARY 2, 2008, INDICATES THE PROJECT SITE IS LOCATED IN ZONE A, AN AREA INSIDE THE 500-YEAR FLOOD ELEVATION. THE LIMITS OF THE 100-YEAR FLOOD PLAIN SHOWN ON THE DRAWINGS WAS PROVIDED BY BOTETOURT COUNTY.
24. THE EXISTING WASTEWATER CONVEYANCE SYSTEM MUST REMAIN IN OPERATION DURING CONSTRUCTION. ANY UNAUTHORIZED DISCHARGE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE BYPASS PUMPING EQUIPMENT AND TEMPORARY PIPING AS REQUIRED TO MAINTAIN CONTINUOUS SANITARY SEWER SERVICE DURING CONSTRUCTION. CERTAIN EQUIPMENT ITEMS OR YARD PIPING MAY TEMPORARILY BE TAKEN OUT OF OPERATION AT THE COUNTY'S CONVENIENCE FOR EXPEDIENT PIPING CONNECTIONS FOR PIPING CHANGES, INSTALLATION OF NEW EQUIPMENT, AND OTHER NECESSARY CONSTRUCTION REQUIRED. HOWEVER, ANY INTERRUPTION OF SERVICE MUST BE COORDINATED WITH THE COUNTY AT LEAST 1 WEEK IN ADVANCE OF SUCH WORK. SEE SPEC. SECTIONS 01400, 02730, AND 02780 FOR ADDITIONAL INFORMATION.
25. TREES AND SHRUBS TO BE REMOVED ARE INDICATED ON THE DRAWINGS. TREES TO REMAIN IN PLACE SHALL BE SCREENED OFF DURING GRADING OPERATIONS TO KEEP EQUIPMENT AWAY FROM ROOT SYSTEMS. THE CONTRACTOR SHALL MAKE SELECT CUTTING OF TREES, TAKING THE SMALLEST TREES FIRST, THAT ARE MANDATORY FOR SANITARY SEWER CONSTRUCTION. THE COUNTY'S DECISION SHALL BE FINAL ON DETERMINATION OF WHICH TREES SHALL BE CUT.
26. ANY FENCING DISTURBED BY CONSTRUCTION SHALL BE IMMEDIATELY REPLACED OR SUPPLEMENTED BY TEMPORARY FENCING SUITABLE FOR INTENDED PURPOSE OF EXISTING FENCING. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE DISTURBED FENCING TO ORIGINAL CONDITION.
27. PROPOSED MANHOLE RIM ELEVATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL CONFIRM ACTUAL GRADE ELEVATIONS AND ADJUST RISERS TO SET RIMS TO FINISHED GRADE. MANHOLES NOT IN PAVEMENT SHALL BE LOCATED ABOVE THE DRAINAGE WAY OF DITCHES AND SHALL NOT ALLOW INTRUSION OF STORM WATER INTO MANHOLE COVERS.
28. ALL EXISTING DRAINAGE RELATED FEATURES WITHIN PUBLIC RIGHT OF WAY MUST BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF THE DRAINAGE FEATURES TO VDOT'S SATISFACTION. REGRADED DITCHES SHALL BE LINED WITH SOIL STABILIZATION BLANKETS/MATTING AS SPECIFIED IN SPEC. SECTION 02936.
29. THE CONTRACTOR SHALL CONTACT THE VDOT SALEM RESIDENCY A MINIMUM OF 2 WEEKS PRIOR TO ANY LANE CLOSURE TO INFORM THEM OF THE CLOSURE AND THE LENGTH OF TIME OF THE CLOSURE.
30. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM PROPERTY OWNERS FOR USE OF ANY ACCESS POINTS OTHER THAN ONES LOCATED WITHIN RIGHT-OF-WAYS. WRITTEN PERMISSION SHALL CONTAIN CONDITIONS FOR USE AND RESTORATION AGREEMENTS BETWEEN PROPERTY OWNER AND CONTRACTOR.
31. ALL TRENCHWORK SHALL BE BACKFILLED AT THE END OF EACH DAY. ALL PAVED AREAS OR SIDEWALKS SHALL BE MAINTAINED FREE OF ROCK AND DEBRIS. TEMPORARY PATCHING SHALL BE PROVIDED AS DEEMED NECESSARY BY VDOT.
32. ALL WETLANDS AND STREAMS LABELED ON THE DRAWINGS AS "DELINEATED STREAMS" WERE IDENTIFIED AS SUCH BY ECS MID-ATLANTIC, INC. IN JUNE AND JULY, 2011.
33. APPALACHIAN TRAIL SHALL BE ACCESSIBLE TO TRAFFIC AT ALL TIMES. CONSTRUCT TEMPORARY GRAVEL DETOUR AS REQUIRED TO MAINTAIN UNINTERRUPTED TRAFFIC.
34. CLEARING LIMITS ARE DEFINED AS THE WIDTH OF THE PERMANENT EASEMENT INDICATED ON THE DRAWINGS. MAXIMUM ALLOWABLE WORKING AREA IS THE AREA ANNOTATED BY THE TEMPORARY CONSTRUCTION AND PERMANENT EASEMENT WIDTHS. SEE SPEC. SECTION 02200 FOR ADDITIONAL CLEARING REQUIREMENTS.



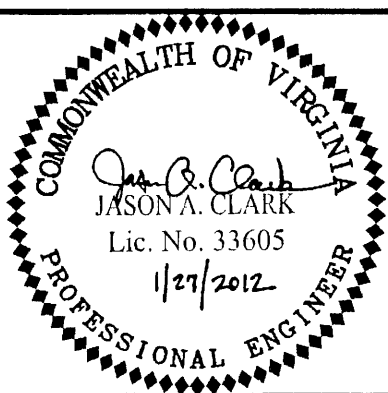
SHEET LAYOUT
SCALE: 1"=600'

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED

SCALE: 1" = 600'

600' 0 600'

1	REVISED NOTE 13 PER ADDENDUM	WSW	1/27/12						
NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION

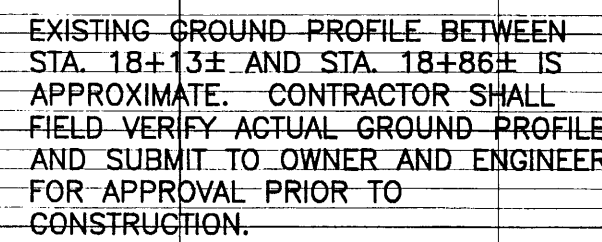
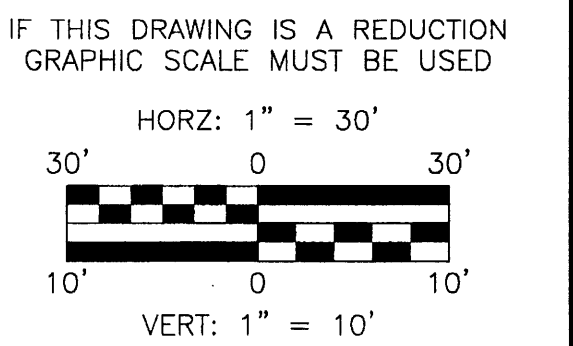


ISSUED FOR CONSTRUCTION
JANUARY 27, 2012



DESIGNED BY: JMF/JAC	PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK SANITARY SEWER INTERCEPTOR IMPROVEMENTS	REVISION SET 2
DRAWN BY: WSW/CLP	TITLE: GENERAL NOTES AND SHEET LAYOUT	DRAWING NUMBER: G-1
CHECKED BY: EJTP	FILE NAME: 1036G-1.dwg	SHEET NUMBER: 2 OF 23
WWA NUMBER: 211036.02	DISCIPLINE: GENERAL	
	SCALE: H: AS NOTED V: AS NOTED	
	DATE: 7-15-11	

1. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. PIPE SLOPES ARE BASED ON THIS HORIZONTAL DISTANCE AND INVERTS ARE MEASURED AT THE FACE OF THE STRUCTURE.
2. PROVIDE CONSTRUCTION ENTRANCES PER DETAIL ON DWG. DET-2 AT ALL PROJECT ACCESS POINTS TO PREVENT THE TRANSPORT OF SEDIMENT OFF OF THE PROJECT SITE.
3. ALL PROJECT LAYDOWN AREAS SHALL BE GRAVEL AND COMPLY WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
4. THE PROJECT AREA BETWEEN STA. 11+15.28 AND STA. 31+18.94 CAN BE ACCESSED FROM GIBSON LANE VIA PERMANENT EASEMENT ALONG EXISTING 8" SANITARY SEWER DISCHARGING IN MH-338 AND PERMANENT EASEMENT ALONG TINKER CREEK INTERCEPTOR. COORDINATE ACCESS WITH AEP, AFFECTED PROPERTY OWNERS, AND BOTEQUOT COUNTY DEPT. OF PUBLIC WORKS.



COMMONWEALTH OF VIRGINIA
Jason A. Clark
 JASON A. CLARK
 Lic. No. 33605
 1/27/2012
 PROFESSIONAL ENGINEER

W
W
ASSOCIATES

ENGINEERS
SURVEYORS
PLANNERS

PO Box 4119
Lynchburg, VA 24502
Phone: 434.316.6080

3040 Avenue Square Pl
Charlottesville, VA 22911
Phone: 434.984.2700

www.wvassociates.net

DESIGNED BY: JMF/JAC	PROJECT: BOTETOURT COUNTY, VIRGINIA				REVISION SET 2
DRAWN BY: WSW/CLP	PHASE I TINKER CREEK				DRAWING NUMBER: C-1
	SANITARY SEWER INTERCEPTOR IMPROVEMENTS				
DATE BY: EJTP	TITLE: NEW 24" SANITARY SEWER - PLAN AND PROFILE STA. 11+15.28 TO STA. 19+00.00				SHEET NUMBER: 3 OF 23
WHA NUMBER: 211036.02	FILE NAME: 1036C-1.dwg	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V:	DATE: 7-15-11	

Work Change Directive

No. 2

Date of Issuance: November 28, 2012

Effective Date: November 28, 2012

Project:	Owner:	Owner's Contract No.:
Phase I Tinker Creek Sanitary Sewer Improvements	Botetourt County, Virginia	
Contract:		Date of Contract:
Phase I Tinker Creek Sanitary Sewer Improvements		January 30, 2012
Contractor:		Engineer's Project No.:
English Construction Company		211036.02

You are directed to proceed promptly with the following change(s):

Item No.	Description
1	Shift MH 36R to STA 21+81 +/- INV IN will remain 1128.84. INV OUT will remain 1128.74
2	Shift MH 37R downstream 5 +/- feet. This shift shall be in the same linear alignment as the proposed section between MH 37R and MH 38B. Inverts shall be consistent with RFI #6 response.

Attachments (list documents supporting change):

Purpose for Work Change Directive:

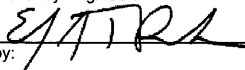
- ☒ Authorization for Work described herein to proceed on the basis of Cost of the Work due to:
Unit prices included in contract.
- ☐ Nonagreement on pricing of proposed change.
- ☐ Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time.

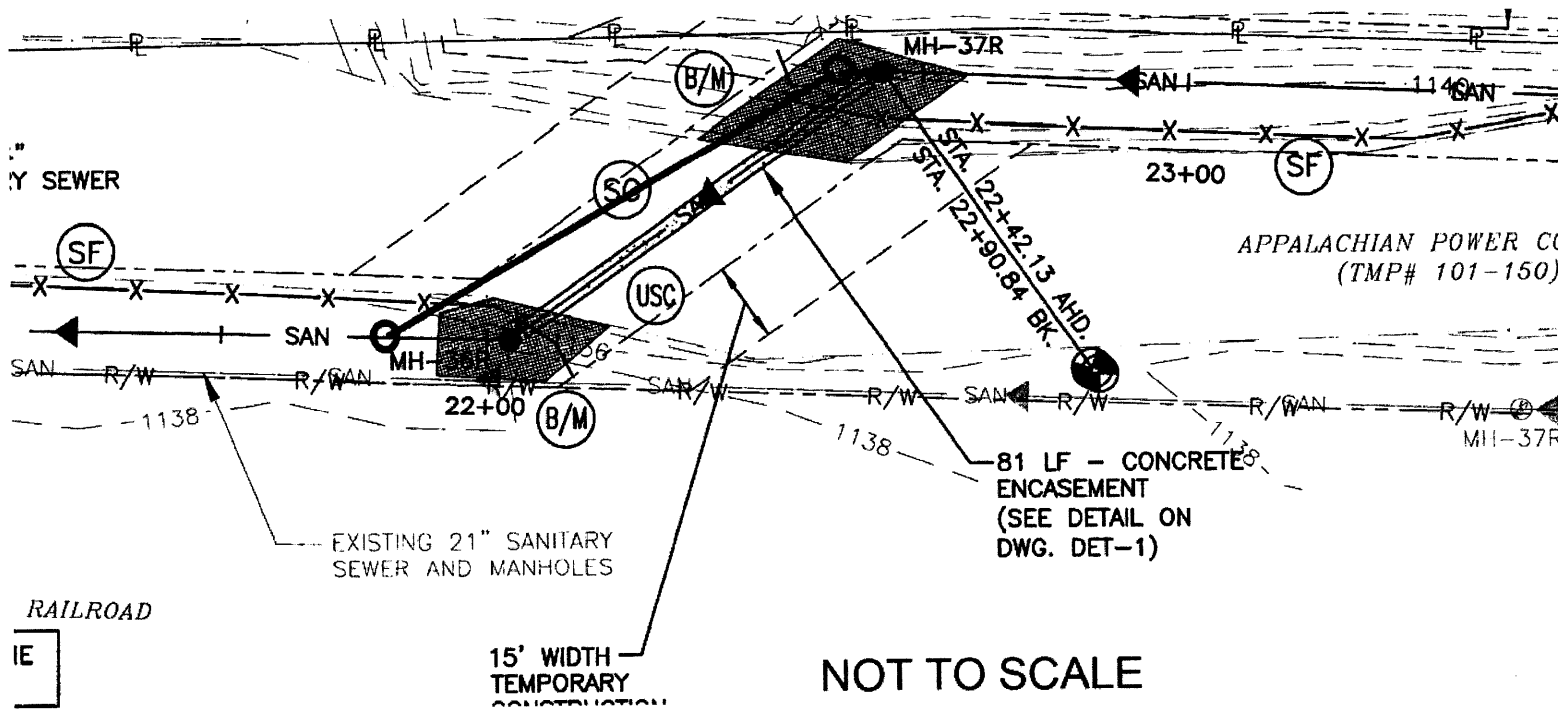
Estimated change in Contract Price and Contract Times:

Contract Price \$ 0 (increase/decrease)

Contract Time 0 days (increase/decrease)

If the change involves an increase, the estimated amounts are not to be exceeded without further authorization.

Recommended for Approval by Engineer:	Date
	11/28/2012
Authorized for Owner by:	Date
Accepted for Contractor by:	Date
Approved by Funding Agency (if applicable):	Date:





Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 14 Urgency: **High**

Date: 1/24/2013

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

CC:

Subject: Gravity Sewer Alignment Issue

Drawing: C--2

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

We have encountered an issue with the alignment of the gravity sewer being partially in the creek. We feel that alignment of the gravity sewer should be adjusted to keep the line from being exposed from erosion from the creek. After a field visit confirmed the issue we feel that the best course of action would likely be to re-align the manholes 38R and 38B. Moving MH-38R downstream to Station 24+00 and shifting it 4 feet away from the creek and moving MH-38B to Station 27+00 and shifting it 2 feet towards the creek could be a possible solution. Please direct us and let us know how we are to proceed with the work.

Requested by: Mat Hall-English Construction

Response:

We agree with your assessment. Unstable creek bank conditions may necessitate minor alignment changes. Please take the following actions:

Place MH-38R at Station 24+00 and 4 feet off the planned alignment, shifted away from the creek. Make the INV IN 1132.37 and INV OUT 1132.27.

Place MH-38B at Station 27+00 and 2 feet off the planned alignment, shifted towards the creek. Make the INV IN 1133.01 and

INV OUT 1132.91.

Answered by: Turner Perrow
WW ASSOCIATES

Answered date: January 24, 2013

Forwarded:



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 6

Date: 3/6/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

Urgency: **High**

CC:

Subject: Manhole Vents and Drop Connections

Drawing:

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

- 1.-The manhole vents will likely need to be installed per detail BC#SS-21 on sheet DET-2. After reviewing the profile I believe this will be the only way to accomplish this work given the fact that the manhole rim elevations are only approximately 1' above the ground elevation. Since the manhole frame and cover will be 7.5" there is not enough room to have the bottom of the vent pipe to be 6" above the ground elevation as shown on detail BC# SS-20 on sheet DET-1.
- 2.-An external drop for MH-37 doesn't seem to be feasible since the two cored holes would have to overlap and the fittings would not likely work either. I would like to propose to make the grade steeper between MH-38R and MH-37R to allow us to tie to MH-37R without a drop connection.
- 3.-Our precast manhole supplier has asked if MH-45 could be transitioned from a 96" diameter manhole to a 48" diameter manhole.

Requested by: Mat Hall-English Construction

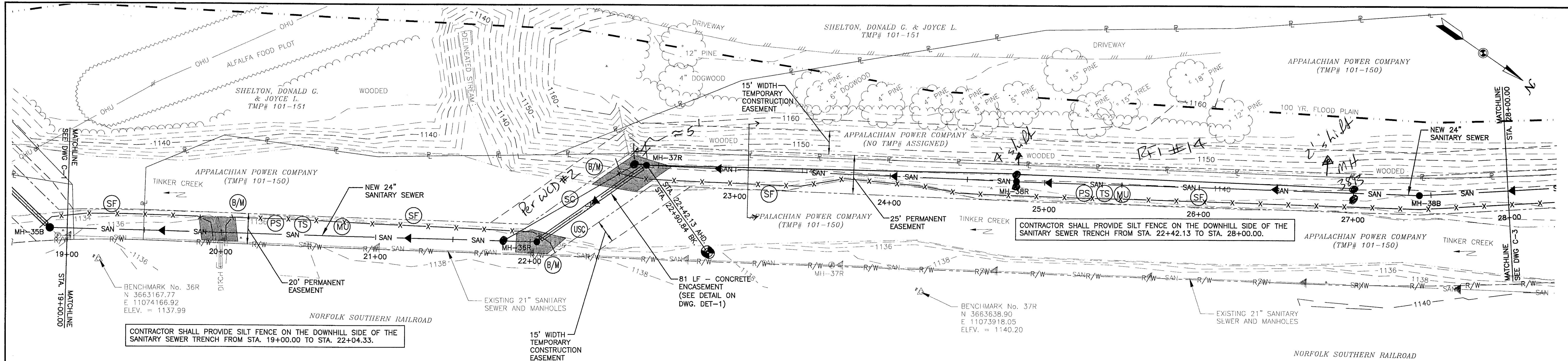
Response:

1. Where a 6-inch minimum clearance can not be achieved between the finished grade and the bottom of the vent pipe as indicated in Detail BC# 22-20, vents shall be installed below grade in a meter box as indicated on Detail BC# SS-21.
2. An increase of slope from 0.32% to 1.39% on the section of 24-inch sanitary sewer between MH-38R and MH-37R will be allowed. This will allow for 0.10-foot of drop between the invert in and out of MH-37R and eliminate the drop connection.
3. A transition in MH-45 from 96-inch diameter will NOT be allowed.

Answered by: Turner Perrow
WW ASSOCIATES

Answered date:

Forwarded:



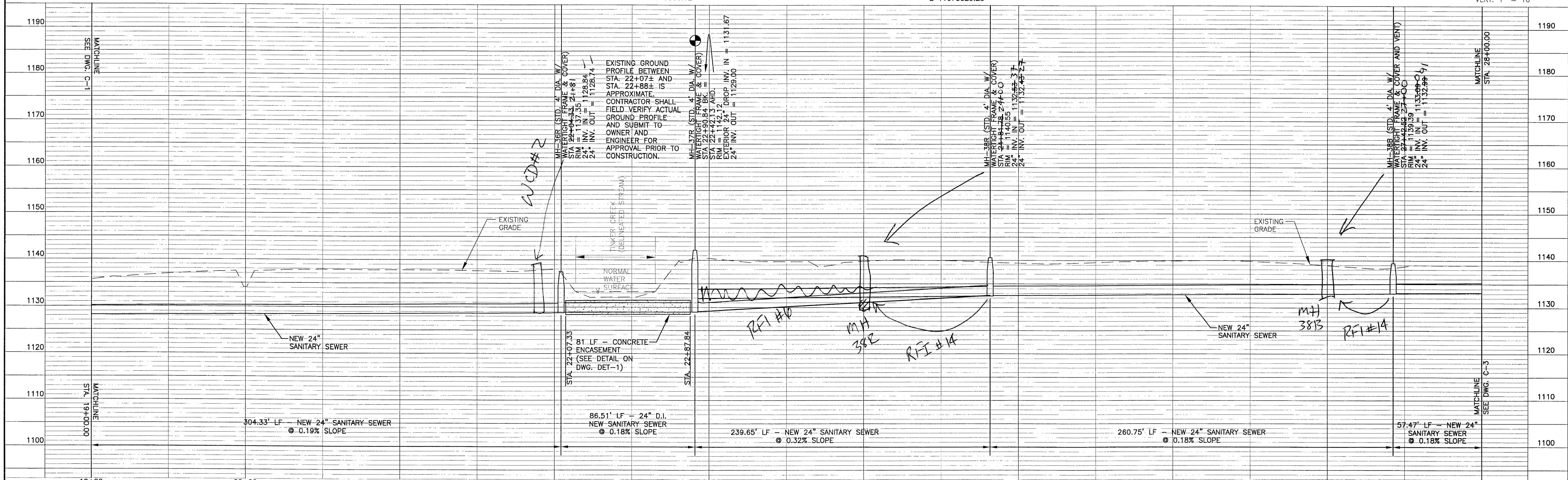
NOTES:

1. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. PIPE SLOPES ARE BASED ON THIS HORIZONTAL DISTANCE AND INVERTS ARE MEASURED AT THE FACE OF THE STRUCTURE.
2. PROVIDE CONSTRUCTION ENTRANCES PER DETAIL ON DWG. DET-2 AT ALL PROJECT ACCESS POINTS TO PREVENT THE TRANSPORT OF SEDIMENT OFF OF THE PROJECT SITE.
3. ALL PROJECT LAYDOWN AREAS SHALL BE GRAVEL AND COMPLY WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

HORIZ: 1" = 30'

VERT: 1" = 10'



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE
1	ADDED NOTE TO PROVIDE SILT FENCE PER ADDENDUM	WSW	1/27/12				

COMMONWEALTH OF VIRGINIA

JASON A. CLARK

Lic. No. 33605

1/27/2012

PROFESSIONAL ENGINEER

ISSUED FOR CONSTRUCTION

JANUARY 27, 2012

ENGINEERS

SURVEYORS

PLANNERS

ASSOCIATES

PO Box 4119 Lynchburg, VA 24502 Phone: 434.316.6000

3040 Ardenway Square, LLC Charlottesville, VA 22911 Phone: 634.284.2700

www.wasassociates.net

DESIGNED BY: JMF/JAC

DRAWN BY: WSW/CLP

CHECKED BY: EJTP

WVA NUMBER: 211036.02

PROJECT: BOTETOURT COUNTY, VIRGINIA

PHASE I TINKER CREEK

SANITARY SEWER INTERCEPTOR IMPROVEMENTS

TITLE: NEW 24" SANITARY SEWER - PLAN AND PROFILE

FILE NAME: 1036C-2.dwg

DISCIPLINE: CIVIL

SCALE: H: AS NOTED V: 1" = 10'

DATE: 7-15-11

REVISION SET

2

DRAWING NUMBER: C-2

SHEET NUMBER: 4 OF 23



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 17 Urgency: **High**

Date: 8/29/2013

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

CC:

Subject: Manhole 40-R

Drawing: C-3

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

We would like to request that the drop for Manhole 40-R be changed from an exterior drop to an interior drop. It seems necessary to provide two 8" 11.25 degree bends at the existing manhole near NBL I-81 and at Manhole 40-R. Providing the bends will allow the pipe to penetrate the manholes at a suitable angle for the constructability of the work. The bend for MH-40-R will be located just outside of the manhole and will penetrate to the interior of the manhole with a tee that will be capped down to a 90 degree bend at the required invert elevation of MH-40R. The inside drop pipe will be supported with pipe supports that will be mounted to the wall of MH-40R.

Requested by: Mat Hall-English Construction

Response:

OK

Answered by: Turner Perrow
WW ASSOCIATES

Answered date:

Forwarded:



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 7

Date: 3/22/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

Urgency: **Normal**

CC:

Subject: Casing Pipe at I-81 and Tinker Mountain Road

Drawing:

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

We would like to request plans for the Bore and Jack at I-81 and Tinker Mountain Road that show the casing size being increased from 36" to 48" to allow us to perform hand mining if we encounter mixed face conditions.

Requested by: Mat Hall-English Construction

Response:

Plans received.

Answered by: Turner Perrow
WW ASSOCIATES

Answered date:

Forwarded: Brian Blevins (VDOT - Salem)



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 18

Urgency: **High**

Date: 9/9/2013

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

CC:

Subject: MH-41R Shift

Drawing: C-3

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

We would like to shift MH-41R away from the casing approximately 22' in-line with the tunnel to allow for future removal and installation of pipe to the tunnel if necessary. This will also allow for better alignment for the pipe from MH-41R to MH-42 since the added casing pipe at the delineated stream at approximately station 37+50 was offset and installed earlier in the project.

Requested by: Mat Hall-English Construction

Response:

OK

Answered by: Turner Perrow
WW ASSOCIATES

Answered date:

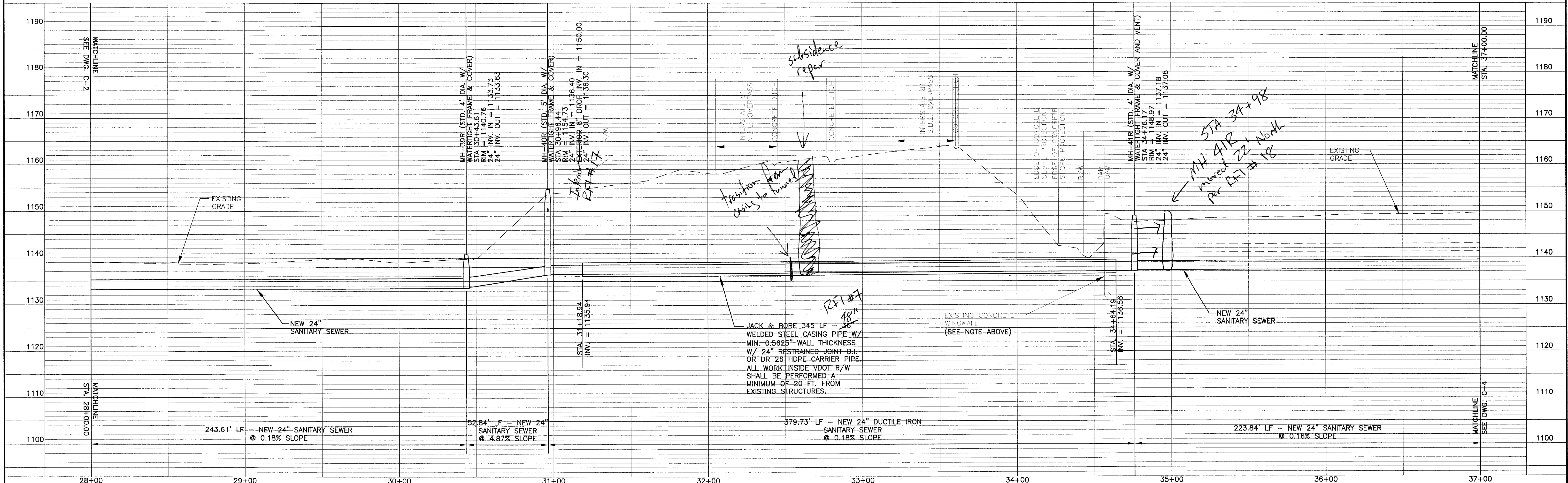
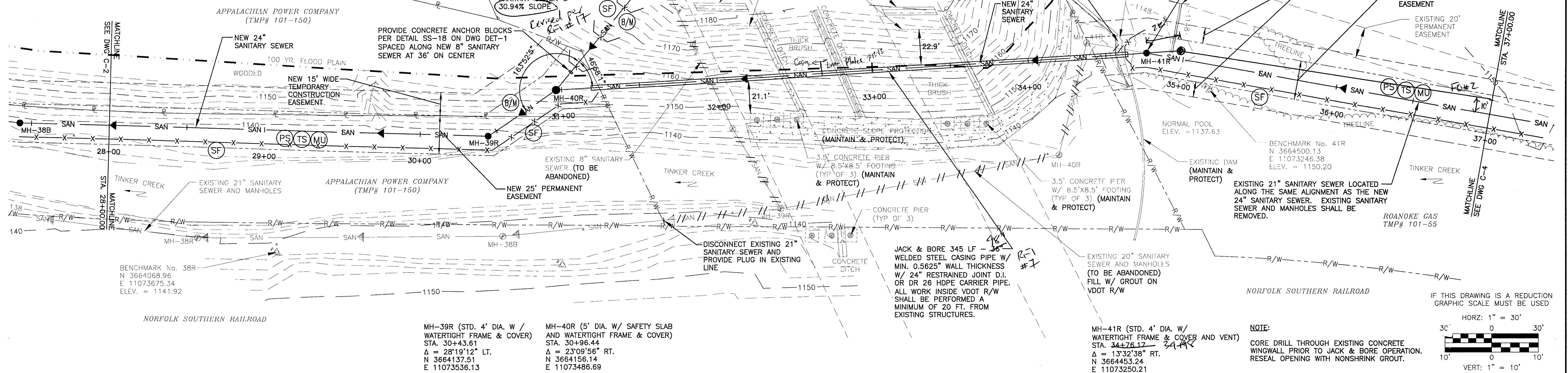
Forwarded:

NOTES:

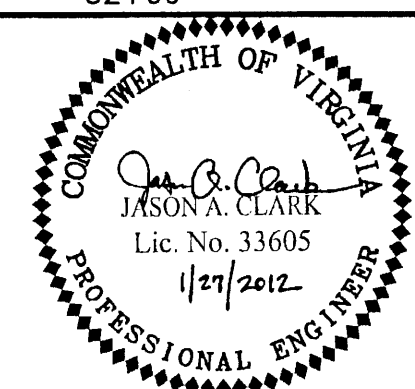
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2. PROVIDE CONSTRUCTION ENTRANCES PER DETAIL ON DWG. DET-2 AT ALL PROJECT ACCESS POINTS TO PREVENT THE TRANSPORT OF SEDIMENT OFF OF THE PROJECT SITE.

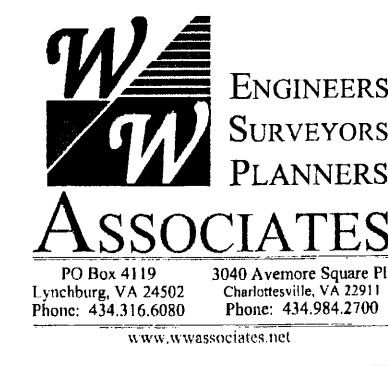
3. ALL PROJECT LAYDOWN AREAS SHALL BE GRAVEL AND COMPLY WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE
1	REVISED MIN. WALL THICKNESS OF CASING PIPE AND ADDED NOTE TO PROVIDE SHEET PILING PER ADDENDUM	WSW	1/27/12				



ISSUED FOR CONSTRUCTION
JANUARY 27, 2012



DESIGNED BY: JMF/JAC	PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK SANITARY SEWER INTERCEPTOR IMPROVEMENTS	REVISION SET: 2
DRAWN BY: WSW/CLP	TITLE: NEW 24" SANITARY SEWER - PLAN AND PROFILE STA. 28+00.00 TO STA. 37+00.00	DRAWING NUMBER: C-3
CHECKED BY: EJTP	FILE NAME: 1036C-3.dwg	SHEET NUMBER: 5 OF 23
WVA NUMBER: 211036.02	DISCIPLINE: CIVIL	
	SCALE: H: AS NOTED V: 1" = 10'	
	DATE: 7-15-11	

Field Order

No. 2

Date of Issuance: March 11, 2013

Effective Date: March 11, 2013

Project:	Owner:	Owner's Contract No.:
Phase I Tinker Creek Sanitary Sewer	Botetourt County, Virginia	
Contract:	Date of Contract:	
Phase I Tinker Creek Sanitary Sewer Interceptort Improvements	January 30, 2012	
Contractor:	Engineer's Project No.:	
English Construction Company, Inc.	211036.04	

Attention:

You are hereby directed to promptly execute this Field Order issued in accordance with General Conditions Paragraph 9.05A., for minor changes in the Work without changes in Contract Price or Contract Times. If you consider that a change in Contract Price or Contract Times is required, please notify the Engineer immediately and before proceeding with this Work.

Reference: 2730 - Sanitary Sewer System
(Specification Section(s))

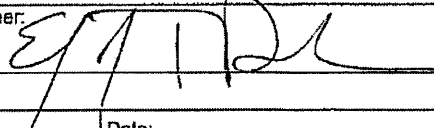

C-3, C-4, C-5
(Drawing(s) / Detail(s))

Description:

- 1) Offset the proposed sanitary sewer from the existing sewer from MH-41 to MH-44 by 10 feet, away from the creek. Maintain slopes, inverts, and elevations as shown in the construction documents.
- 2) Abandon the existing sewer in accordance with section 2730 of the specifications.
- 3) Pursant to discussion with contractor, the unit price for rock excavation shall not be applied between MH-41 to MH 44.

above the bottom of the existing pipe (MH 3-11-13)

Attachments:

Engineer:	
Receipt Acknowledged by (Contractor):	Date:
	3-11-13

Copy to Owner

Change Order

No. 2

Date of Issuance: 10/7/2013

Effective Date: 10/7/2013

Project: Phase I Tinker Creek Sanitary Sewer Improvements	Owner: Botetourt County, Virginia	Owner's Contract No.:
Contract: Phase I Tinker Creek Sanitary Sewer Improvements		Date of Contract: January 30, 2012
Contractor: English Construction Company		Engineer's Project No.: 211036.02

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Installation of casing pipe at delineated stream, final unit quantities adjustment

Attachments: (List documents supporting change):

Change Request #3

Updated Unit Price Schedule

CHANGE IN CONTRACT PRICE:

Original Contract Price:

\$ 2,380,000.00

[Increase] [Decrease] from previously approved Change Orders No. 0 to No. 1:

\$ (4,640.00)

Contract Price prior to this Change Order:

\$ 2,375,360.00

[Increase] [Decrease] of this Change Order:

\$ 117,502.60.00

Contract Price incorporating this Change Order:

\$ 2,492,862.60

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working days ☒ Calendar days

Substantial completion (days or date): 1/25/2013

Ready for final payment (days or date): 2/24/2013

[Increase] [Decrease] from previously approved Change Orders No. 0 to No. 1:

Substantial completion (days): 0

Ready for final payment (days): 0

Contract Times prior to this Change Order:

Substantial completion (days or date): 1/25/2013

Ready for final payment (days or date): 2/24/2013

[Increase] [Decrease] of this Change Order:

Substantial completion (days or date): 8

Ready for final payment (days or date): 8

Contract Times with all approved Change Orders:

Substantial completion (days or date): 2/2/2013

Ready for final payment (days or date): 3/4/2013

RECOMMENDED:

ACCEPTED:

ACCEPTED:

By: _____
Engineer (Authorized Signature)

By: _____
Owner (Authorized Signature)

By: _____
Contractor (Authorized Signature)

Date: _____

Date: _____

Date: _____

Approved by Funding Agency (if applicable): _____

Date: _____



Since 1909

615 Church Street
Lynchburg, VA 24505
Ph : (434) 845-0301

Change Request

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

Number: 3
Date: 2/13/13
Job: 1570 Ph I Tinker Creek Sewer Improv
Phone:

Description: Install Casing Pipe at Delineated Streams

We are pleased to offer the following specifications and pricing to make the following changes:

Provide casing pipe, nylon carrier pipe, casing spacers, and end seals for work required to be performed prior to a permit restricted time period.

Description	Labor	Material	Equipment	Subcontract	Other	Price
Casing Pipe for Permit Change	\$6,200.00	\$11,416.00	\$9,309.84			\$26,925.84
					Subtotal:	\$26,925.84
		Labor Burden		\$6,200.00	47.09%	\$2,919.77
		Overhead & Profit(GC)		\$29,845.61	15.00%	\$4,476.84
		Overhead & Profit(SC)				\$0.00
		Bond		\$34,322.45	0.80%	\$274.58
		Round-Off				\$-0.03
					Total:	\$34,597.00

Please note that English Construction Co., Inc. will require an extra 8 days.

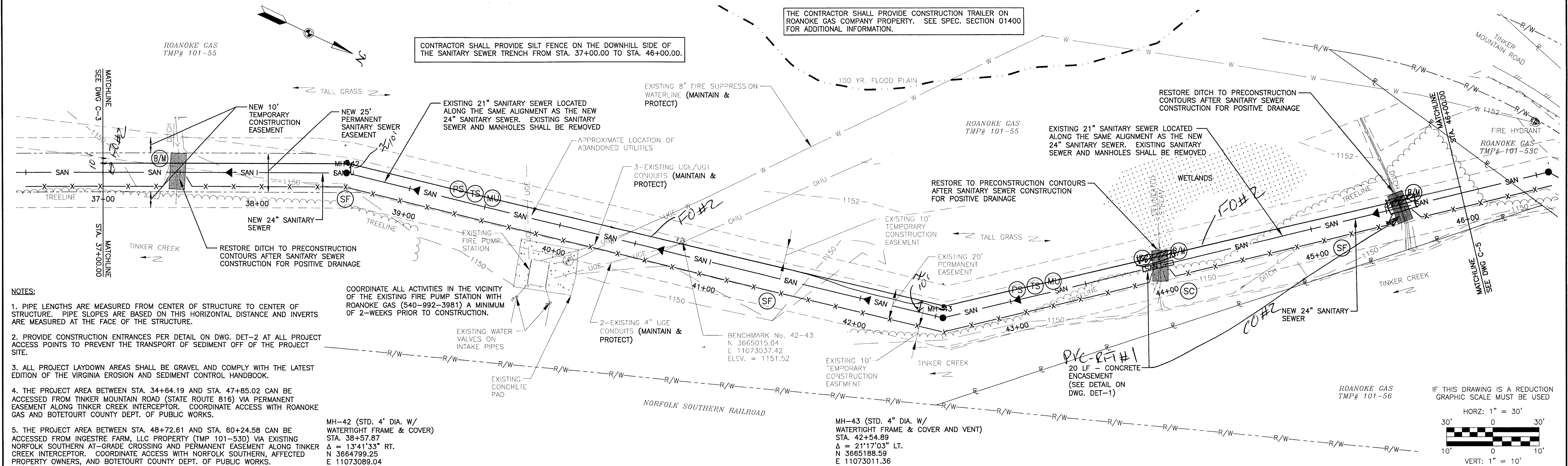
If you have any questions, please contact me at .

Submitted by: Mat Hall-English Construction

Approved by: _____

Date: _____

Cc:



Sanitary sewer layout plan showing the alignment of a new 24-inch sanitary sewer line. The plan includes manholes MH-42 and MH-43, both with 4-foot diameter water-tight frames and covers. The sewer line is shown with a 0.16% slope for the first segment and a 0.17% slope for the second segment. The plan also shows an existing 21-inch sanitary sewer line and a 20-foot concrete encasement for the new line. The plan is divided into three sections by matchlines at STA. 37+00.00, STA. 43+00.00, and STA. 46+00.00. The plan includes a north arrow and a scale bar.

Manhole Details:

- MH-42:** STD. 4' DIA. W/ WATER-TIGHT FRAME & COVER. RIM = 1137.86, 24" INV. IN = 1137.86, 24" INV. OUT = 1137.78.
- MH-43:** STD. 4' DIA. W/ WATER-TIGHT FRAME & COVER AND VENT. STA 42+54.89, RIM = 1151.13, 24" INV. IN = 1138.86, 24" INV. OUT = 1138.86.

Sanitary Sewer Line Details:



- Segment 1:** 157.87' LF - NEW 24" SANITARY SEWER @ 0.16% SLOPE.
- Segment 2:** 397.02' LF - NEW 24" SANITARY SEWER @ 0.17% SLOPE.
- Segment 3:** 345.11' LF - NEW 24" SANITARY SEWER @ 0.17% SLOPE.

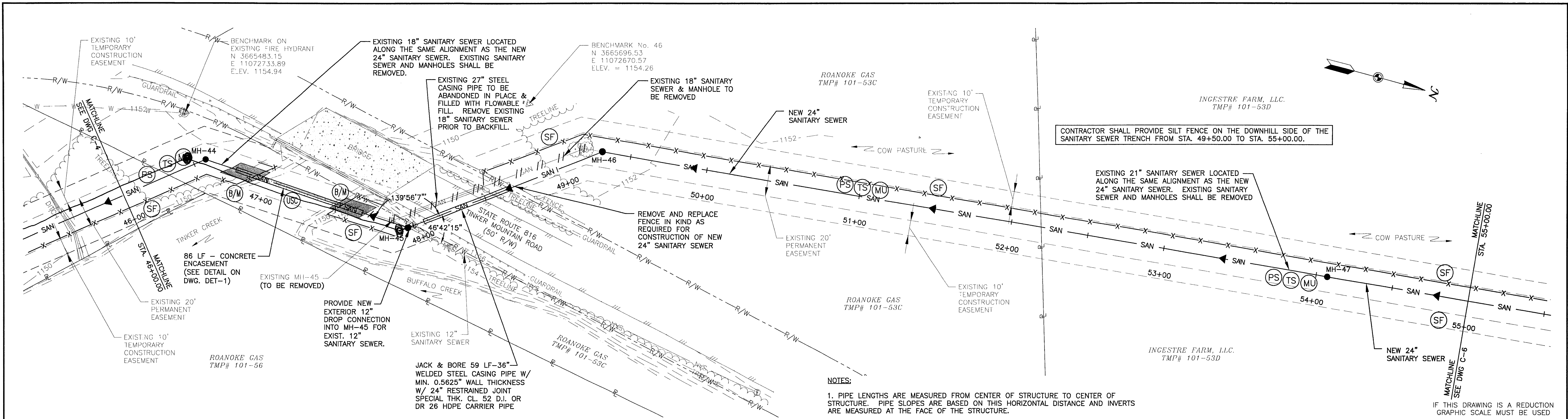
Other Features:

- 20 LF - CONCRETE ENCASEMENT:** SEE DETAIL ON DWG. DET-1. (PVC) RFI#1.
- EXISTING 21" SANITARY SEWER:** Shown as a dashed line.
- EXISTING GRADE:** Indicated by a dashed line with a downward arrow.
- DELINEATED STREAM:** Indicated by a dashed line with a downward arrow.

Matchlines:

- Matchline:** SEE DWG. C-3, STA. 37+00.00.
- Matchline:** STA. 43+00.00.
- Matchline:** STA. 46+00.00, SEE DWG. C-5.

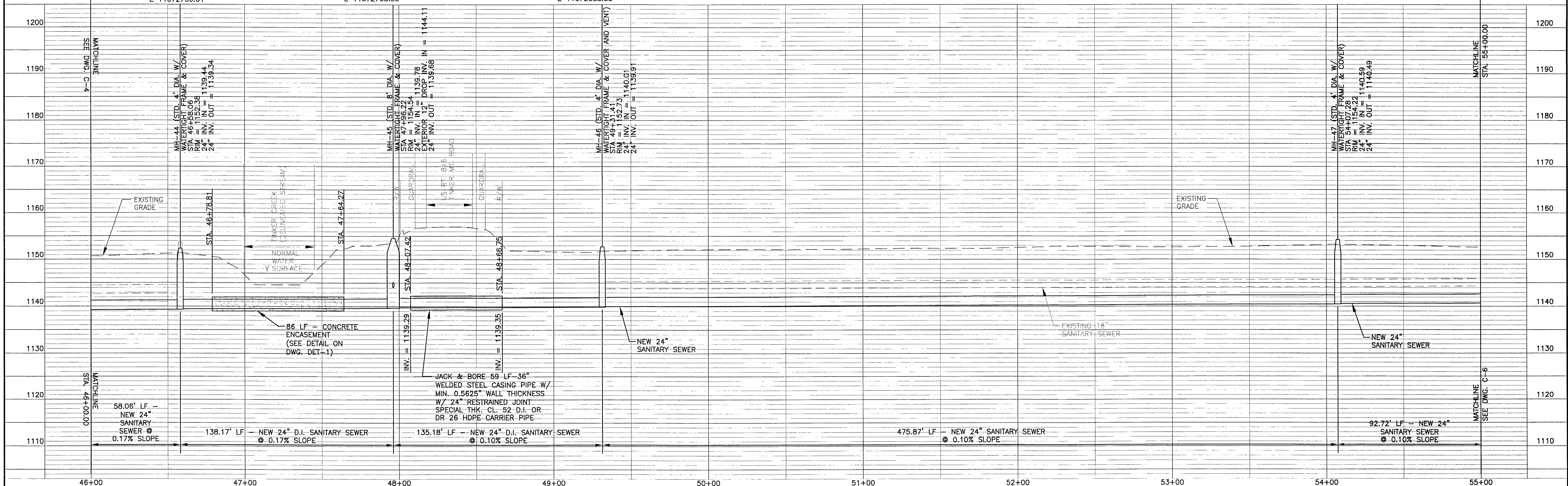
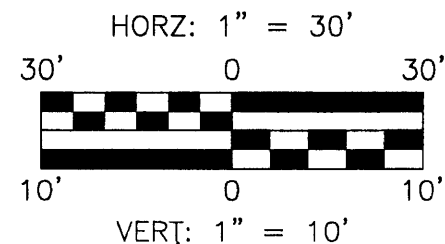
37+00		38+00		39+00		40+00		41+00		42+00		43+00		44+00		45+00		46+00																															
1	ADDED NOTE TO PROVIDE SILT FENCE PER ADDENDUM			WSW	1/27/12																																												
<div><div><p>ISSUED FOR CONSTRUCTION JANUARY 27, 2012</p></div><div><p>W.W. ASSOCIATES ENGINEERS SURVEYORS PLANNERS</p><p>PO Box 4310 3000 Arundell Square PL Lynchburg, VA 24502 Charlottesville, VA 22911 Phone: 434.335.6000 Phone: 434.584.2700 www.wvassoc.com</p></div></div>																																																	
<table><tr><td colspan="2">DESIGNED BY: JMF/JAC</td><td colspan="2">PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK SANITARY SEWER INTERCEPTOR IMPROVEMENTS</td><td colspan="2">REVISION SET 2</td></tr><tr><td colspan="2">DRAWN BY: WSW/CLP</td><td colspan="2">TITLE: NEW SANITARY SEWER – PLAN AND PROFILE STA. 37+00.00 TO STA. 46+00.00</td><td colspan="2">DRAWING NUMBER: C-4</td></tr><tr><td colspan="2">DNR BY: EJTP</td><td colspan="2">FILE NAME: 211036.02</td><td colspan="2">SHEET NUMBER: 6 OF 23</td></tr><tr><td colspan="2">WVA NUMBER: 211036.02</td><td colspan="2">DISCIPLINE: CIVIL</td><td colspan="2">DATE: 7-15-11</td></tr><tr><td colspan="2">SCALE: H: AS NOTED</td><td colspan="2">DATE: 7-15-11</td><td colspan="2">SHEET NUMBER: 6 OF 23</td></tr></table>																				DESIGNED BY: JMF/JAC		PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK SANITARY SEWER INTERCEPTOR IMPROVEMENTS		REVISION SET 2		DRAWN BY: WSW/CLP		TITLE: NEW SANITARY SEWER – PLAN AND PROFILE STA. 37+00.00 TO STA. 46+00.00		DRAWING NUMBER: C-4		DNR BY: EJTP		FILE NAME: 211036.02		SHEET NUMBER: 6 OF 23		WVA NUMBER: 211036.02		DISCIPLINE: CIVIL		DATE: 7-15-11		SCALE: H: AS NOTED		DATE: 7-15-11		SHEET NUMBER: 6 OF 23	
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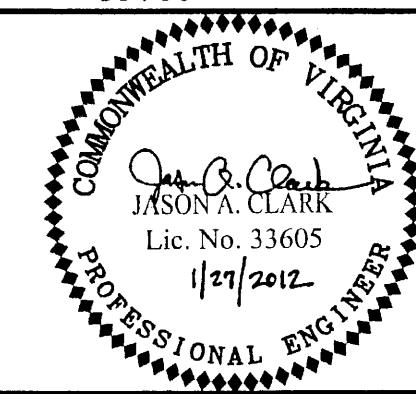
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- PROVIDE CONSTRUCTION ENTRANCES PER DETAIL ON DWG. DET-2 AT ALL PROJECT ACCESS POINTS TO PREVENT THE TRANSPORT OF SEDIMENT OFF OF THE PROJECT SITE.
- ALL PROJECT LAYDOWN AREAS SHALL BE GRAVEL AND COMPLY WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

MH-47 (STD. 4' DIA. W/ WATERTIGHT FRAME & COVER)
STA. 54+05.54
Δ = 00°09'48" RT.
N 3668224.40
E 11072645.43



NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE
1	REVISED MIN. WALL THICKNESS OF CASING PIPE AND ADDED NOTE TO PROVIDE SILT FENCE PER ADDENDUM	WSW	1/27/12				



ISSUED FOR CONSTRUCTION
JANUARY 27, 2012

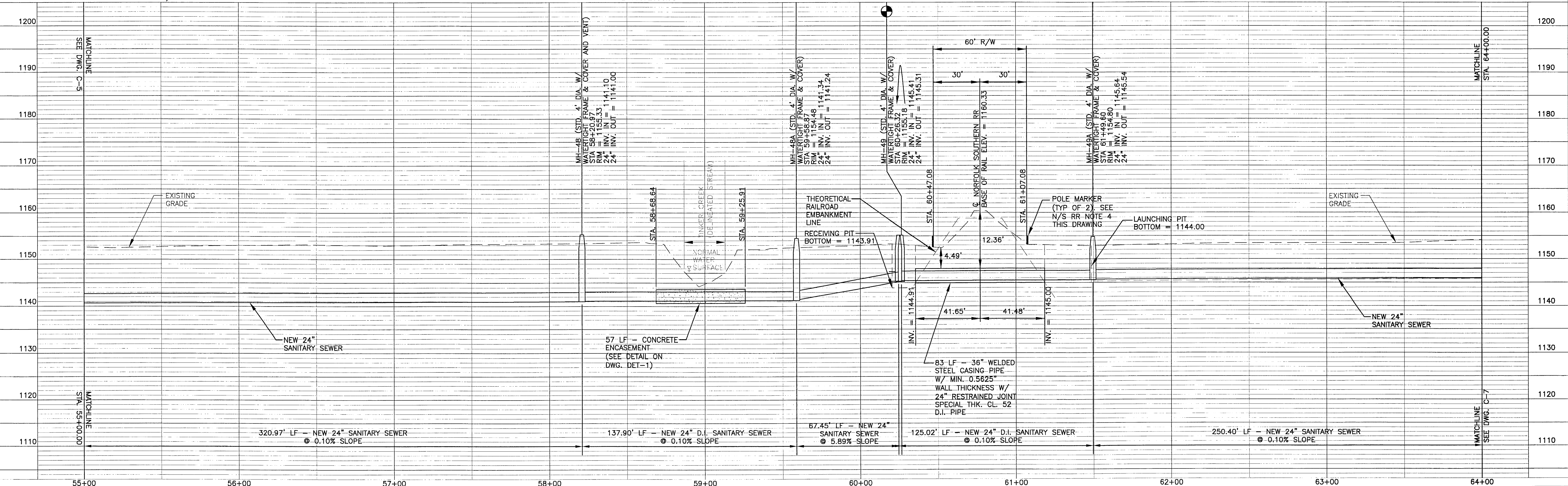
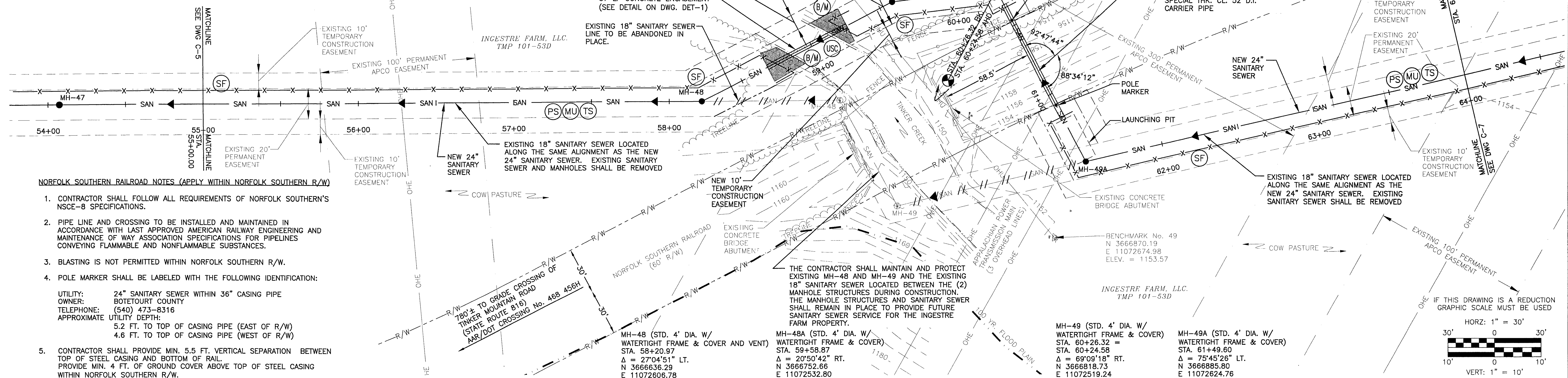


DESIGNED BY: JMF/JAC	PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK SANITARY SEWER INTERCEPTOR IMPROVEMENTS	REVISION SET 2
DRAWN BY: WSW/CLP	TITLE: NEW SANITARY SEWER - PLAN AND PROFILE STA. 46+00.00 TO STA. 55+00.00	DRAWING NUMBER: C-5
CHECKED BY: EJTP	FILE NAME: 1036C-5.dwg	SHEET NUMBER: 7 OF 23
WQA NUMBER: 211036.02	DISCIPLINE: CIVIL	
	SCALE: H: AS NOTED V: 1" = 10'	
	DATE: 7-15-11	

NOTES:

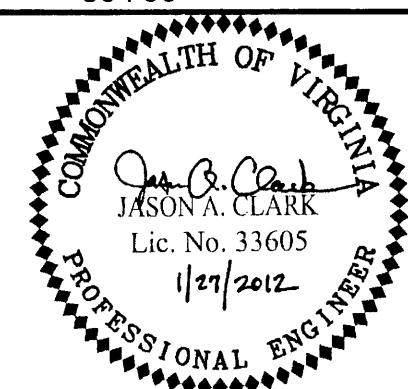
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- THE PROJECT AREA BETWEEN STA. 61+15± AND STA. 84+39.74 CAN BE ACCESSED FROM BARRIE ANN KNOX PROPERTY (TMP 101-53A) VIA EXISTING NORFOLK SOUTHERN AT-GRADE CROSSING AND PERMANENT EASEMENT ALONG TINKER CREEK INTERCEPTOR. COORDINATE ACCESS WITH NORFOLK SOUTHERN, AFFECTED PROPERTY OWNERS, AND BOTETOURT COUNTY DEPT. OF PUBLIC WORKS.



1	REVISED EXISTING SANITARY SEWER BETWEEN MH-48 & MH-49 TO REMAIN IN SERVICE PER COUNTY REQUEST.	JAC	1/11/12
NO.	REVISION	BY	DATE

NO.	REVISION	BY	DATE
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ISSUED FOR CONSTRUCTION
JANUARY 27, 2012

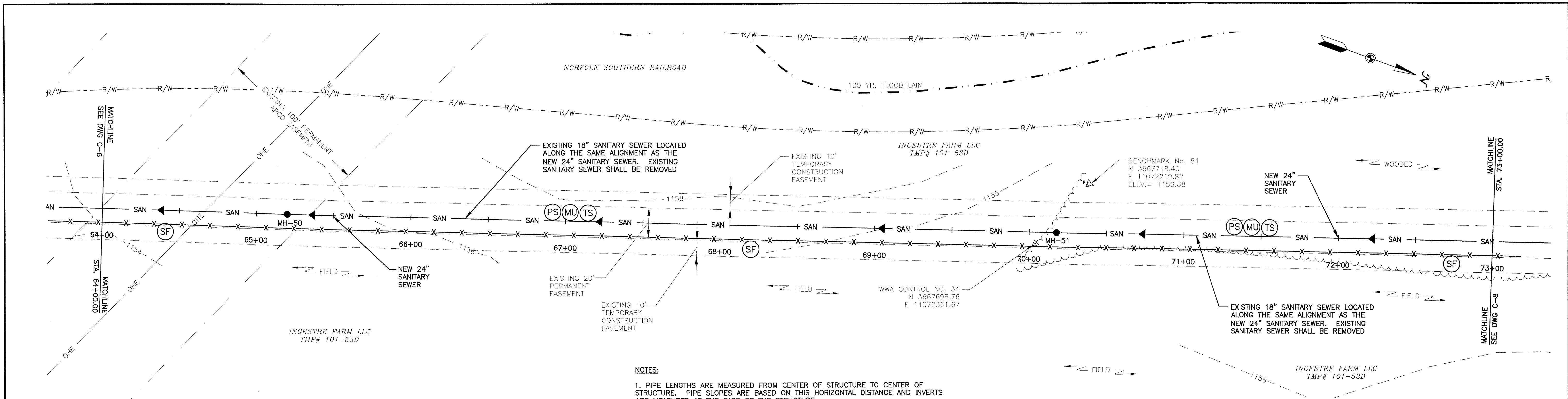


DESIGNED BY: JMF/JAC
DRAWN BY: WSW/CLP
CHKD BY: EJTP
WNA NUMBER: 211036.02

PROJECT: BOTETOURT COUNTY, VIRGINIA
PHASE I TINKER CREEK
SANITARY SEWER INTERCEPTOR IMPROVEMENTS
TITLE: NEW SANITARY SEWER - PLAN AND PROFILE
STA. 55+00.00 TO STA. 64+00.00

FILE NAME: 1036C-6.dwg
DISCIPLINE: CIVIL
SCALE: H: AS NOTED
DATE: 7-15-11

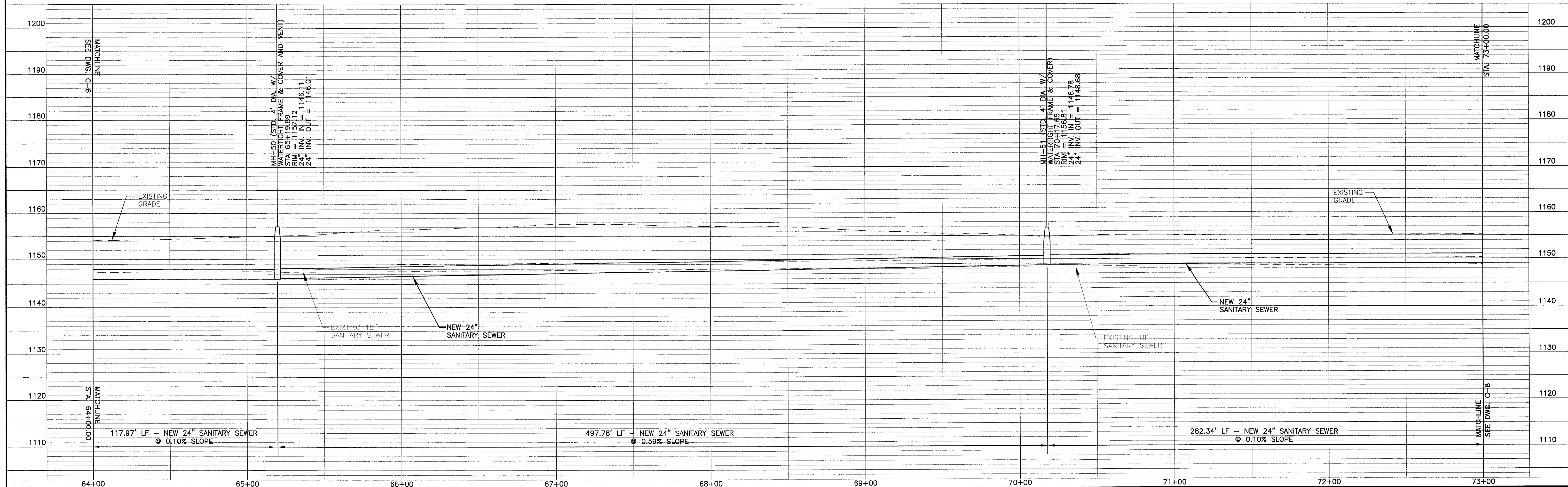
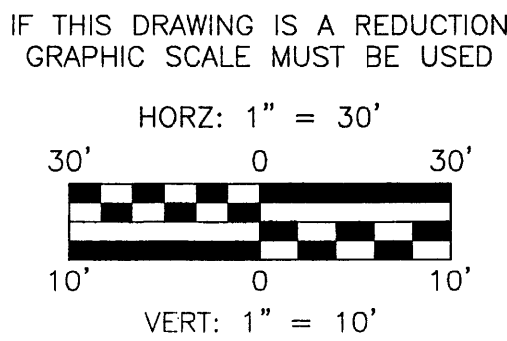
REVISION SET
2
DRAWING NUMBER:
C-6
SHEET NUMBER:
8 OF 23



- NOTES:**
1. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. PIPE SLOPES ARE BASED ON THIS HORIZONTAL DISTANCE AND INVERTS ARE MEASURED AT THE FACE OF THE STRUCTURE.
 2. PROVIDE CONSTRUCTION ENTRANCES PER DETAIL ON DWG. DET-2 AT ALL PROJECT ACCESS POINTS TO PREVENT THE TRANSPORT OF SEDIMENT OFF OF THE PROJECT SITE.
 3. ALL PROJECT LAYDOWN AREAS SHALL BE GRAVEL AND COMPLY WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

MH-50 (STD. 4' DIA. W/ WATER TIGHT FRAME & COVER AND VENT)
STA. 65+19.89
24" INV. IN = 1146.11
24" INV. OUT = 1146.01

MH-51 (STD. 4' DIA. W/ WATER TIGHT FRAME & COVER)
STA. 70+17.65
24" INV. IN = 1148.73
24" INV. OUT = 1148.68



NO.				REVISION				BY				DATE			

COMMONWEALTH OF VIRGINIA

JASON A. CLARK

Lic. No. 33605

1/27/2012

PROFESSIONAL ENGINEER

ISSUED FOR CONSTRUCTION

JANUARY 27, 2012

W

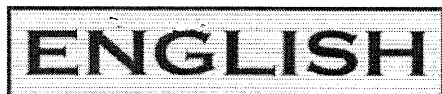
W

ASSOCIATES

ENGINEERS
SURVEYORS
PLANNERS

3000 Avenue Square Pl.
Lynchburg, VA 24502
Phone: 434.316.0000
Fax: 434.316.0000
www.wassociates.net

DESIGNED BY: JMF/JAC		PROJECT:		REVISION SET	
DRAWN BY: WSW/CLP		BOTETOURT COUNTY, VIRGINIA		2	
DIR BY: EJTP		PHASE I TINKER CREEK		DRAWING NUMBER:	
WVA NUMBER: 211036.02		SANITARY SEWER INTERCEPTOR IMPROVEMENTS		C-7	
FILE NAME: 1036C-7.dwg		TITLE: NEW SANITARY SEWER - PLAN AND PROFILE		SHEET NUMBER:	
DISCIPLINE: CIVIL		SCALE: H: AS NOTED V: AS NOTED		9 OF 23	
DATE: 7-15-11					



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 11

Urgency: **High**

Date: 7/27/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

CC:

Subject: Request Shifting MH-52

Drawing: C-8

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

We would like to make a request to shift MH-52 on Sheet C-8 to approximately Station 74+90. By doing this it will allow us to begin this work on property other than the NPS which will allow us to finish our work tying into a manhole that will be on property that is not constrained by the NPS permit.

Requested by: Mat Hall-English Construction

Response:

The proposed relocation of MH-52 is acceptable. The revised manhole location shall be placed at Station 74+80 with a rim elevation of 1155.8, a 24" INV IN of 1149.34, and a 24" INV OUT of 1149.24.

Answered by: Turner Perrow
WW ASSOCIATES

Answered date: July 27, 2012

Forwarded:



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 5
Date: 3/1/2012
Job: 1570 Ph I Tinker Creek Sewer Improv
Phone: Urgency: **Normal**

CC:

Subject: Ductile Iron Piping Class 52 to Class 50

Drawing:

Spec Section:

Cost Impact:

Schedule Impact:

Request:

Date Required:

Would it be possible for the Ductile Iron piping to be changed from Class 52 to Class 50 in the crossings and through the bores? Also, we think it would be beneficial to add a manhole just beyond the Tinker Creek Crossing at approximately Station 85+50. In doing this we would be able to lay Ductile Iron Pipe to that new manhole and we would be able to leave that manhole to MH-55 with the PVC pipe. This way we would not have to transition from Ductile Iron to PVC piping in between MH-54 and MH-55. This was also discussed on the delineated stream crossings where it was determined that it is better to stay with the same type of pipe versus transitioning the pipe.

Requested by: Mat Hall-English Construction

Response:

Class 50 ductile iron pipe will be allowed in lieu of Class 52 ductile iron pipe for creek crossing and as carrier pipe through steel casing pipes.

A manhole located at Sta. 85+50.00 will be allowed per the Contractor's request. The manhole shall be installed as follows:

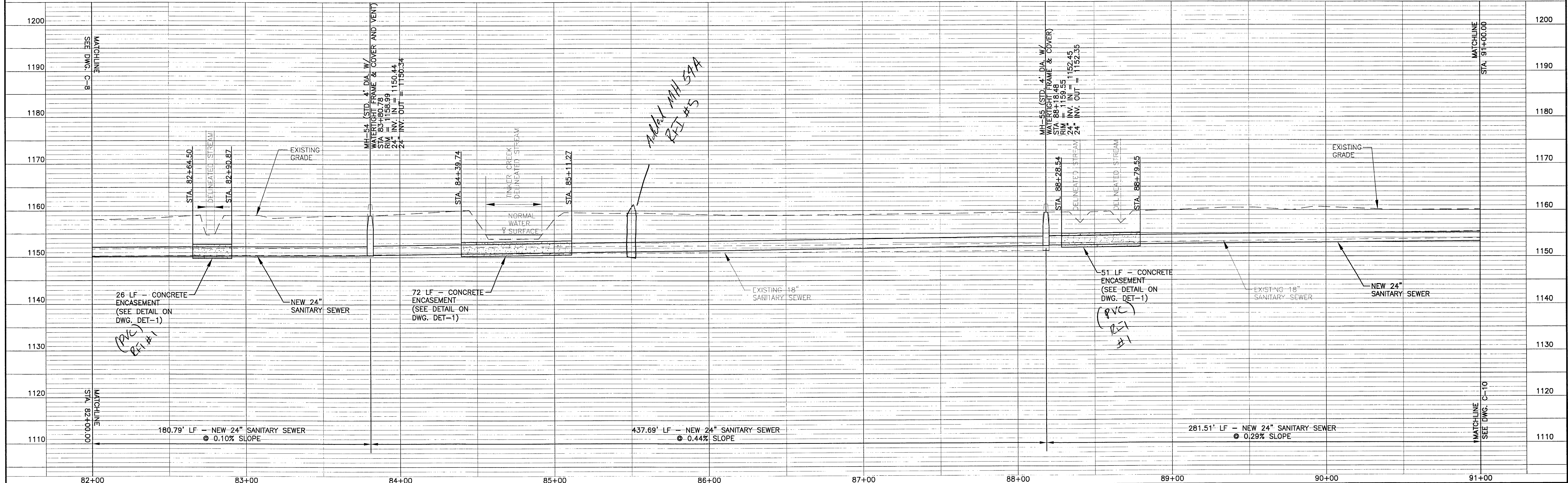
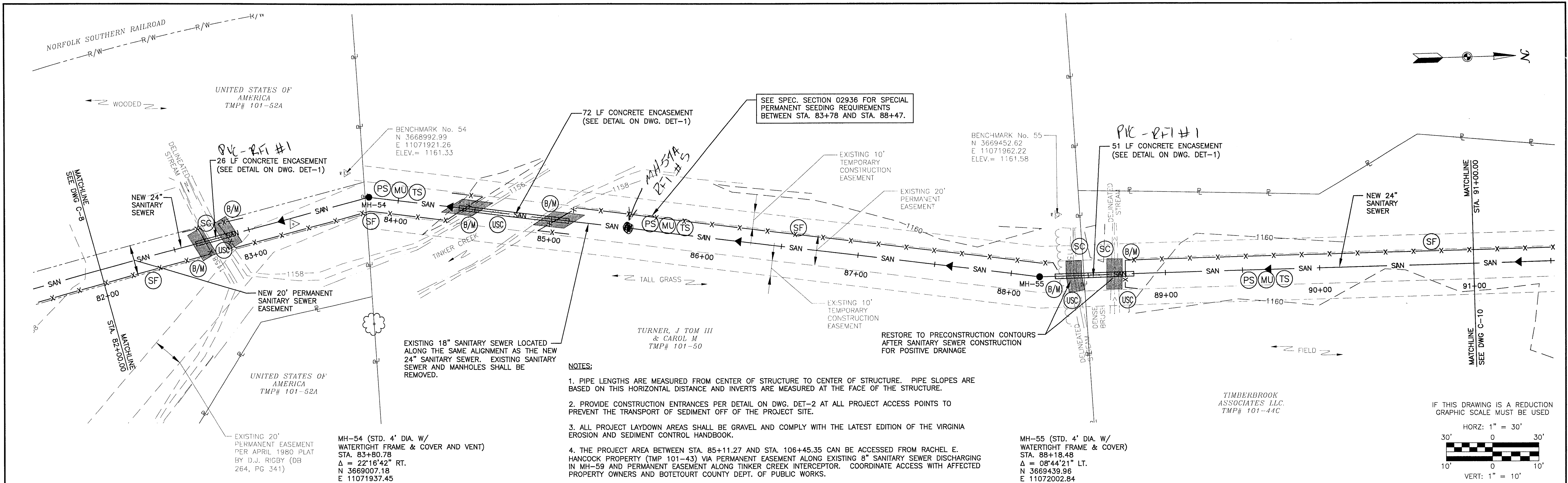
MH 54A (Std. 4' Dia.)
Sta. 85+50.00
Rim Elev. = 1159.50
24" Inv. In = 1151.24
24" Inv. out = 1151.14

To account for the 0.10-foot drop required between the invert in and out of MH-54A, the slope of the sanitary sewer from MH-54 to Mh54A, and from Mh-54A to Mh-55 will need to be 0.14%.

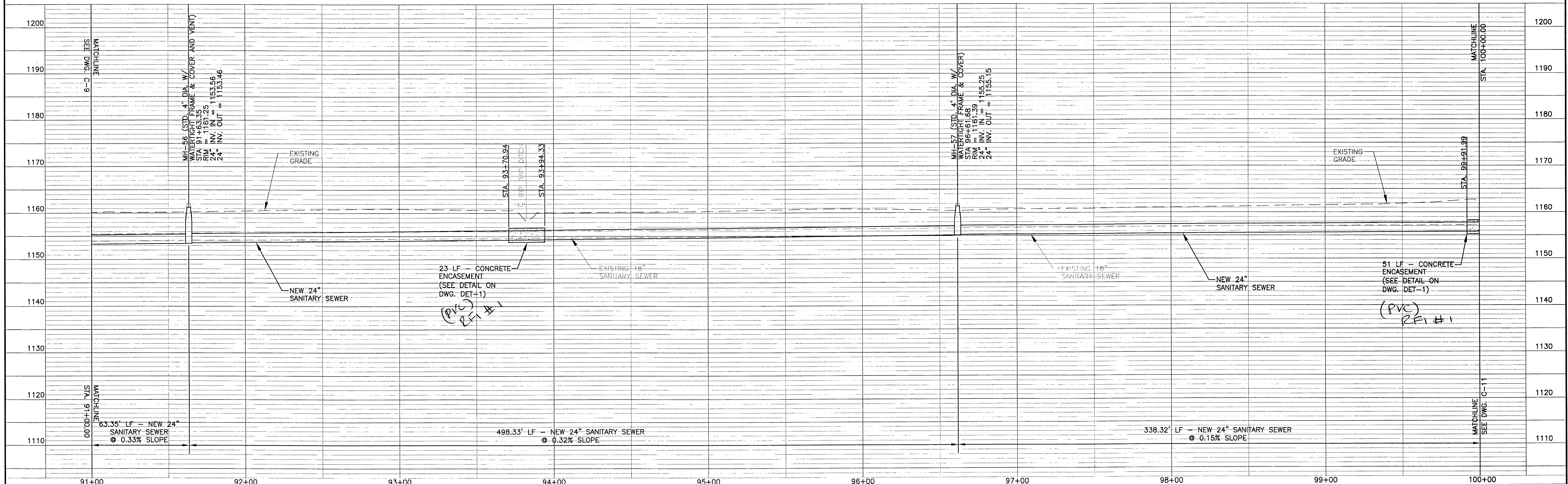
Answered by: Turner Perrow
WW ASSOCIATES

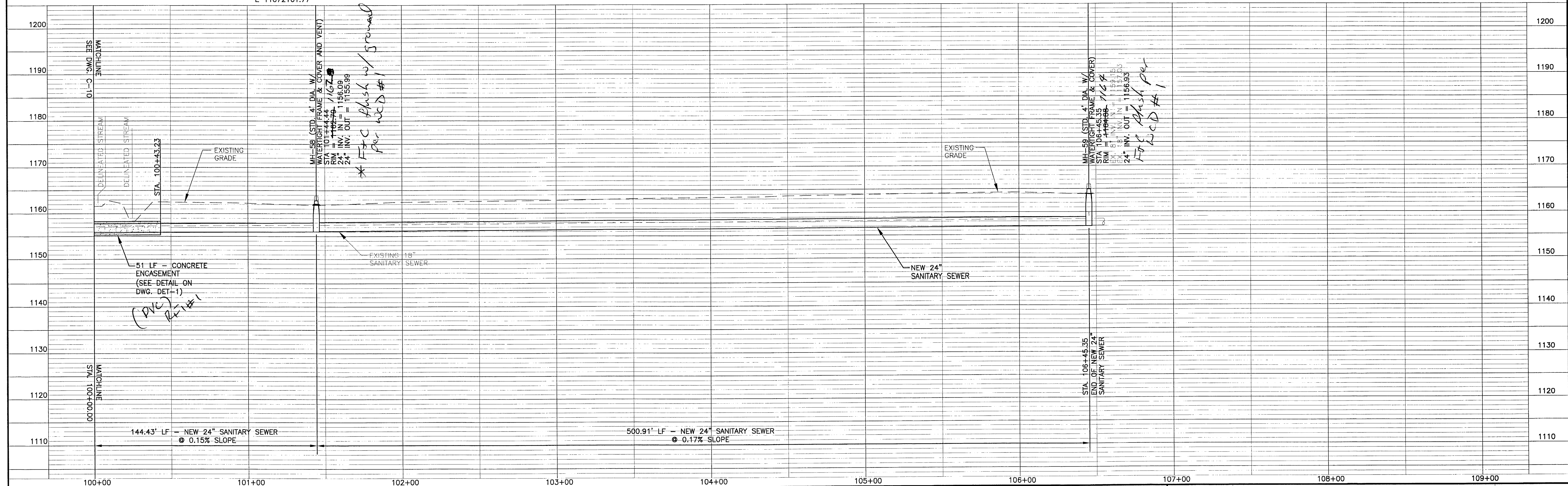
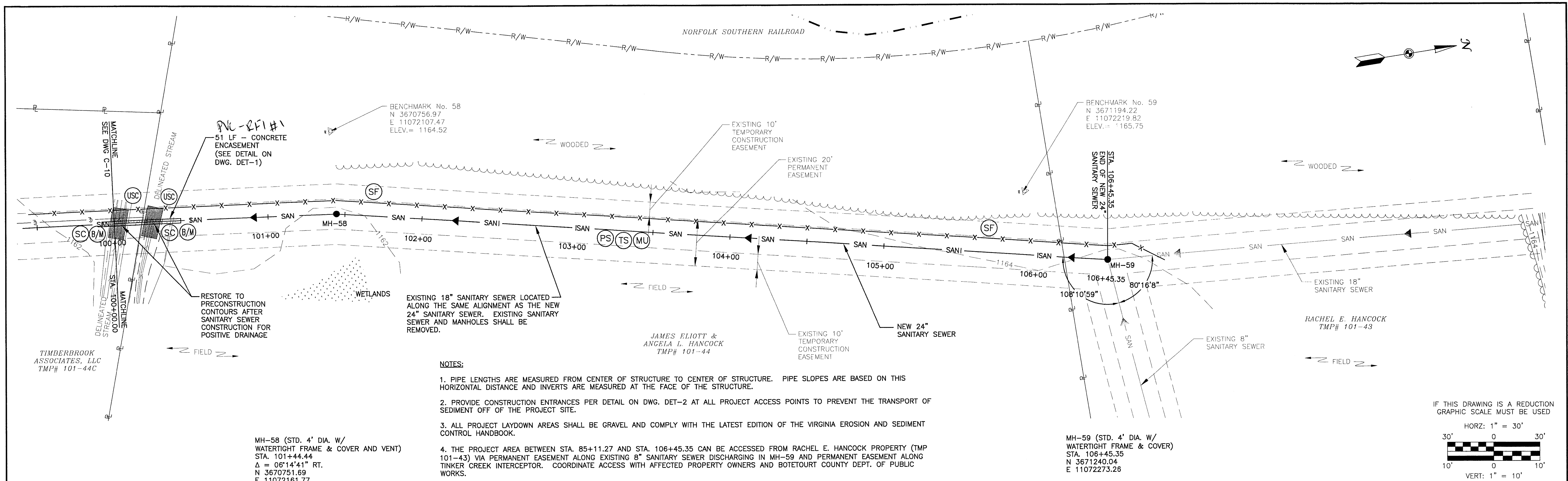
Answered date:

Forwarded:



<p>DESIGNED BY: JMF/JAC</p> <p>DRAWN BY: WSW/CLP</p> <p>CHECKED BY: EJTP</p> <p>WVA NUMBER: 211036.02</p>	<p>FILE NAME: 1036C-9.dwg</p> <p>DISCIPLINE: CIVIL</p> <p>SCALE: H: AS NOTED V: AS NOTED</p> <p>DATE: 7-15-11</p>	<p>REVISION SET: 2</p> <p>DRAWING NUMBER: C-9</p> <p>SHEET NUMBER: 11 OF 23</p>	<p>BOTETOURT COUNTY, VIRGINIA</p> <p>PHASE I TINKER CREEK</p> <p>SANITARY SEWER INTERCEPTOR IMPROVEMENTS</p> <p>TITLE: NEW SANITARY SEWER - PLAN AND PROFILE</p> <p>STA. 82+00.00 TO STA. 91+00.00</p>
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NO. REVISION BY DATE	NO. REVISION BY DATE	NO. REVISION BY DATE	NO. REVISION BY DATE	NO. REVISION BY DATE	NO. REVISION BY DATE	NO. REVISION BY DATE	NO. REVISION BY DATE
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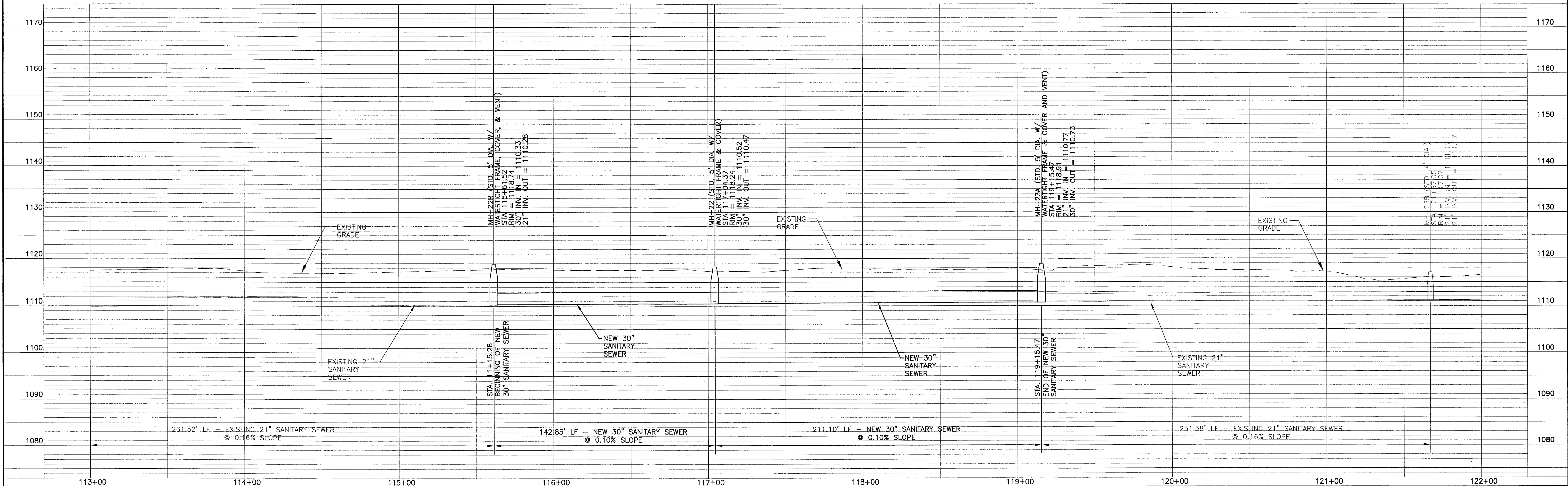
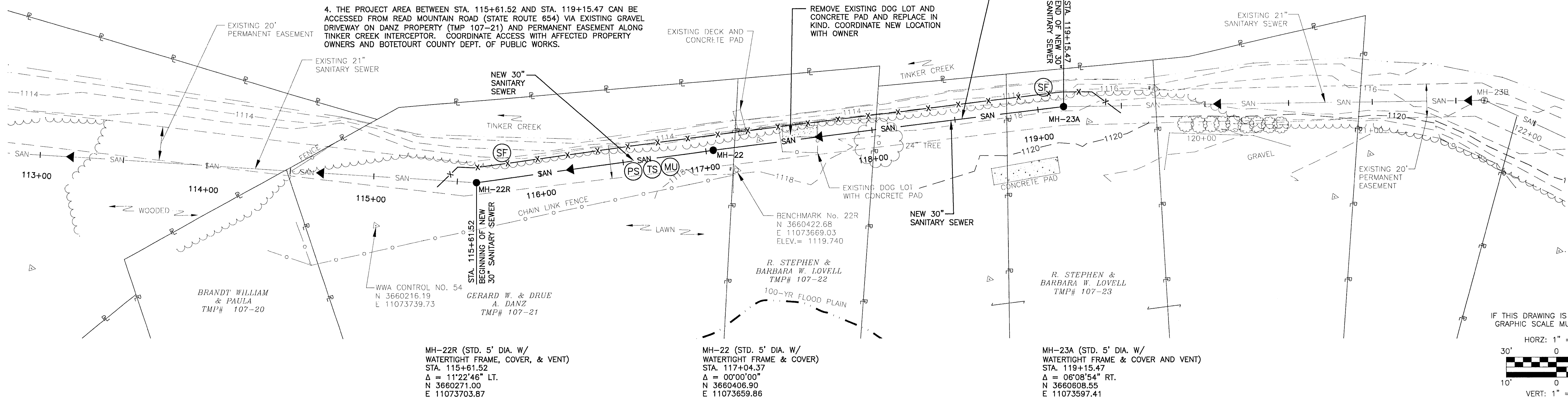
NOTES:



1. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. PIPE SLOPES ARE BASED ON THIS HORIZONTAL DISTANCE AND INVERTS ARE MEASURED AT THE FACE OF THE STRUCTURE.

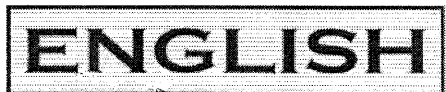
2. PROVIDE CONSTRUCTION ENTRANCES PER DETAIL ON DWG. DET-2 AT ALL PROJECT ACCESS POINTS TO PREVENT THE TRANSPORT OF SEDIMENT OFF OF THE PROJECT SITE.

3. ALL PROJECT LAYDOWN AREAS SHALL BE GRAVEL AND COMPLY WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

4. THE PROJECT AREA BETWEEN STA. 115+61.52 AND STA. 119+15.47 CAN BE ACCESSED FROM READ MOUNTAIN ROAD (STATE ROUTE 654) VIA EXISTING GRAVEL DRIVEWAY ON DANZ PROPERTY (TMP 107-21) AND PERMANENT EASEMENT ALONG TINKER CREEK INTERCEPTOR. COORDINATE ACCESS WITH AFFECTED PROPERTY OWNERS AND BOTETOURT COUNTY DEPT. OF PUBLIC WORKS.



																ISSUED FOR CONSTRUCTION JANUARY 27, 2012				 ENGINEERS SURVEYORS PLANNERS ASSOCIATES <small>PO Box 4119 Lynchburg, VA 24002 Phone: 434.336.6000 3040 Avenue Square Pl. Chesapeake, VA 20841 Phone: 434.984.2700 www.wvaassociates.net</small>				DESIGNED BY: JMF/JAC DRAWN BY: WSW/CLP CHECKED BY: EJTP WVA NUMBER: 211036.02				PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK SANITARY SEWER INTERCEPTOR IMPROVEMENTS TITLE: NEW SANITARY SEWER – PLAN AND PROFILE STA. 115+61.52 TO STA. 119+15.47 FILE NAME: 1036C-12.dwg DISCIPLINE: CIVIL SCALE: H: AS NOTED V: DATE: 7-15-11				REVISION SET 2 DRAWING NUMBER: C-12 SHEET NUMBER: 14 OF 23	
NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE	NO.	REVISION	BY	DATE		



Since 1909

ENGLISH CONSTRUCTION COMPANY, INC.

P. O. BOX P-7000

LYNCHBURG, VIRGINIA 24505

Telephone: (434) 845-0301

Fax: (434) 845-0306

Request For Information

To: Turner Perrow
WW ASSOCIATES
PO Box 4119
LYNCHBURG, VA 24502
Ph: 434.316.6080 Fax: 434.316.6081

RFI #: 1

Date: 2/7/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

Urgency: Normal

CC:

Subject: Pipe in Stream Crossing

Drawing:

Spec Section: 02730

Cost Impact:

Schedule Impact:

Request:

Date Required:

We would like to request using the pvc pipe that we will be installing for the sanitary sewer line through the delineated stream crossings and ditches instead of switching to Ductile Iron Pipe and having to transition the pipe. This request does not include the Tinker Creek Crossings. Please refer to Spec Section 02730/3 Section 2.1.5.

Requested by: Mat Hall-English Construction

Response:

Substituting PVC pipe for Ductile Iron Pipe at delineated stream crossings, except for Tinker Creek may reduce future maintenance problems associated with changing the pipe material mid run. Where crossing delineated streams, the PVC pipe shall be encased in concrete, in accordance with the plans and specifications. Tinker Creek crossings shall remain Ductile Iron Pipe in accordance with the plans and specifications.

Answered by: Turner Perrow
WW ASSOCIATES

Answered date: February 16, 2012

Forwarded:

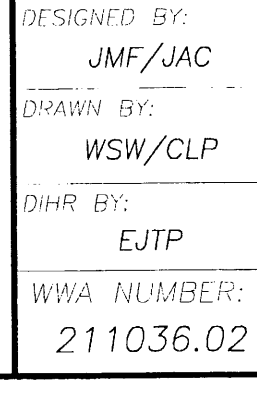
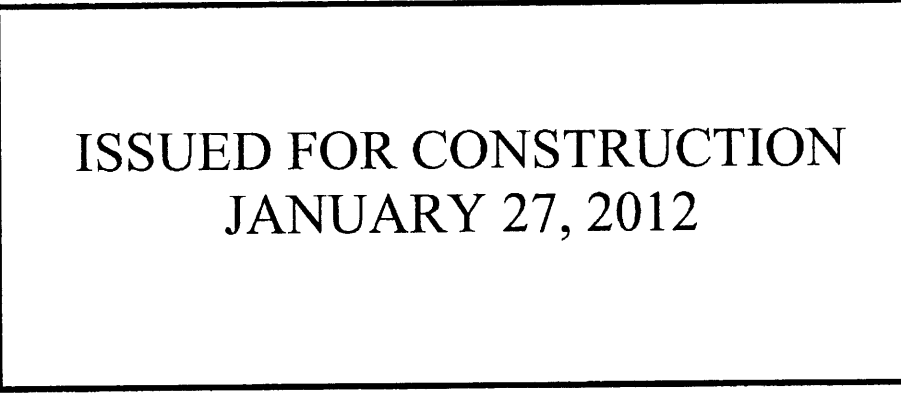
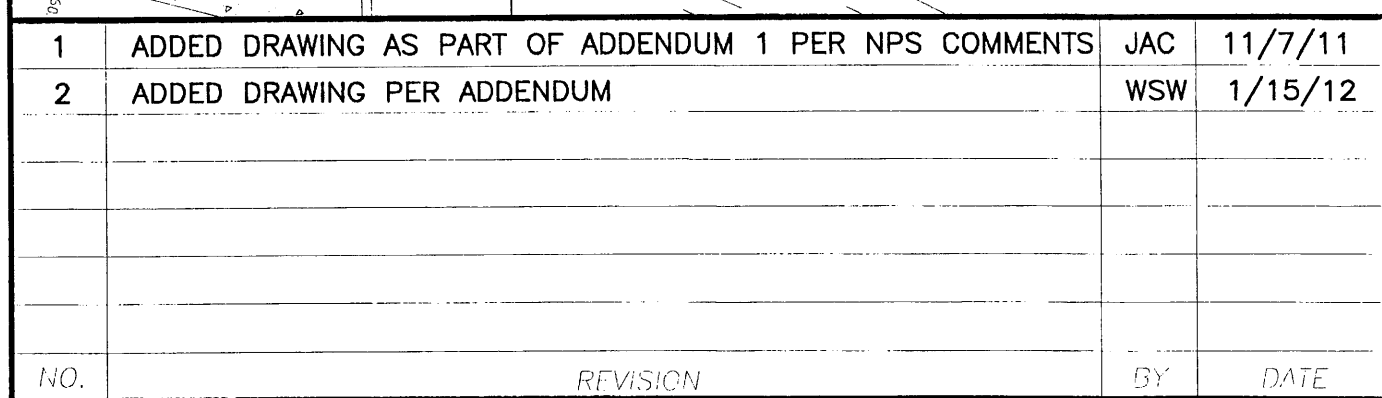
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1. EXISTING TREE
2. NEW SYNCHRONOUS TREE
3. NEW WHITE ASH TREE
4. NEW BLACK YELLOW TREE
5. TREE IDENTIFICATION MARKER
6. LIMITS OF FORESTED CORRIDOR
7. LIMITS OF FORESTED CORRIDOR AND

1. SEE PLAN 10-1 FOR TREE IDENTIFICATION TABLE FOR TREE IDENTIFICATION MARKER.
2. SEE PLAN 10-2 FOR NEW TREE SCHEDULE.


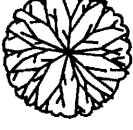

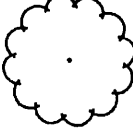
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WWA NUMBER: 211036.02	FILE NAME: 1036TR-4.dwg	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V:	DATE: 7-15-
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REVISION SET
4/2
DRAWING NUMBER:
TR-4
SHEET NUMBER:
21 OF 23

1. SOIL: ALL PLANTING SOILS SHALL CONSIST OF SANDY CLAY LOAM FRAGILE SOIL, CONTAINING A MINIMUM OF 1% PERCENT BY DRY WEIGHT ORGANIC MATTER; FREE FROM SUBSOIL, REFUSE, ROOTS, HEAVY OR STIFF CLAY, STONES LARGER THAN 25 MM (1 IN.), NOXIOUS SEEDS, STICKS, BRUSH, LITTER, AND OTHER DELETERIOUS SUBSTANCES; SUITABLE FOR THE GERMINATION OF SEEDS AND THE SUPPORT OF VEGETATIVE GROWTH. THE PH VALUE SHALL BE BETWEEN 5.5 AND 6.5. SOLUBLE SALTS: MAX. SALTS: < 1 MMHOS/CM.
2. PHYSICAL ANALYSIS FOR PLANTING SOIL SHALL INCLUDE CLAY FRACTION: < 20%; SILT FRACTION: 30% +/- (VARIES WITH CLAY AND SAND FRACTIONS); SAND FRACTION: < 50%; PARTICLE SIZE: PASS THROUGH 1 1/4 IN. SCREEN.
3. EXISTING TOPSOIL: EXISTING TOPSOIL MAY BE USED IF IT MEETS THE REQUIREMENTS FOR IMPORTED TOPSOIL OR IF APPROVED BY THE ENGINEER. PROVIDE A MINIMUM OF ONE SOIL SAMPLE WITH ACCOMPANYING SOIL TEST REPORT FOR EACH TOPSOIL TYPE FOUND AT THE SITE. TOPSOIL SHALL NOT BE STRIPPED, TRANSPORTED, OR GRADED IF MOISTURE CONTENT EXCEEDS FIELD CAPACITY OR IF THE SOIL IS FROZEN. TOPSOIL STOCKPILES SHALL BE PROTECTED FROM EROSION AND CONTAMINATION.
4. AMENDMENTS REQUIRED TO BE ADDED AS INDICATED ON THE SOIL TEST REPORT SHALL BE ADDED BY THE CONTRACTOR AT THE TIME OF SPREADING AND/OR GRADING. SOIL INSTALLATION SHALL INCLUDE TILLING TO A DEPTH OF 8-12 INCHES TO INCORPORATE "TOPSOIL" INTO EXISTING SOIL. USE A TILLER TO INCORPORATE SOIL AND ALLOW TO SETTLE BEFORE PLANTING (2 WEEKS).
5. DETRIMENTAL SOIL CONDITIONS: THE ENGINEER SHALL BE NOTIFIED, IN WRITING, OF SOIL CONDITIONS ENCOUNTERED, INCLUDING POOR DRAINAGE, THAT THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. WHEN DETRIMENTAL CONDITIONS ARE UNCOVERED, PLANTING SHALL BE DISCONTINUED UNTIL INSTRUCTIONS TO RESOLVE THE CONDITIONS ARE RECEIVED FROM THE ENGINEER.
6. OBSTRUCTIONS: IF ROCK, UNDERGROUND CONSTRUCTION WORK, UTILITIES, TREE ROOTS, OR OTHER OBSTRUCTIONS ARE ENCOUNTERED IN THE EXCAVATION OF PLANTING AREAS, ALTERNATE LOCATIONS FOR ANY PLANTING SHALL BE DETERMINED BY THE ENGINEER. LOCATIONS FOR PLANTS AND/OR OUTLINES OF AREAS TO BE PLANTED ARE TO BE STAKED OUT AT THE SITE. LOCATE AND MARK ALL SUBSURFACE UTILITY LINES. APPROVAL OF THE STAKEOUT BY THE ENGINEER IS REQUIRED BEFORE EXCAVATION BEGINS.
7. INSTALLATION OF TOPSOIL AND PLANTING SOIL: LOOSEN THE SOIL OF THE SUBGRADE TO A DEPTH OF 2 TO 3 IN. WITH A ROTOTILLER OR OTHER SUITABLE DEVICE. SPREAD SPECIFIED TOPSOIL OR PLANTING SOIL OVER THE SUBGRADE AND THOROUGHLY TILL THE PLANTING SOIL AND THE SUBGRADE TOGETHER. ADD AMENDMENTS AND ORGANIC MATTER OVER ALL BED AREAS DESIGNATED ON THE DRAWINGS AND TILL INTO THE TOP 4 IN. OF PLANTING SOIL.
8. TREES WITH MULTIPLE LEADERS, UNLESS SPECIFIED, WILL BE REJECTED. TREES WITH A DAMAGED OR CROOKED LEADER, BARK ABRASIONS, SUNSCALD, DISFIGURING KNOTS, INSECT DAMAGE, OR CUTS OF LIMBS OVER 3/4 IN. IN DIAMETER THAT ARE NOT COMPLETELY CLOSED WILL BE REJECTED.
9. PLANTING OPERATIONS: TREE BEDS SHALL BE EXCAVATED TO THE DEPTH AND WIDTHS INDICATED ON THE DRAWINGS. IF THE PLANTING AREA UNDER ANY TREE IS INITIALLY DUG TOO DEEP, THE SOIL ADDED TO BRING IT UP TO THE CORRECT LEVEL SHALL BE THOROUGHLY TAMPED.
10. THE SIDES OF THE EXCAVATION OF ALL PLANTING AREAS SHALL BE SLOPED AT A 45 DEGREE ANGLE. THE BOTTOM OF ALL BEDS SHALL SLOPE PARALLEL TO THE PROPOSED GRADES OR TOWARD ANY SUBSURFACE DRAIN LINES WITHIN THE PLANTING BED. THE BOTTOM OF THE PLANTING BED DIRECTLY UNDER TREE SHALL BE ABOVE SIDE ELEVATIONS AND HORIZONTAL SUCH THAT THE TREE SITS PLUMB. THE EXISTING SOIL SHALL BE SAVED FOR USE AS BACKFILL AROUND THE TREE.
11. REMOVE PLASTIC, PAPER, OR FIBER POTS FROM CONTAINERIZED TREE MATERIAL. PULL ROOTS OUT OF THE ROOT MAT, AND CUT CIRCLING ROOTS WITH A SHARP KNIFE. LOOSEN THE POTTING MEDIUM AND SHAKE AWAY FROM THE ROOTS IMMEDIATELY AFTER REMOVING THE CONTAINER. INSTALL THE TREE SUCH THAT THE ROOTS DO NOT DRY OUT. PACK PLANTING MIX AROUND THE EXPOSED ROOTS WHILE PLANTING. CUT ROPES OR STRINGS FROM THE TOP OF TREES SMALLER THAN 3 IN. CALIPER AFTER PLANT HAS BEEN SET. REMOVE BURLAP OR CLOTH WRAPPING AND ANY WIRE BASKETS FROM AROUND TOP HALF OF BALLS. DO NOT TURN UNDER AND BURY PORTIONS OF BURLAP AT TOP OF BALL.
12. PLACE NATIVE SOIL, TOPSOIL, OR PLANTING MIX INTO THE AREA AROUND THE TREE, TAMPING LIGHTLY TO REDUCE SETTLEMENT. FOR PLANTS PLANTED IN INDIVIDUAL HOLES IN EXISTING SOIL, ADD ANY REQUIRED SOIL AMENDMENTS TO THE SOILS AS THE MATERIAL IS BEING BACKFILLED AROUND THE PLANT. ENSURE THAT THE AMENDMENTS ARE THOROUGHLY MIXED INTO THE BACKFILL. ADD SMALL QUANTITY OF WATER TO FIRST BACKFILL. ENSURE THAT THE BACKFILL IMMEDIATELY AROUND THE BASE OF THE ROOT BALL IS TAMPED WITH FOOT PRESSURE SUFFICIENT TO PREVENT THE ROOT BALL FROM SHIFTING OR LEANING. THOROUGHLY WATER ALL PLANTS IMMEDIATELY AFTER PLANTING. APPLY WATER DIRECTLY TO THE ROOT BALL AND THE ADJACENT SOIL.
13. REMOVE ALL FLAGS, LABELS, STRINGS, ETC. FROM ALL PLANTS. REMOVE ANY EXCESS SOIL, DEBRIS, AND PLANTING MATERIAL FROM THE JOB SITE AT THE END OF EACH WORKDAY. FORM WATERING SAUCERS 4 IN. HIGH IMMEDIATELY OUTSIDE THE AREA OF THE ROOT BALL OF EACH TREE AS INDICATED ON THE DRAWINGS.
14. STAKING AND GUYING: STAKE OR GUY A TREE ONLY WHEN NECESSARY FOR THE SPECIFIC CONDITIONS ENCOUNTERED AND WITH THE APPROVAL OF THE ENGINEER. STAKING MAY BE REQUIRED IN UNUSUAL CIRCUMSTANCES SUCH AS SANDY SOILS IN EITHER THE ROOT BALL OR ADJACENT SOILS OR IN EXTREMELY WINDY LOCATIONS OR STEEP SLOPES.
15. PRUNING: PLANTS SHALL NOT BE HEAVILY PRUNED AT THE TIME OF PLANTING. PRUNING IS REQUIRED AT PLANTING TIME TO CORRECT DEFECTS IN THE TREE STRUCTURE, INCLUDING REMOVAL OF INJURED BRANCHES, DOUBLE LEADERS, WATERSPOTS, SUCKERS, AND INTERFERING BRANCHES. HEALTHY LOWER BRANCHES AND INTERIOR SMALL TWIGS SHALL NOT BE REMOVED EXCEPT AS NECESSARY TO CLEAR WALKS AND ROADS. IN NO CASE SHOULD MORE THAN ONE-QUARTER OF THE BRANCHING STRUCTURE BE REMOVED. RETAIN THE NORMAL OR NATURAL SHAPE OF THE PLANT.
16. WATERING: CONTRACTOR SHALL IRRIGATE AS REQUIRED TO MAINTAIN VIGOROUS AND HEALTHY TREE GROWTH. OVERWATERING OR FLOODING SHALL NOT BE ALLOWED. THE CONTRACTOR SHALL MONITOR, ADJUST, AND USE EXISTING IRRIGATION FACILITIES, IF AVAILABLE, AND FURNISH ANY ADDITIONAL MATERIAL, EQUIPMENT, OR WATER TO ENSURE ADEQUATE IRRIGATION. ROOT BALLS OF ALL TREES SHALL BE SPOT WATERED USING HANDHELD HOSES DURING THE FIRST FOUR MONTHS AFTER PLANTING AS REQUIRED TO ENSURE ADEQUATE WATER WITHIN THE ROOT BALL. THE WATERING INTERVALS SHALL BE DECREASED OVER THIS PERIOD TO DEVELOPED HARDENED-OFF PLANT MATERIAL THAT CAN ACCEPT NORMAL RAINFALL CONDITIONS.
17. FERTILIZERS: FERTILIZER SHALL BE FROM ORGANIC SOURCES AND SHALL NOT CONTAIN HARMFUL CHEMICALS FOR AQUATIC WILDLIFE. ONLY SLOW-RELEASED GRANULAR FERTILIZER OF A FORMULA INDICATED BY THE SOIL TEST SHALL BE USED. APPLY AT TIME OF PLANTING. FOLLOW RATES PROVIDED BY THE MANUFACTURER.
18. FERTILIZERS SHALL CONTAIN ORGANIC SOURCES OF NITROGEN, PHOSPHOROUS AND POTASSIUM AT SPECIFIC PERCENTAGES APPROPRIATE TO THE TIME OF PLANTING AND THE PLANTS USED, AND SHALL ALSO INCLUDE MINERALS AND MICRONUTRIENTS. BIOSTIMULANTS SHALL ALSO BE APPLIED AT THE TIME OF PLANTING PRIOR TO MULCHING.
19. BIOSTIMULANTS SHALL CONTAIN SOIL CONDITIONERS, VAM, AND ENDOMYCORRHIZAL AND ECTOMYCORRHIZAL FUNGI SPORES AND SOIL BACTERIA APPROPRIATE FOR EXISTING SOIL CONDITIONS. SUBMIT MANUFACTURER'S LITERATURE FOR APPROVAL. FERTILIZERS AND BIOSTIMULANTS SHALL BE INCORPORATED INTO THE TOP TWO (2) INCHES OF THE FINISHED PLANTING SOIL BUT SHALL NOT COME IN DIRECT CONTACT WITH LEAF OR STEM OF VEGETATION.
20. MULCH SHALL INCLUDE PINE BARK OR PINESTRAW AS APPROPRIATE FOR RELATIVELY FLAT TERRAIN; OR AGED--SHREDDED HARDWOOD MATERIAL FOR STEEPER SLOPES. MULCH SHALL CONSIST OF WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, PH RANGE OF 5.5 TO 8; MOISTURE CONTENT 35 TO 55 PERCENT BY WEIGHT; SOLUBLE SALT CONTENT OF < 5 DS/M.

- | SYMBOL | QTY. | BOTANICAL NAME | COMMON NAME | PLANTING SIZE |
|---|------|-----------------------|--------------|---------------|
|  | 6 | FRAXINUS AMERICANA | WHITE ASH | 2" CAL |
|  | 67 | ACER NEGUNDO | BOX ELDER | 2" CAL |
|  | 3 | SALIX NIGRA | BLACK WILLOW | 2" CAL |
|  | 75 | PLATANUS OCCIDENTALIS | SYCAMORE | 2" CAL |
| NOTE: MINIMUM TREE REPLACEMENT FOR REMOVED TREES SHALL BE 2 IN. DIAMETER AT BREAST HEIGHT (DBH) SAME SPECIES. | | | | |



PRUNING CUTS (BRANCH PRUNE) DETAIL
NOT TO SCALE



M:\211036.02 Botetourt County Tinker Creek Interceptor\dwg\1036TR-5.dwg

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106	Box 106							Box 106
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