BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK AS BUILTS

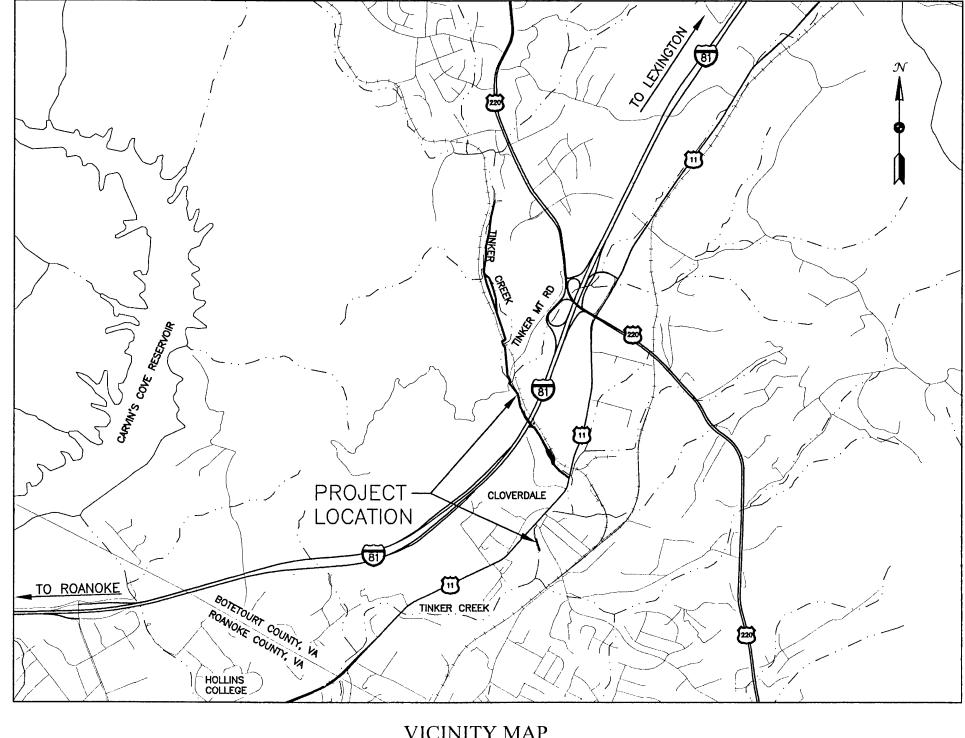
SANITARY SEWER INTERCEPTOR IMPROVEMENTS

LIST OF DRAWINGS

		LIST O	r DRAWINGS	
SHEET	<u>NO.</u>	DWG NO.	REFERENCE	TITLE
1 OF	23	CS-1	GENERAL	COVER SHEET
2 OF	23	G-1	GENERAL	GENERAL NOTES AND SHEET LAYOUT
3 OF	23	C-1	CIVIL	NEW SANITARY SEWER - PLAN AND PROFILE STA. 11+15.28 TO STA. 19+00.00
4 OF	23	C-2	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 19+00.00 TO STA. 28+00.00
5 OF	23	C-3	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 28+00.00 TO STA. 37+00.00
6 OF	23	C-4	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 37+00.00 TO STA. 46+00.00
7 OF	23	C-5	CIVIL	NEW SANITARY SEWER - PLAN AND PROFILE STA. 46+00.00 TO STA. 55+00.00
8 OF	23	C-6	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 55+00.00 TO STA. 64+00.00
9 OF	23	C-7	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 64+00.00 TO STA. 73+00.00
10 OF	23	C-8	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 73+00.00 TO STA. 82+00.00
11 OF	23	C-9	CIVIL	NEW SANITARY SEWER - PLAN AND PROFILE STA. 82+00.00 TO STA. 91+00.00
12 OF	23	C-10	CIVIL	NEW SANITARY SEWER - PLAN AND PROFILE STA. 91+00.00 TO STA. 100+00.00
13 OF	23	C-11	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 100+00.00 TO STA. 106+45.43
14 OF	23	C-12	CIVIL	NEW SANITARY SEWER — PLAN AND PROFILE STA. 115+61.52 TO STA. 119+15.47
15 OF	23	C-13	CIVIL	EROSION & SEDIMENT CONTROL NARRATIVE
16 OF	23	DET-1	CIVIL	PROJECT DETAILS
17 OF	23	DET-2	CIVIL	PROJECT DETAILS
18 OF	23	TR-1	CIVIL	NATIONAL PARK SERVICE PROPERTY EXISTING TREE LOCATION PLAN
19 OF	23	TR-2	CIVIL	NATIONAL PARK SERVICE PROPERTY EXISTING TREE LOCATION PLAN
20 OF	23	TR-3	CIVIL	NATIONAL PARK DERVICE PROPERTY REFORESTATION PLAN
21 OF	23	TR-4	CIVIL	NATIONAL PARK SERVICE PROPERTY REFORESTATION PLAN
22 OF	23	TR-5	CIVIL	TREE PROTECTION/REFORESTATION NOTES & DETAILS
23 OF	23	TR-6	CIVIL	TREE INVENTORY TABLE

EDUCION AND CEDIMENT CONTROL LEGEND

	EROSION AND SEDIMENT CONTROL LEGEND								
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE SESSE	3.25	UTILITY STREAM CROSSING	USC				
3.05	SILT FENCE	\overline{SF} $\overline{X-X-X}$	3.31	TEMPORARY SEEDING	TS	(1)			
3.19	RIPRAP	RR 1999	3.32	PERMANENT SEEDING	PS	- 19			
3.20	ROCK CHECK DAMS		3.35	MULCHING	MU	- MU			
3.24	TEMPORARY VEHICULAR STREAM CROSSING	SC =	3.36	SOIL STABILIZATION BLANKETS & MATTING	B/M				



VICINITY MAP SCALE: 1"=3000'

ABBREVIATIONS

FF FINISHED FLOOR

FL FLUORIDE

RCP REINFORCED CONCRETE PIPE

REQ'D REQUIRED

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
	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	МН	MANHOLE	TYP	TYPICAL
CY	CUBIC YARDS	NIC	NOT IN CONTRACT	UG	UNDERGROUND
DIA	DIAMETER	NPS	NATIONAL PARK SERVICE	UON	UNLESS OTHERWISE NOTE
DIP	DUCTILE IRON PIPE	NTS	NOT TO SCALE	W	WATER LINE
EL	ELEVATION	0.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:					

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

ABOVE FINISHED FLOOR EX OR EXIST EXISTING

AIR RELEASE VALVE

LEGEND

EXISTING	NEW	DESCRIPTION	EXISTING	NEW	DESCRIPTION
435	435	CONTOUR (INTERVAL AS INDICATED ON SITE PLAN)			STRUCTURE
+56.1E	+56.1	SPOT ELEVATION	// // //		DEMOLISH OR ABANDON
	$\sim\sim$	TREE LINE	 		STRUCTURE WATER METER
·www.		HEDGEROW			FIRE HYDRANT
-TOB-798-		TOP OF BANK/ TOE OF SLOPE	(FH)		
		CENTER/EDGE OF STREAM	\bigotimes_{WV}		WATER VALVE
		FENCE AND GATE	⊗ _{GV}		GAS VALVE
		EDGE OF PAVEMENT	(SAN) (ST)		SANITARY OR STORM MANHOLI
P		PROPERTY LINE	СВ		CATCH BASIN
					DROP INLET
		RAILROAD TRACKS		—— Q o	SANITARY CLEAN OUT
—-R/W		RIGHT-OF-WAY			LIGHT POLE
—— ОН U ——		OVERHEAD UTILITY	. ' →		TELEPHONE POLE, WITH GUY
—— CHE ——		OVERHEAD POWER AND/OR TELEPHONE	- ∀ -		AND ANCHOR POWER POLE
SAN	SAN	SANITARY SEWER			
		STORM SEWER AND END WALL, TYPE AS INDICATED	-()		GUY POLE
·- W		WATER LINE			TREE
			A. S.		BUSH
		FORCE MAIN TRAFFIC WIRE			RIPRAP
——— TW ———			(i)		IRON PIN .
— UGE —		UNDERGROUND ELECTRICAL LINE	PIN		
UGFO		UNDERGROUND FIBER OPTIC LINE	۸	•	STATION EQUALITY
UGT		UNDERGROUND TELEPHONE LINE	BM		BENCHMARK
////		ABANDONED OR REMOVED UTILITY	<u></u>		NORMAL WATER LEVEL
		EXISTING 20' SANITARY EASEMENT	\boxtimes		MAILBOX
		TEMPORARY CONSTRUCTION EASEMENT			MONUMENT
		PERMANENT EASEMENT	MONU		
		100 YR. FLOOD PLAIN			

	- 100 YR. FLOOD PLAIN		
UTILITY CONTACTS	_		
WATER & SEWER:	BOTETOURT COUNTY DEPARTMENT OF PUBLIC WORKS ATTN: PAUL PEERY CONTACT: 1-540-473-8316	GAS:	ROANOKE GAS ATTN: KEITH PANNEL CONTACT: 1-540-992-398
TELEPHONE:	VERIZON ATTN: DEAN RASMUSSEN	CABLE:	COMCAST CONTACT: 1-800-266-227
	CONTACT: 1-540-942-8192 NTELOS	VDOT LAND USE PERMIT:	VDOT SALEM DISTRICT ATTN: BRIAN BLEVINS CONTACT: 1-540-387-549
ELECTRICITY:	CONTACT: 1-877-468-3567 APPALACHIAN POWER CONTACT: 1-800-956-4237	MISS UTILITY DESIGN TICKET NO.	B113000851-00B

1 REVISED FOR BID SET 2 CONFORMED DRAWINGS	JAC 10/14/11 WSW 1/27/12		OMEALTH OF	ISSUED FOR	W Engineers	DESIGNED BY: JMF/JAC DRAWN BY: PROJECT: BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK	REVISION SET
			JASON A. CLA Lic. No. 3360	CONSTRUCTION	Surveyors PLANNERS ASSOCIATES	WSW/CLP SANITARY SEWER INTERCEPTOR IMPROVEMENTS TITLE: COVER SHEET	DRAWING NUMBER:
NO. REVISION	BY DATE NO.	PEVISION	BY DATE	Solonal English	PO Box 4119 Lynchburg, VA 24502 Phone: 434.316.6080 3040 Avemore Square Pl. Charlottesville, VA 22911 Phone: 434.984.2700 www.wwassociates.net	WWA NUMBER: FILE NAME: DISCIPLINE: SCALE: DATE: 211036.02 1036CS-1.dwg GENERAL H: AS NOTED 7-15-11	- SHEET NUMBER: 1 OF 23



GENERAL MOTES

L. PARRICH, PERSONNY MUNICHEN, AND CHEMICANNY TRACT LINEARS AND AND THE POST PROPERTY PROPERTY BY AND AND THE WAY HET HEAD AND THE POST LANG HOW FOR THE P

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STANDERS MANUAL MANUAL SERVICE SERVICES CONTRA COMPANIES AND THE SERVICES WAS AND THE PARTY OF MALLOCATE OF MALES.

II. DERMANNE DALEMAN HAR HET MIN PROFESSEN PAR HET PERKET DES, AUGUSTUS DOLL ER GLASSEN. Experience, der affig. Bereit gemen fin annennen beforde bei

13. DE CONTRUCTOR BUILL MOTICE DISTING PAND SERVICES, AND REMODED PANDON SHALL BE REPORCE TO MATER EXERTE COMMAND THE ACT OF ALLDHOU OF PANTO BURNINGS. AND PANTON BURNINGS CONTRACTOR WALL BY STOCKED WALL BY REPLACED IN TWO DAY A NAMBOR! MARRIED THOSE BY MOTIFICATION WITH

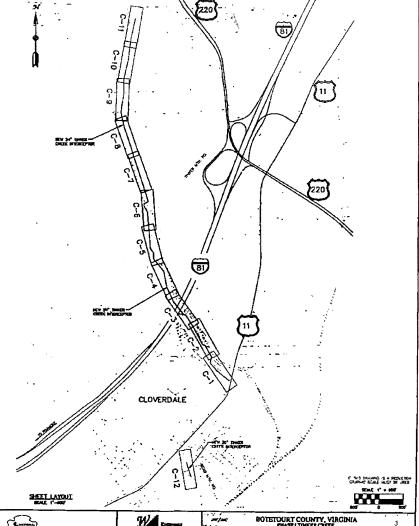
17. ALL COMERCE TOM ACTIVITIES ASSECTATED WITH STORAGE BY OR CHOCKNEY A STREAM OF WITLAND SHALL BY WHICH THE AMERICANSE ALTHORIST OF THE LES. THE COMMANDER PURE, CAN'T NEW ALL CONCENSES IN THE AMERICANS GRAND SHALL CONCENSES AND ACCURATE THAT AND

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riani dilata raindi wana ingili bini di ali anji gi marindi bawa elebuluta. Ini ipanacini e asalamili pe ali mp Bula'aliani, memang binasi mali di indi ata di ang pengalah diantikanakan da pengang di ata, dalam anga.

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BOTETOURT COUNTY, VIRGINIA
PHASE THICKS CREEK
SANITARY SEWER PITERCEPTOR MONITORING

CENCARL NOTES AND SHEET LAYOUT 6-1 211GM-02 1380-144 GENERAL 45 4082 7-15-11 2 0F 23

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 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
- 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.

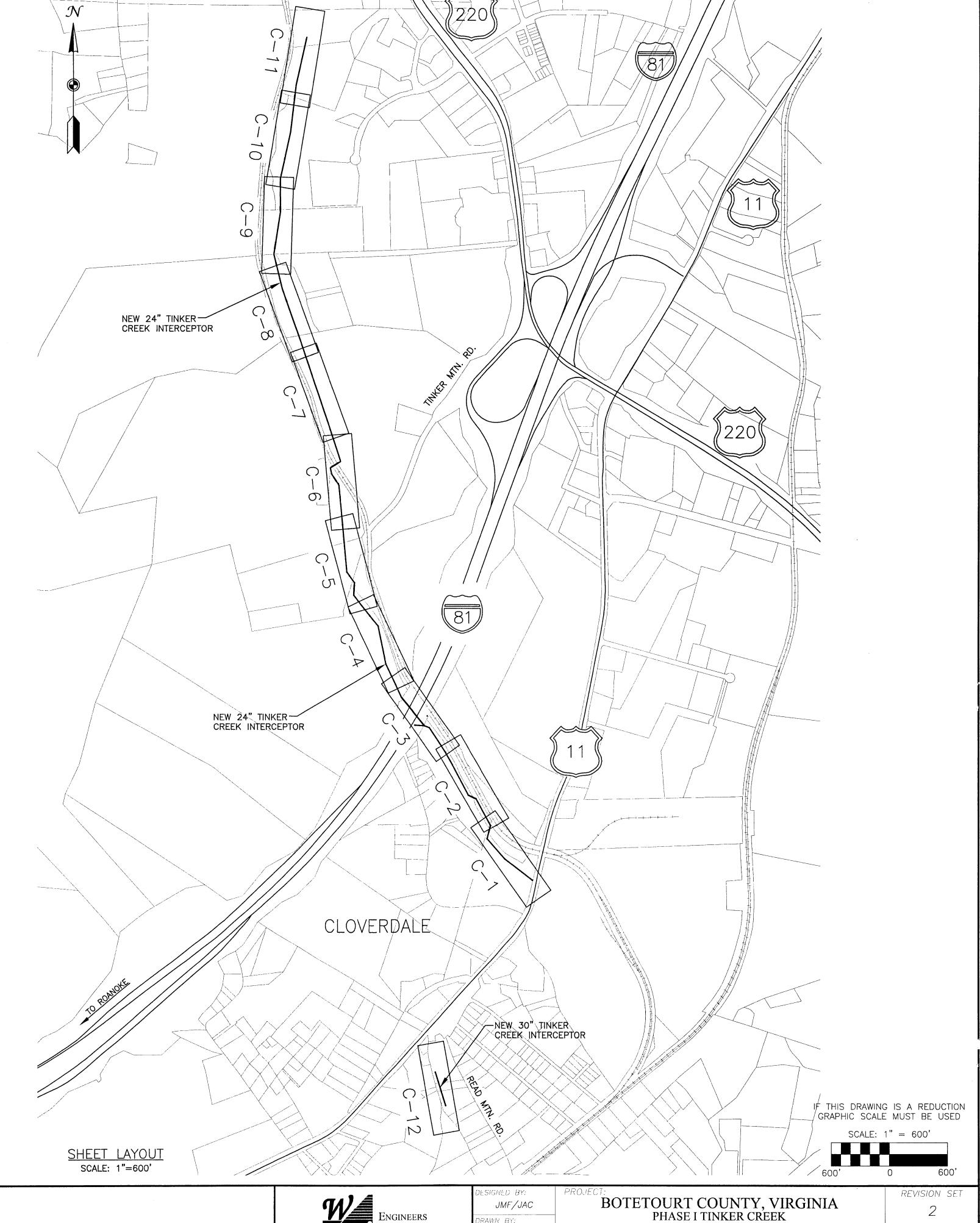
28. ALL EXISTING DRAINAGE RELATED FEATURES WITHIN PUBLIC RIGHT OF WAY MUST BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF THE DRAINAGE FEATURES TO VDOT'S SATISFACTION. REGRADED DITCHES SHALL BE LINED WITH SOIL STABILIZATION BLANKETS/MATTING AS SPECIFIED IN SPEC. SECTION 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 UNINTERUPTED 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.



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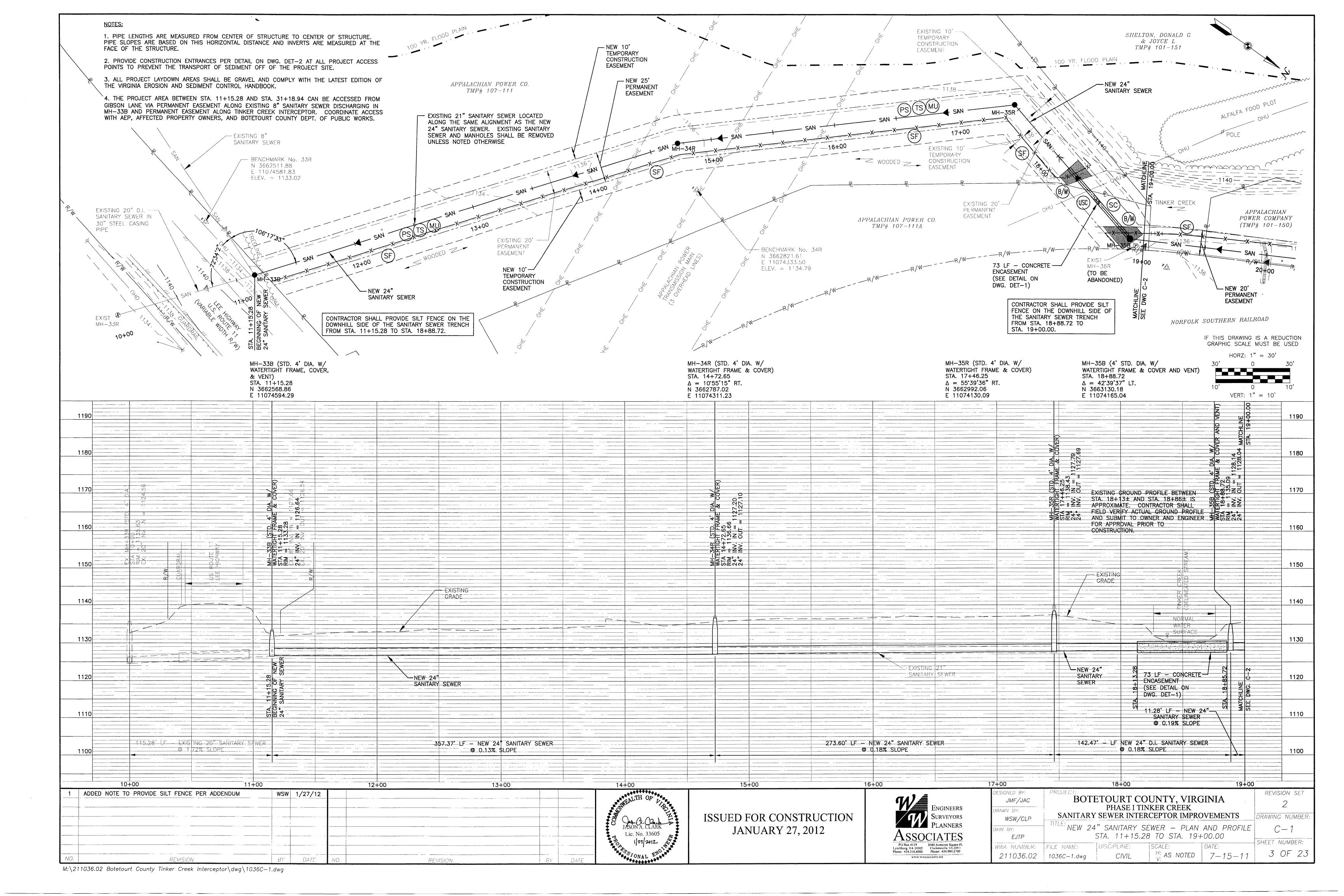
JASON A. CLARK
Lic. No. 33605
1/27/2012
1/2012

ISSUED FOR CONSTRUCTION JANUARY 27, 2012



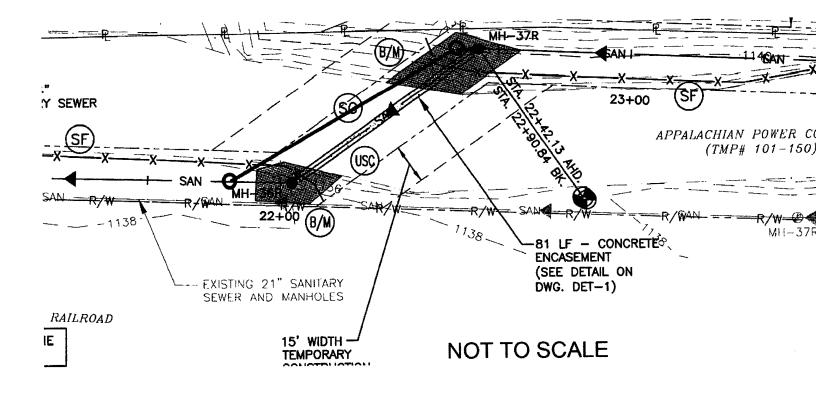
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IED BY:	PROJECT:	TEOLIDE CO			REVIS	SION SET
IMF/JAC	BOTE		UNTY, VIRO IKER CREEK	JINIA		2
' BY: 'SW/CLP			CEPTOR IMPRO	OVEMENTS	DRAWING	NUMBER:
BY: EJTP	. TITLE: GE	NERAL NOTES	AND SHEET L	AYOUT	G	S— 1
NUMBER: 1036.02	FILE NAML: 1036G-1.dwg	DISCIPLINE: GENERAL	SCALE: H: AS NOTED	DATE: 7-15-11		NUMBER: OF 23



Work Change Directive No. 2

Date of Issuance: No	vember 28, 2012		Effective Date: Novem	ber 28, 2012		
Project:		Owner:	Owner's	Contract No.:		
Phase I Tinker Creek Sanita	ary Sewer Improvements	Botetourt County, Virginia				
Contract:			Date of 0	Contract:		
Phase I Tinker Creek Sanita	ary Sewer Improvements		January	30, 2012		
Contractor:			Enginee	r's Project No.:		
English Construction Comp	any		211036.0	02		
You are directed to p	roceed promptly with	the following change(s):			
Item No.	Description					
1	Shift MH 36R to STA	21+81 +/ INV IN will re	main 1128.84. INV OU	T will remain 1128	.74	
2	Shift MH 37R downst	tream 5 +/- feet. This shi	ft shall be in the same li	near alignment as	the proposed	
		37R and MH 38B. Invert				
Attachments (list doc	cuments supporting c	hange):				
Purpose for Work Ch	ange Directive:					
	n for Work described he	erein to proceed on the ba	asis of Cost of the Work	due to:		
☐ Nonagr	eement on pricing of pr	oposed change.				
Necess	sity to expedite Work de	scribed herein prior to ag	reeing to changes on C	ontract Price and	Contract Time.	
Estimated change in	Contract Price and Co	ontract Times:				
Contract Price \$ 0	(i	increase/decrease)	Contract Time 0		(increase/decrease)	
		,		days	_	
If the change involves a	an increase, the estima	ted amounts are not to be	e exceeded without furth	ner authorization.		
Recommended for Approval	by Engineer:			Date 11/28/2012		
Authorized for Owner by:		175711 - 1777		Date		
Accepted for Contractor by:				Date		
Approved by Funding Agend	cv (if applicable):			Date:		
pproved by Fullding Agency (II applicable).						





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
Cost Impact:

Spec Section:

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-388 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



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

Urgency: High

Date: 3/6/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

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 installed per detail BC#SS-21 on sheet DET-2. After reviewing the profile I beleive 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 toa 48" diameter manhole.

Requested by: Mat Hall-English Construction

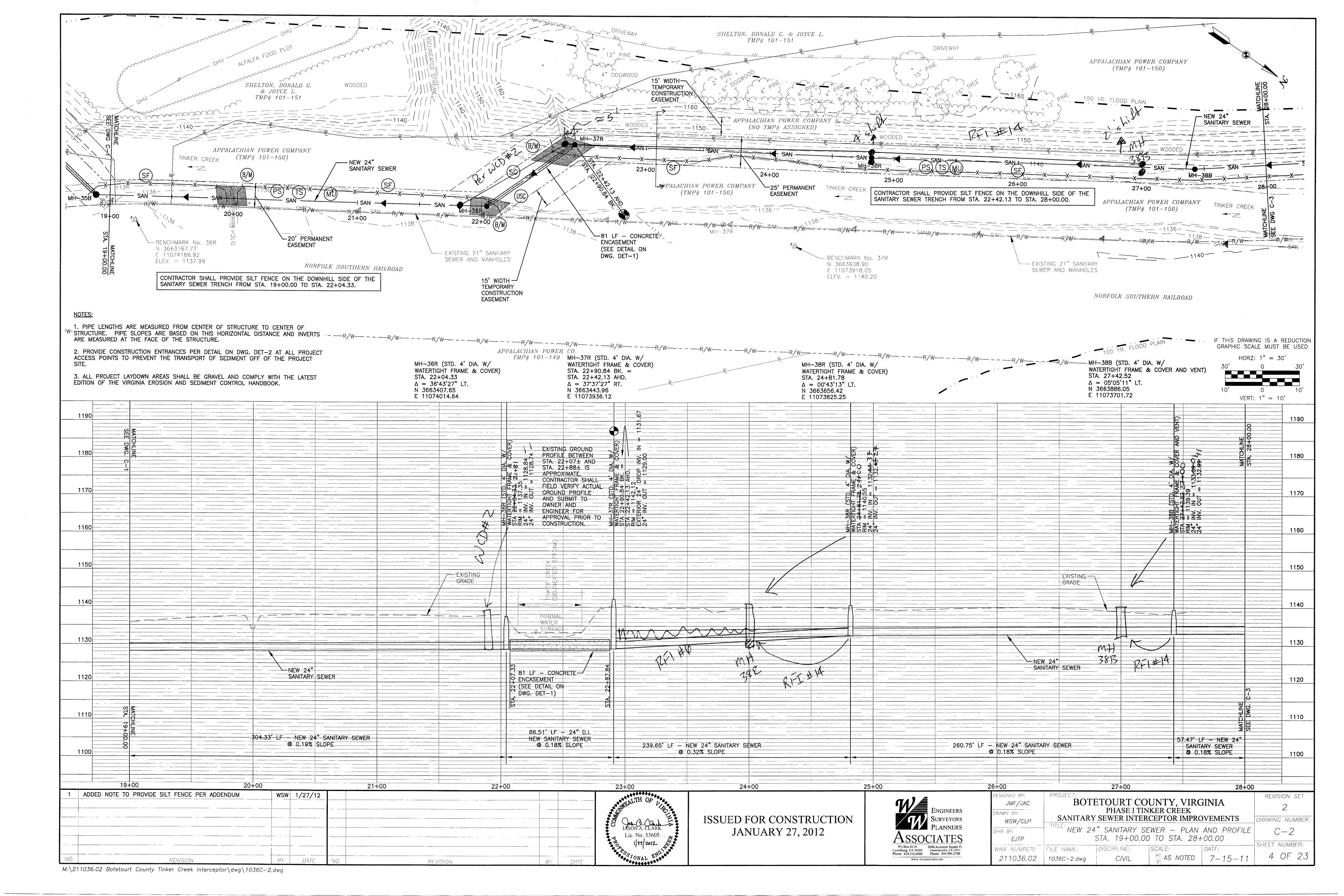
Response:

- 1. Where a 6-inch minimum clearance can not be acheived 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 o 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 diamtere will NOT be allowed.

Answered by: Turner Perrow

WW ASSOCIATES

Answered date:





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
Cost Impact:

Spec Section:

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:		
Response: OK		

Answered by: Turner Perrow

WW ASSOCIATES

Answered date:



Pince 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

Urgency: Normal

Date: 3/22/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

CC:

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

Drawing:

Cost Impact:

Spec Section:

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 fom 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

Forwarded:

WW ASSOCIATES

Brian Blevins (VDOT - Salem)

Answered date:



Pince 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 **Cost Impact:**

Spec Section:

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.

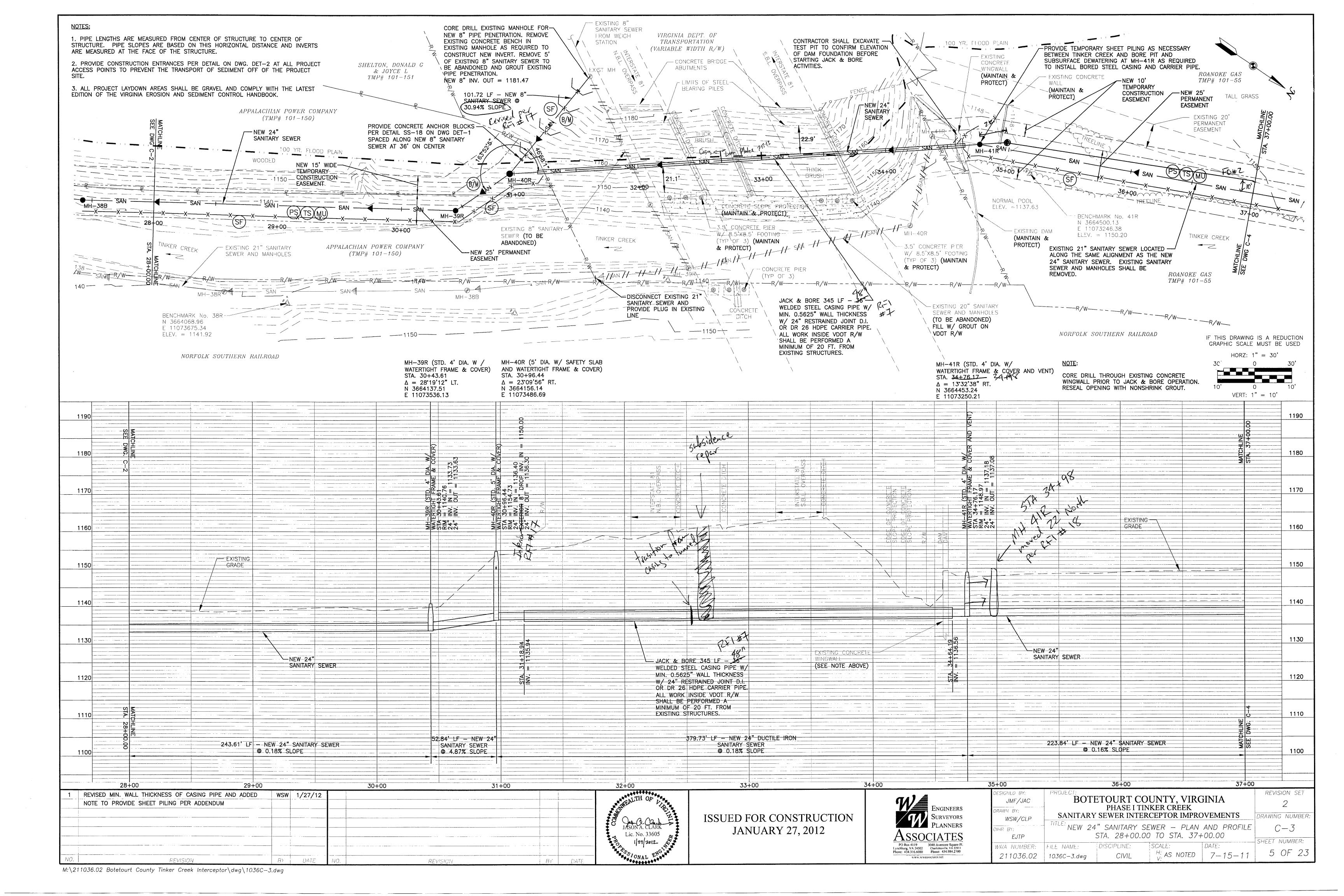
Requested by: Mat Hall-English Construction

Res	ponse
OK	

Answered by: Turner Perrow

WW ASSOCIATES

Answered date:



Field Order No. <u>2</u>

Page 1 of 1

Date of Issuance: March 11, 2013	Effective Date:	March 11, 2013		MANUAL CONTRACTOR OF THE PROPERTY OF THE PROPE
Project:	Owner.	Owner's Contract No.:		
Phase I Tinker Creek Sanitary Sewer	Botetourt County, Virginia	Owner's Comman No		
Contract:	Dotetouit County, Virginia	Date of Contract:		
Phase I Tinker Creek Sanitary Sewer Intercep	iori Improvements	January 30, 2012		
Contractor:	toreniprovenients	Engineer's Project No.:		
English Construction Company, Inc.		211036.04		
				www.maryuv.gau.um
Attention: You are hereby directed to promptly execute minor changes in the Work without changes in Contract Times is required, please notify the E	Contract Price or Contract Times. If	you consider that a cl	hange in Contract P	SA., for Price or
Reference: 2730 - Sanitary Sewer System	C-3, C-4			
(Specification Se	ection(s))	(Drawing(s) /	Detail(s))	
Description:				
1) Offset the proposed sanitary sewer from th	e existing sewer from MH-41 to MH-44	by 10 feet, away from	m the creek. Mainta	in
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 u	mit price for rock excavation shall not t	e applied between M	IH-41 to MH 44.	
		<u> </u>		
	above the	bottom of t	the existing	pipe (MH 3-11-13
was a second and a second a second and a second a second and a second a second and a second and a second and a second and				
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Attachments:			A CHIMITAN AND AND AND AND AND AND AND AND AND A	
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	Engineer			-
Receipt Acknowledged by (Contractor):	North Mul Dat	e: 3-11-13		
Copy to Owner				

EJCDC No. C-942 (2002 Edition)
Prepared by the Engineers' Joint Contract Documents Committee and endorsed by the
Associated General Contractors of America and the Construction Specifications Institute.

Change Order

No. <u>2</u>

Date of Issuance: 10/7/2013		Effective Date:	10/7/2013
Project: Phase I Tinker Creek Sanitary Sewer Improve	Owner: ments Botetourt Co	unty, Virginia	Owner's Contract No.:
Contract: Phase I Tinker Creek Sanitary Sewer Improve	ments		Date of Contract: January 30, 2012
Contractor: English Construction Company			Engineer's Project No.: 211036.02
The Contract Documents are modi			
nstallation of casing pipe at delir	neated stream, fin	al unit quantities adjustment	
Attachments: (List documents suppo	orting change):		
Change Request #3			
Jpdated Unit Price Schedule			
CHANGE IN CONTRACT	PRICE:	CHANGE IN CO	ONTRACT TIMES:
Original Contract Price:		Original Contract Times: Work Substantial completion (days or day	ing days X Calendar days
\$_2,380,000.00		Ready for final payment (days or c	
Increase] [Decrease] from previously Orders No to No		[Increase] [Decrease]- from previou No. 0 to No. 1 Substantial completion (days):	.
\$(4,640.00)		Ready for final payment (days):	
Contract Price prior to this Change O	rder:	Contract Times prior to this Change Substantial completion (days or day	
\$ 2,375,360.00		Ready for final payment (days or o	late): 2/24/2013
Increase] [Decrease] of this Change	Order:	[Increase] [Decrease]-of this Chang Substantial completion (days or day	
\$ <u>117,502.60.00</u>		Ready for final payment (days or o	late):8
Contract Price incorporating this Cha	nge Order:	Contract Times with all approved C Substantial completion (days or day	-
\$2,492,862.60		Ready for final payment (days or c	tate):3/4/2013
RECOMMENDED:	ACCEPTED:	AC	CEPTED:
By: Engineer (Authorized Signature)	By:	By:Br (Authorized Signature)	Contractor (Authorized Signature)
Date:		•	e:
Approved by Funding Agency (if applicable):	Date	ə:
EJCDC No. C-941 (2002 Edition)			Page 1
Prepared by the Engineers' Joint Cont Associated General Contractors of Am			1 1150



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

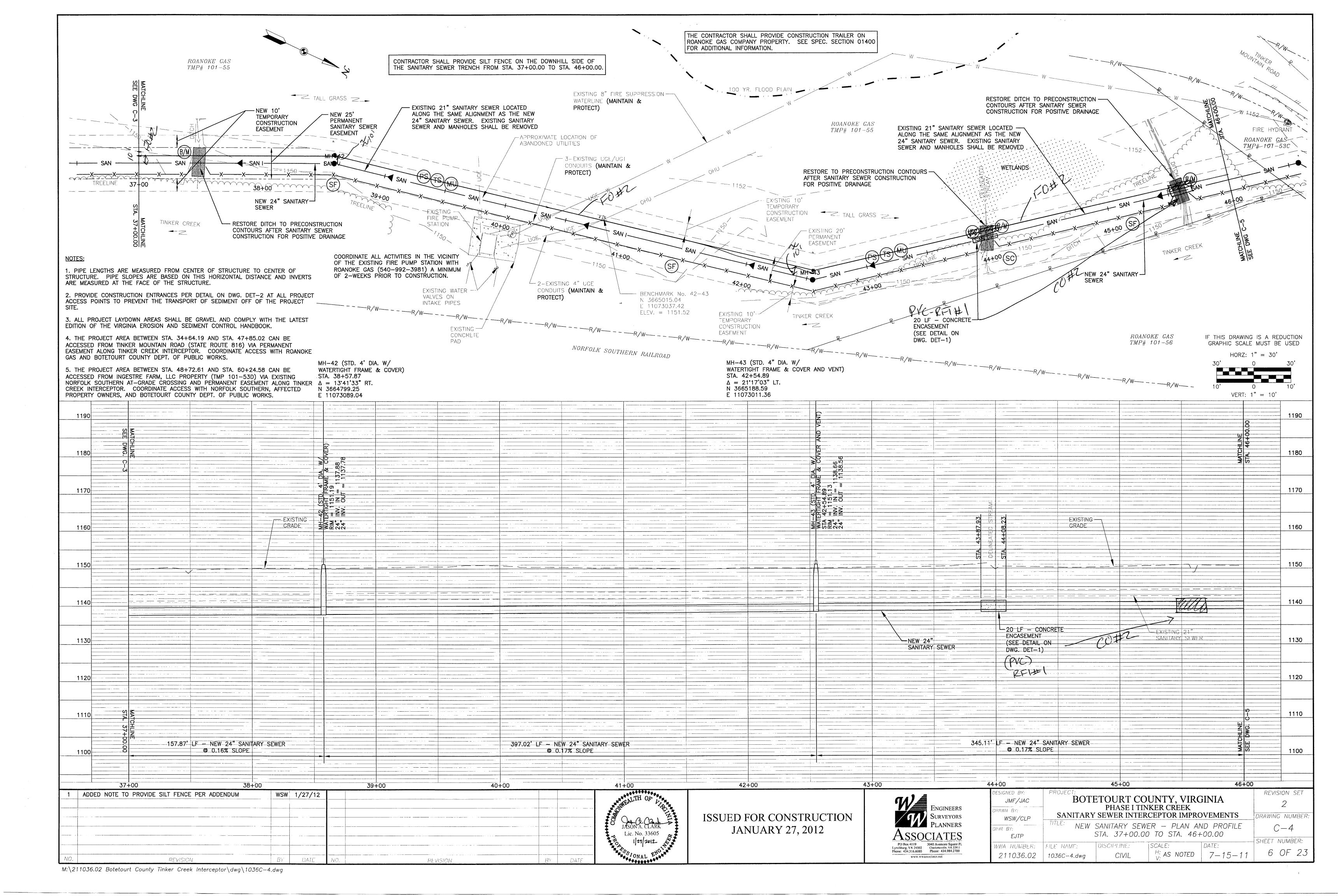
Description	Labor	Material	Equipment	Subcontract	Other	Price
Casing Pipe for Permit Change	\$6,200.00	\$11,416.00	\$9,309.84			\$26,925.84
					Subtotal:	\$26,925.84
		La	bor Burden	\$6,200.00	47.09%	\$2,919.77
		Overhead 8	Profit(GC)	\$29,845.61	15.00%	\$4,476.84
		Overhead a	& Profit(SC)			\$0.00
			Bond	\$34,322.45	0.80%	\$274.58
			Round-Off			\$-0.03
					Total:	\$34,597.00

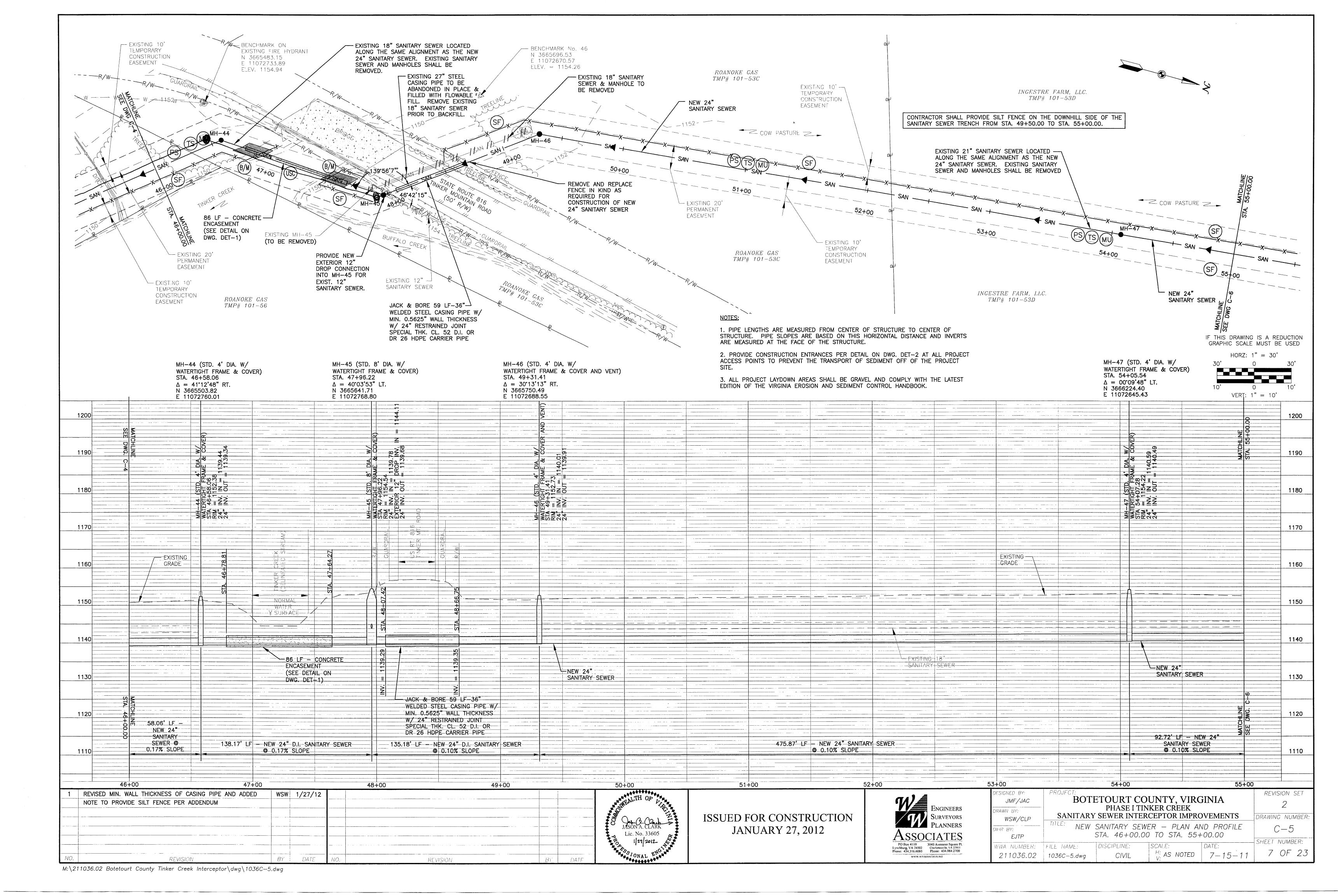
Please note that English Construction Co., Inc. will require an extra 8 days.

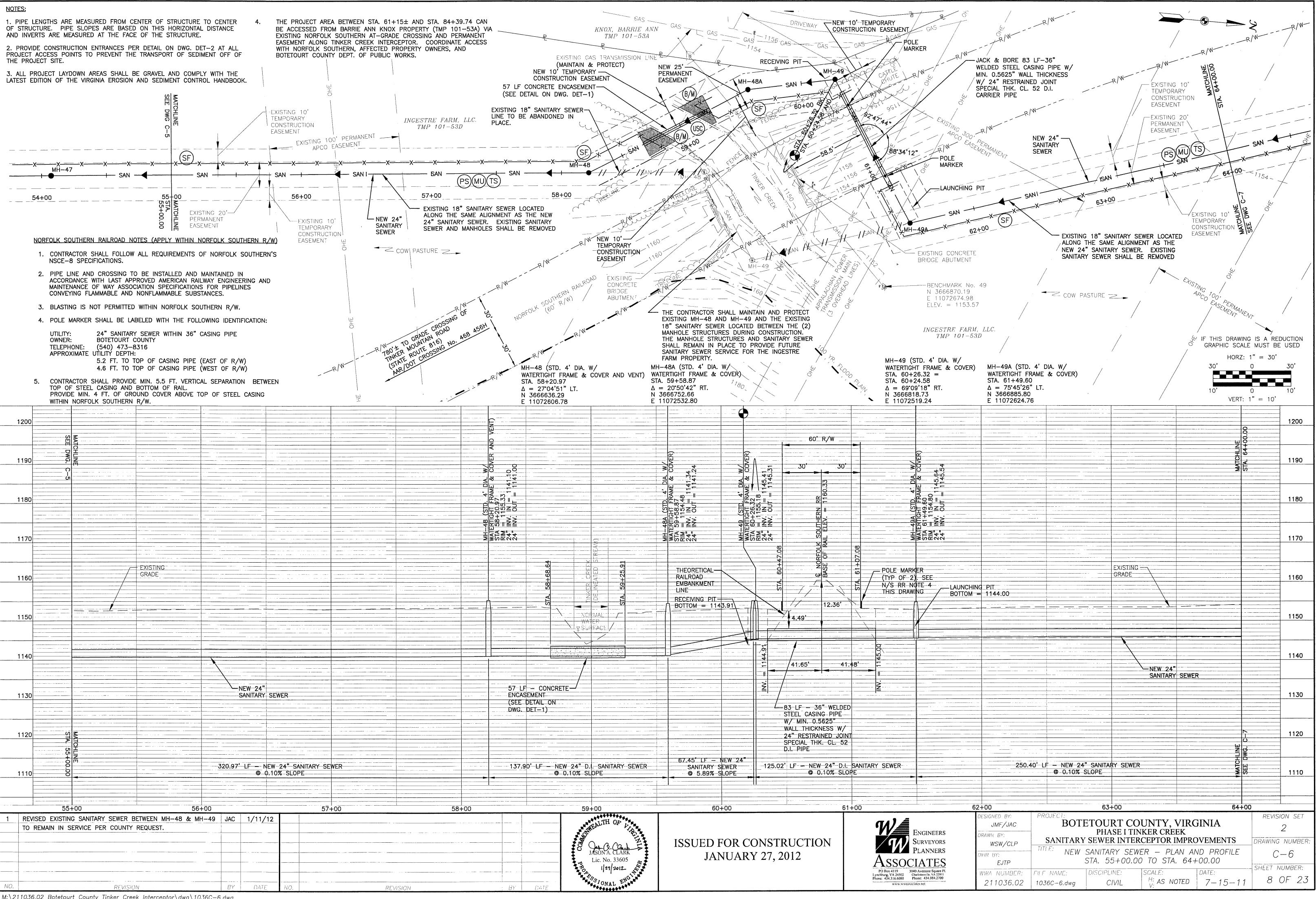
If you have any questions, please contact me at .

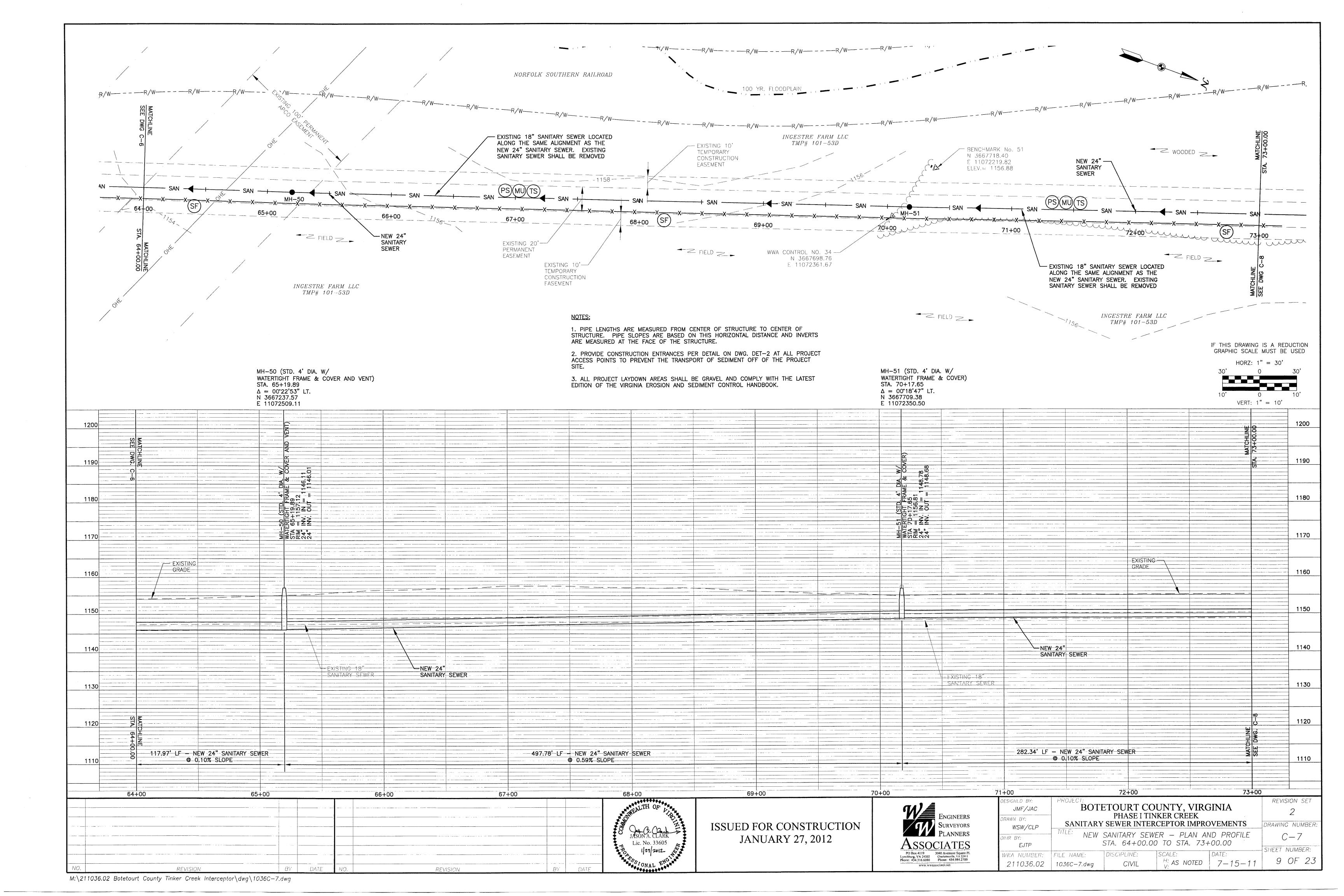
Submitted by:	Mat Hall-English Construction	Approved by:	
		Date:	

Cc:











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
Cost Impact:

Spec Section:

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

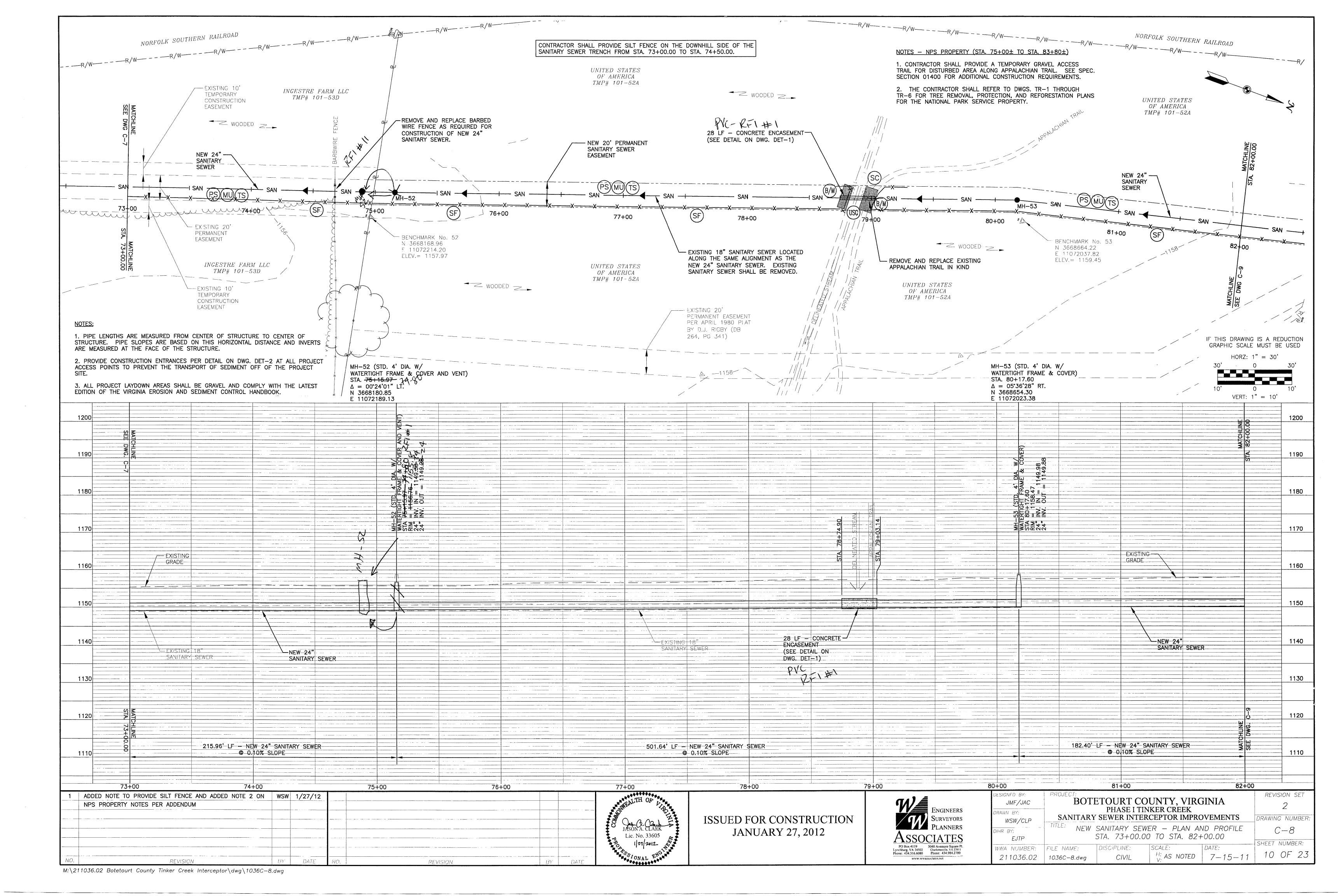
WW ASSOCIATES

Forwarded:

Answered date: July 27, 2012



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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

Urgency: Normal

Date: 3/1/2012

Job: 1570 Ph | Tinker Creek Sewer Improv

Phone:

CC:

Subject: Ductile Iron Piping Class 52 to Class 50

Drawing:

Cost Impact:

Spec Section:

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 cossings were 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:

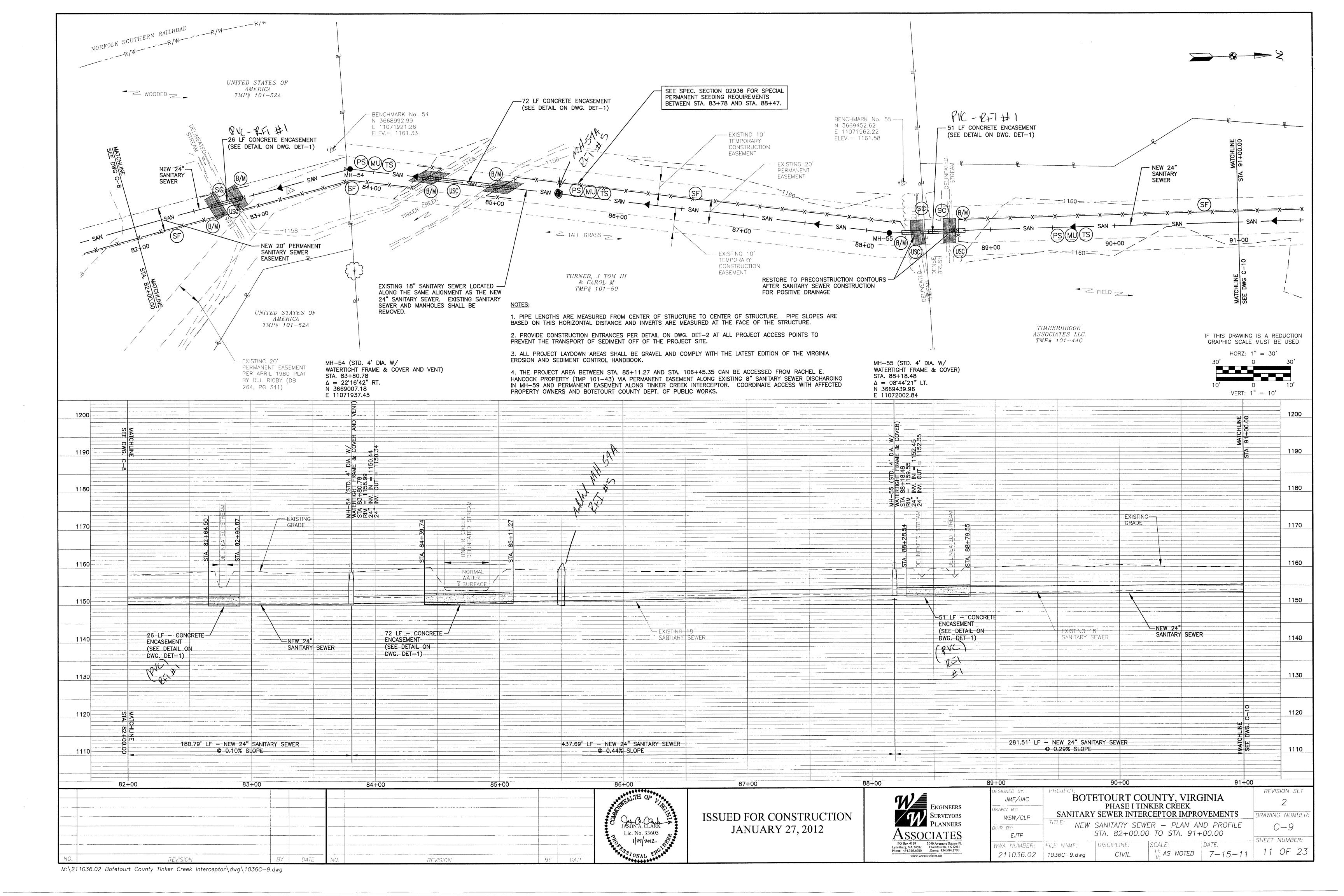
MH 54A (Std. 4' Dia.) Sta. 85+50.00 Rim Elev. = 1159.50 24" Inv. In = 1151.24 24" Inv. out = 1151.14

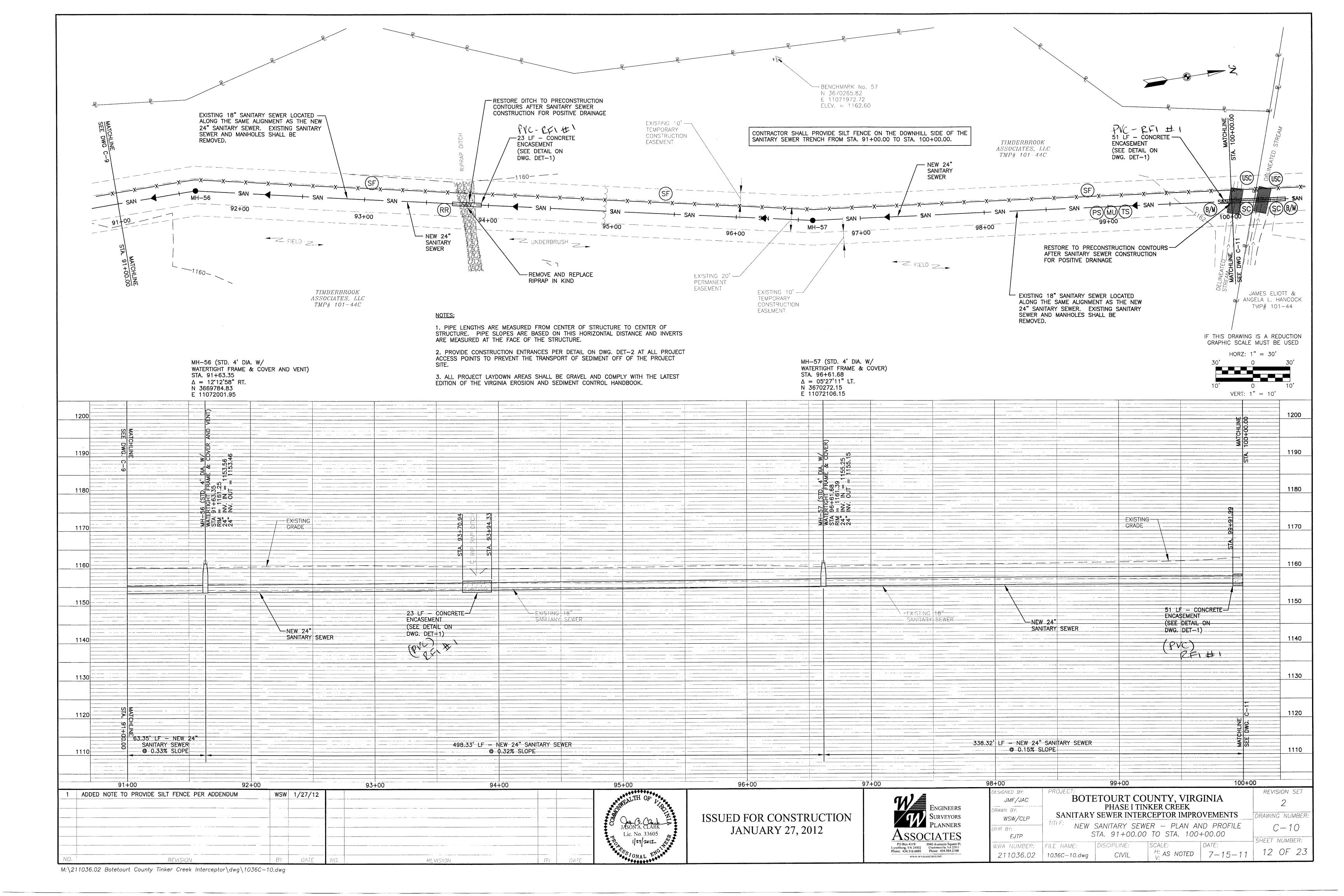
To account for the 0.10-foot drop required between the invert in and out of MH-54A, the slope of the sanitary sewer from MH-54 to Mh54A, and from Mh-54A to Mh-55 will need to be 0.14%.

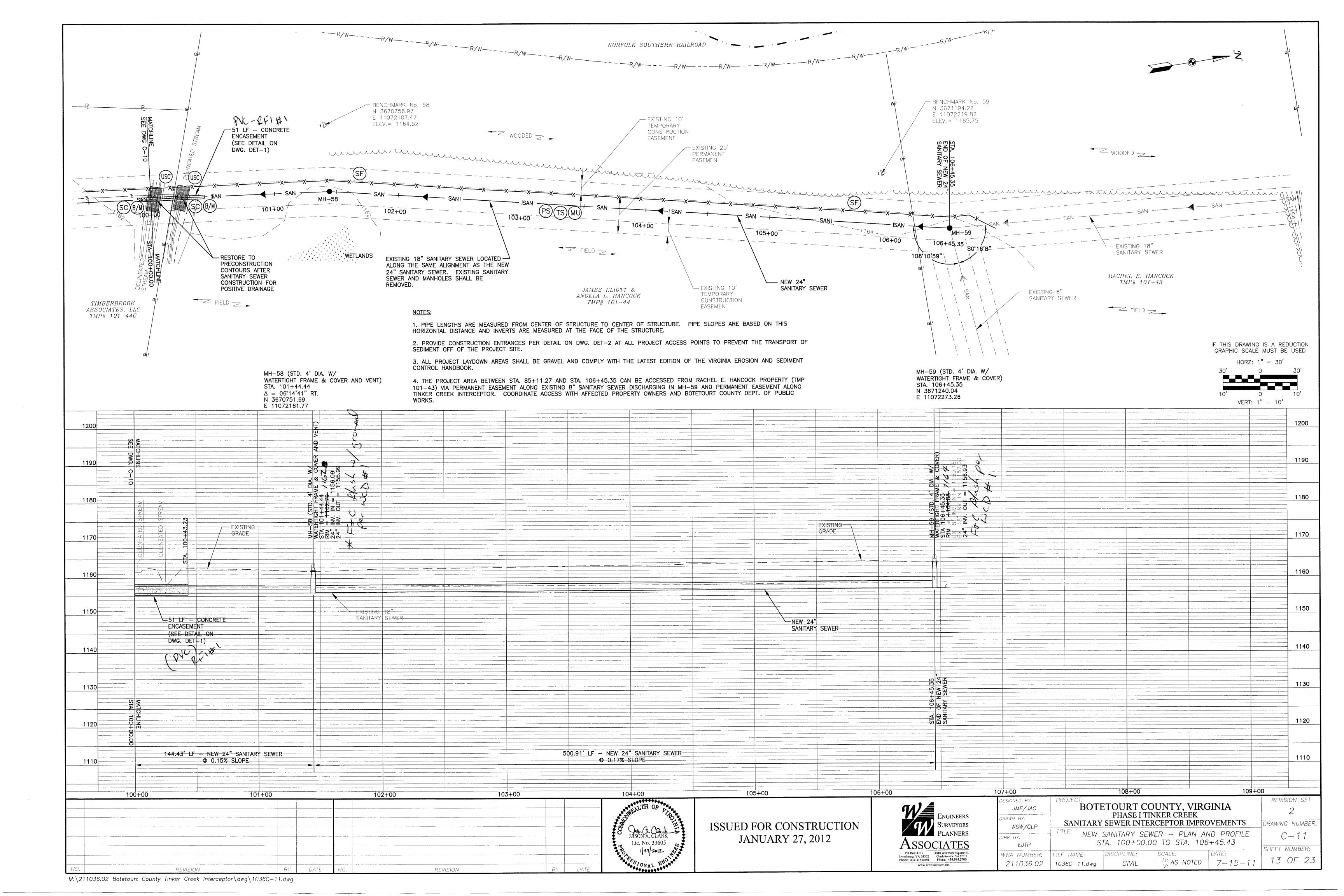
Answered by: Turner Perrow

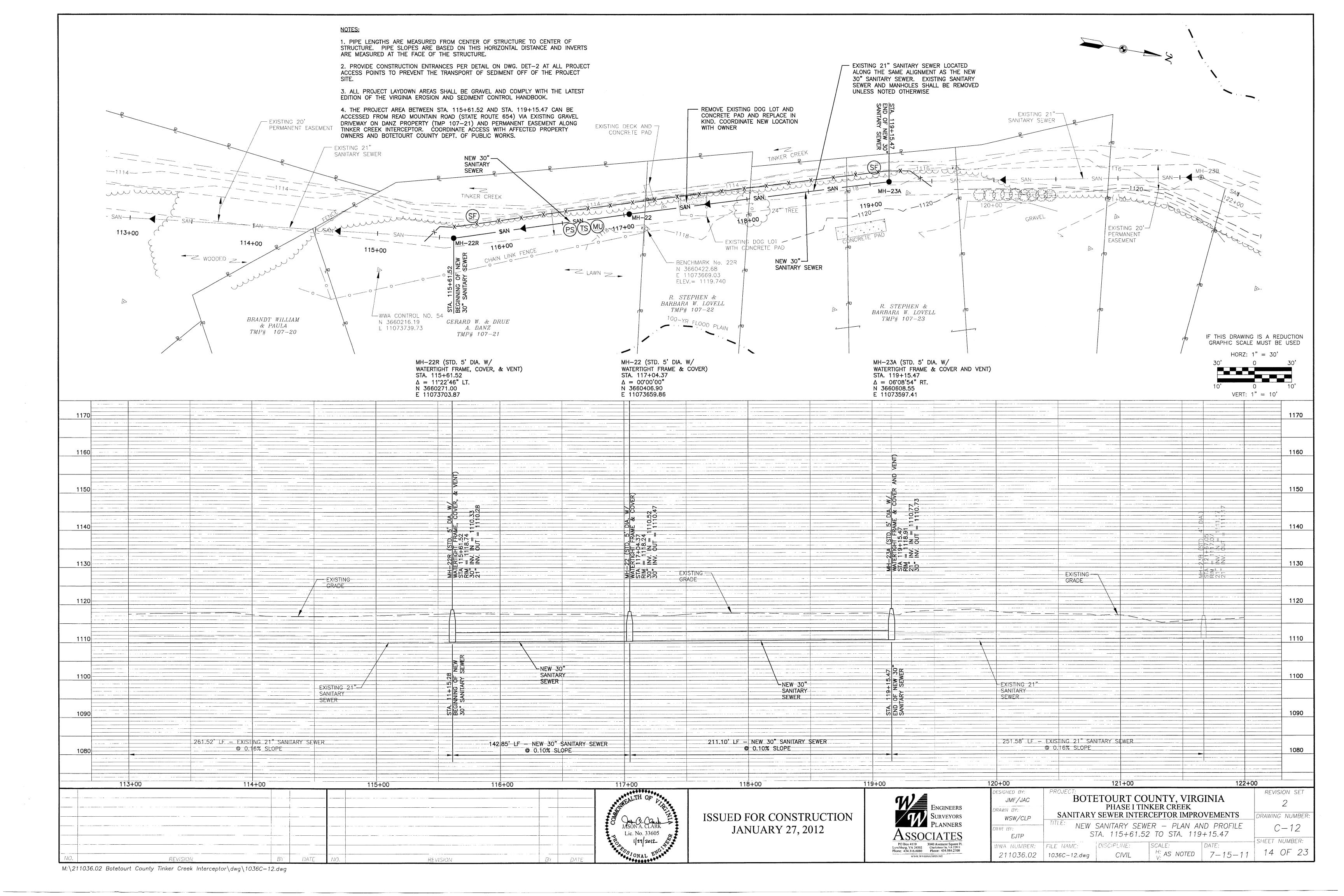
WW ASSOCIATES

Answered date:









EROSION AND SEDIMENT CONTROL NARRATIVE

I. PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO REPLACE APPROXIMATELY 9,880 LINEAR FEET OF SANITARY SEWER INTERCEPTOR ALONG TINKER CREEK IN BOTETOURT COUNTY, VIRGINIA. THE TOTAL DISTURBED AREA WILL BE APPROXIMATELY 197,600 SF OR 4.54 AC, BASED ON 20 FOOT WIDE LIMITS OF CONSTRUCTION, CENTERED ON THE SANITARY SEWER TRENCH. CONSTRUCTION IS INTENDED TO START IN SPRING 2012 AND BE COMPLETED IN SPRING 2013.

II. EXISTING SITE CONDITIONS

THE SANITARY SEWER THAT IS BEING REPLACED BEGINS AT THE INTERSECTION OF U.S. ROUTE 11 AND TINKER CREEK AND FLOW APPROXIMATELY 9,530 FEET NORTH-WEST ALONG TINKER CREEK. THE PROJECT AREA MAINLY CONSISTS OF EITHER WOODED AREAS OR OPEN FIELDS. THE SANITARY SEWER WILL INCLUDE CROSSINGS BELOW THE INTERSTATE 81 BRIDGE OVER TINKER CREEK, BELOW NORFOLK SOUTHERN RAILROAD TRACKS, BELOW THE APPALACHIAN TRAIL, BELOW TINKER CREEK AT SEVERAL LOCATIONS, AND OTHER SMALL CREEKS.

APPROXIMATELY 354 LINEAR FEET OF SANITARY SEWER WILL ALSO BE REPLACED ALONG TINKER CREEK OFF OF READ MOUNTAIN ROAD, SOUTH OF U.S. ROUTE 11. THIS SECTION OF SEWER WILL TRAVERSE ALONG RESIDENTIAL YARDS.

III. ADJACENT PROPERTIES

AS PREVIOUSLY STATED, THE PROJECT AREA CONSISTS OF EITHER WOODED AREAS OR OPEN FIELDS.

IV. OFF-SITE AREAS

SINCE THIS PROJECT IS A LINEAR SANITARY SEWER REPLACEMENT PROJECT, NO ACTIVITY SHOULD TAKE PLACE AT OFF-SITE AREAS. THERE WILL BE CONSTRUCTION LAYDOWN/STAGING AREAS ALONG THE ROUTE OF THE PROJECT.

V. SOILS

VI. CRITICAL AREAS

CARE SHALL BE TAKEN TO STABILIZE SLOPES AND PREVENT EROSION ESPECIALLY ALONG TINKER CREEK. SEDIMENT SHALL NOT BE TRACKED OFF-SITE.

VII. EROSION AND SEDIMENT CONTROL MEASURES

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. SYMBOLS, DETAILS, AND DIMENSIONS USED ARE TAKEN FROM THE HANDBOOK, AS WELL AS THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE STANDARDS, VOLUME I, 2001.

A. STRUCTURAL PRACTICES

- 1. TEMPORARY CONSTRUCTION ENTRANCE (CE), 3.02: TEMPORARY CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS REQUIRED. A MINIMUM WATER TAP OF 1" MUST BE INSTALLED WITH A MINIMUM 1" BALLCOCK SHUTOFF VALVE SUPPLYING A WASH HOSE WITH A DIAMETER OF 1.5" FOR ADEQUATE CONSTANT PRESSURE. WASH WATER MAY BE TRUCKED IN AND STORED IN AN ON-SITE TANK IF A WATER TAP IS NOT AVAILABLE. WASH WATER MUST BE CARRIED AWAY FROM THE ENTRANCE TO AN APPROVED SETTLING AREA TO REMOVE SEDIMENT. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES OR WATERCOURSES.
- 2. SILT FENCE (SF), 3.05: SILT FENCE BARRIERS SHALL BE INSTALLED DOWN SLOPE OF AREAS WITH MINIMAL GRADES TO FILTER RUNOFF FROM SHEET FLOW AS INDICATED ON THE ATTACHED SITE PLAN.
- 3. RIPRAP (RR), 3.19: RIPRAP SHALL BE USED WHERE NECESSARY AND AS INDICATED ON THE DRAWINGS. PROVIDE RIPRAP TYPES AS SPECIFIED ON THE DRAWINGS. ALL RIPRAP SHALL BE PLACED ON GEOTEXTILE FABRIC.
- 4. ROCK CHECK DAMS (CD), 3.20: ROCK CHECK DAMS SHALL BE PROVIDED IN THE STORMWATER CONVEYANCE CHANNELS AND DITCHES AS REQUIRED TO REDUCE THE VELOCITY
- OF CONCENTRATED FLOW AND POTENTIAL EROSION.

 5. SOIL STABILIZATION BLANKETS AND MATTING (B/M), 3.36: PROVIDE SOIL STABILIZATION BLANKETS AND MATTING AS SHOWN ON THE PLANS AND AS SPECIFIED IN SPEC. SECTION 0.2036

B. <u>VEGETATIVE PRACTICES</u>

- 1. TOPSOILING & STOCKPILING (TO), 3.30: TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILES ARE TO BE STABILIZED WITH TEMPORARY VEGETATION AND HAVE SILT FENCE INSTALLED ALONG THE LOWER PERIMETER. STOCKPILES SHALL BE LOCATED AS SHOWN ON THE PLANS.
- 2. TEMPORARY SEEDING (TS), 3.31: ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR 30 DAYS OR MORE SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SEED SELECTION WILL BE DEPENDANT ON THE TIME OF YEAR IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL HANDBOOK.
- PERMANENT SEEDING (PS), 3.32: PERMANENT SEEDING SHALL BE PROVIDED ON SITE TO PROVIDE STABILIZATION FOR ALL DISTURBED AREAS. SEEDING RATES ARE IN POUNDS PER ACRE. FOR HIGH MAINTENANCE LAWN AREAS APPLY 235 POUNDS OF KENTUCKY 31 OR TURF—TYPE TALL FESCUE AND 25 POUNDS OF PERENNIAL RYEGRASS. ALL PERMANENT SEEDING SHALL BE FERTILIZED, LIMED AND MULCHED AT THE FOLLOWING RATES: FERTILIZER 5-10-5 AT A RATE OF 50 POUNDS PER 1,000 SQUARE FEET; LIME OF AGRICULTURAL GRADE LIMESTONE AT A RATE OF 100 POUNDS PER 1,000 SQUARE FEET; AND STRAW MULCH AT A RATE OF 1-1/2 TONS PER ACRE. BEFORE SEEDING, 4 INCHES OF TOP SOIL SHALL BE SPREAD IN AREAS TO BE SEEDED. APPLY FERTILIZER AND LIME UNIFORMLY AND MIX WELL INTO TOP 4 INCHES OF SEED BED. PREPARE SOIL FOR PERMANENT SEEDING BY TILLAGE OF TOPSOIL IN PLACE TO LOOSEN THOROUGHLY AND BREAK UP ALL CLODS TO A DEPTH OF 6 INCHES. REMOVE ALL STUMPS AND ROOTS, COARSE VEGETATION, STONES LARGER THAN 1-1/2 INCHES AND ALL CONSTRUCTION DEBRIS. SOIL SHALL BE WORKED BY SUITABLE AGRICULTURAL EQUIPMENT TO A DEPTH OF NOT LESS THAN 4 INCHES. SURFACE SHALL BE UNIFORM, SMOOTH AND DRAINABLE. A FIRM AND COMPACT SEED BED IS REQUIRED.
- 4. MULCHING (MU), 3.35: ALL TEMPORARY AND PERMANENT SEEDING SHALL BE STRAW MULCHED.
- 5. SOIL STABILIZATION BLANKETS AND MATTING (B/M), 3.36: SOIL STABILIZATION BLANKETS AND MATTING SHALL BE APPLIED AS SHOWN ON THE PLANS AND AS SPECIFIED IN SPEC. SECTION 02936.

C. MINIMUM STANDARDS

- MS-1. STABILIZATION OF DENUDED AREAS:
 PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.
 TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT OR UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- MS-2. STABILIZATION OF SOIL STOCKPILES:
 DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- MS-3. PERMANENT VEGETATIVE COVER:
 A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE E&S INSPECTOR, IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND
- INHIBIT EROSION.

 MS-4. TIMING AND STABILIZATION OF SILT TRAPPING MEASURES:
 STORM INLET PROTECTION, SILT FENCING, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING
- ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

 MS-5. STABILIZATION OF EARTHEN STRUCTURES:

 STABILIZATION MEASURES CHALL BE ARRUSED TO EARTHEN STRUCTURES AND RIVERSIONS MADERIALS.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
 - 6. SEDIMENT BASINS AND TRAPS: SEDIMENT TRAPS AND BASINS SHALL BE CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED. A. THE MINIMUM CAPACITY OF A SEDIMENT TRAP SHALL BE 134—CUBIC YARDS PER ACRE OF DRAINAGE AREA, AND SHALL CONTROL A DRAINAGE AREA OF LESS THAN
 - B. THE MINIMUM CAPACITY OF A SEDIMENT BASIN SHALL BE 134—CUBIC YARDS PER ACRE OF DRAINAGE AREA, AND SHALL CONTROL A DRAINAGE AREA OF 3—ACRES OR GREATER.
- MS-7. CUT AND FILL SLOPES:

 CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR

 OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES PROVIDED BY THE CONTRACTOR UNTIL THE PROBLEM IS CORRECTED.
- MS-8. CONCENTRATED RUNOFF DOWN CUT OR FILL SLOPES:
 CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR
 SLOPE DRAIN STRUCTURE.

- MS-9. WATER SEEPAGE FROM A SLOPE FACE:
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- MS-10. STORM SEWER INLET PROTECTION:

 ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- MS-11. STABILIZATION OF OUTLETS:
 BEFORE NEWLY CONSTRUCTED STORM WATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- MS-12. WORK IN LIVE WATERCOURSES:

 WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- MS-13. CROSSING A LIVE WATERCOURSE:

 WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIALS SHALL BE PROVIDED.
- MS-14. APPLICABLÉ REGULATIONS:
 ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.
- MS-15. STABILIZATION OF BED AND BANKS:

 THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
- MS-16. UNDERGROUND UTILITIES:
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS, IN ADDITION TO OTHER APPLICABLE CRITERIA:

 A. NO MORE THAN 100-LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - B. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES, EXCEPT FOR ANY DIVERSION DITCHES.

 C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES
 - NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY.

 D. TRENCH BACKFILL MATERIAL SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
 - F. ALL APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH AT ALL TIMES.
- MS-17. CONSTRUCTION ACCESS ROUTES:

 WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ON TO PAVED SURFACES.
- MS-18. TEMPORARY E&S CONTROL MEASURE REMOVAL:

 ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER

 NEEDED LINIESS OTHERWISE AUTHORIZED BY THE COUNTY INSPECTOR
- NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE COUNTY INSPECTOR.
 MS-19. ADEQUACY OF RECEIVING CHANNELS:
 PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME,

VELOCITY AND PEAK FLOW RATES OF STORM WATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24 HOUR DURATION.

- ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO INSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
 ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT THE END OF EACH DAY AND AFTER EVERY RAINFALL EVENT.
- ALE ENOSION AND SEDIMENT CONTINUE MEASURES STALE BE CHECKED AT THE END OF EACH DATE AND ATTENDED EVENT.
 - 1. DAMAGE TO EROSION CONTROL MEASURES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY SHALL BE REPAIRED IMMEDIATELY.
- 2. MAINTAIN ALL SEEDED AREAS UNTIL A UNIFORM STAND IS ACCEPTED.
 3. (SPEC. 3.02) PROVIDE FOR EQUIPMENT WASHING AS NEEDED TO PREVENT THE TRANSPORT OF SOIL ONTO EXISTING ROADWAYS. ANY SEDIMENT ON THE PAVEMENT SHALL BE REMOVED
- IMMEDIATELY.
 4. (SPEC. 3.05) SILT FENCE BARRIERS WILL BE CHECKED DAILY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL REACHES HALF WAY TO THE TOP OF THE BARRIER.
- 5. (SPEC. 3.19) RIP RAP INSTALLATIONS SHOULD BE INSPECTED PERIODICALLY TO DETERMINE IF HIGH FLOWS HAVE CAUSED SCOUR BENEATH THE RIPRAP OR GEOTEXTILE FABRIC OR DISLODGED
- ANY OF THE STONE.
 6. (SPEC. 3.20) SEDIMENT SHALL BE REMOVED FROM ROCK CHECK DAMS WHEN IT REACHES ONE—HALF OF THE ORIGINAL HEIGHT OF THE MEASURE. REGULAR INSPECTIONS SHALL BE MADE TO
- ÈNSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES. EROSION CAUSED BY HIGH FLOWS AROUND THE EDGES OF THE DAM SHALL BE CORRECTED IMMEDIATELY.
 7. (SPEC. 3.24) ALL STRUCTURES SHALL BE INSPECTED AFTER EVERY RAINFALL AND AT LEAST ONCE A WEEK, WHETHER IT HAS RAINED OR NOT, AND ALL DAMAGES REPAIRED IMMEDIATELY.
- 8. (SPEC. 3.25) ANY STREAM CROSSING SHALL BE INSPECTED AT THE END OF EACH DAY TO ENSURE THAT THE CONSTRUCTION MATERIALS ARE POSITIONED SECURELY.
- 9. (SPEC. 3.31 & 3.32) AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RESEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED.
- 10. (SPEC. 3.35) ALL MULCHES SHALL BE INSPECTED AFTER EACH RUNOFF EVENT TO CHECK FOR EROSION. WHERE EROSION IS OBSERVED ADDITIONAL MULCH SHALL BE APPLIED OR RESPREAD.

 11. (SPEC. 3.36) ALL SOIL STABILIZATION BLANKETS AND MATTING SHALL BE INSPECTED AFTER RAINSTORMS TO CHECK FOR EROSION AND UNDERMINING. IF WASHOUT OR BREAKAGE OCCURS, REINSTALL THE MATERIAL AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH.

VIII. SEQUENCE OF CONSTRUCTION

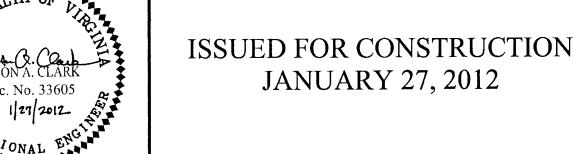
- 1. OBTAIN APPLICABLE CONSTRUCTION PERMITS. SCHEDULE AND ATTEND PRE-CONSTRUCTION MEETING PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- 2. INSTALL CONSTRUCTION ENTRANCE AND PERIMETER SILT FENCE AT LAYDOWN/STAGING AREA.
- INSTALL PERIMETER CONTROLS AS SHOWN ON THE PLANS.
 CLEAR AND GRUB, STRIP TOPSOIL AND STOCKPILE WITHIN THE LIMITS OF CLEARING AND GRADING.
- 5. INSTALL NEW SANITARY SEWER LINE.
- 6. PERFORM PERMANENT SEEDING, STRAW MULCHING, AND STABILIZE ALL DISTURBED AREAS UPON COMPLETION OF FINAL GRADING.
 7. NO E&S DEVICES ARE TO BE REMOVED WITHOUT PERMISSION OF THE BOTETOURT COUNTY E&S INSPECTOR.
- 8. CLOSE OUT PROJECT AND REMOVE ALL TEMPORARY E&S MEASURES.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION, AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE ONSITE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN & NARRATIVE, AS WELL AS A COPY OF THE LAND DISTURBING PERMIT, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

 THE EROSION AND SEDIMENT CONTROL ADMINISTRATOR WILL DELIVER THESE MATERIALS AT THE ONSITE PRECONSTRUCTION CONFERENCE.
- ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING THE LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF—PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY. AN INSPECTION REPORT MUST BE FILED WITH THE BOTETOURT COUNTY EROSION & SEDIMENT CONTROL ADMINISTRATOR ONCE EVERY TWO WEEKS, BEGINNING WITH COMMENCEMENT OF THE LAND DISTURBING ACTIVITY, AND WITHIN 48 HOURS OF ANY RUNOFF—PRODUCING RAINFALL EVENT. FAILURE TO SUBMIT A REPORT WILL BE GROUNDS FOR IMMEDIATE REVOCATION OF THE LAND DISTURBING PERMIT. REPORTS MUST BE POSTMARKED WITHIN 24 HOURS OF THE DEADLINE. A STANDARD INSPECTION REPORT FORM WILL BE SUPPLIED, WHICH SHOULD BE COPIED AS NECESSARY. THIS PROVISION IN NO WAY WAIVES THE RIGHT OF BOTETOURT COUNTY PERSONNEL TO CONDUCT SITE INSPECTIONS, NOR DOES IT DENY THE RIGHT OF THE PERMITTEE(S) TO ACCOMPANY THE INSPECTOR(S).

REVISED PERMANENT SEEDING NOTE PER ADDENDUM	WSW 1/27/12				46
					SOUTH .
					JA
					ROAFE
REVISION	BY DATE	NO.	REVISION	BY DAIF	10.0





DESIGNED BY: JMF/JAC	PROJECT: BOT	ETOURT C	COUNTY, VIR	GINIA	REVISION SET
DRAWN BY: WSW/CLP	SANITARY		TINKER CREEK ERCEPTOR IMPRO	OVEMENTS	DRAWING NUMBER:
DIHR BY: EJTP		SION & SEDI	MENT CONTROL	NARRATIVE	C-13 SHEET NUMBER:
www number: 211036.02	FILE NAME: 1036C-13.dwg	DISCIPLINE: CIVIL	SCALE: H: AS NOTED	DATE: 7-15-11	15 OF 23



Pince 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

Urgency: Normal

Date: 2/7/2012

Job: 1570 Ph I Tinker Creek Sewer Improv

Phone:

CC:

Subject: Pipe in Stream Crossing

Drawing:

Cost Impact:

Spec Section: 02730

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:

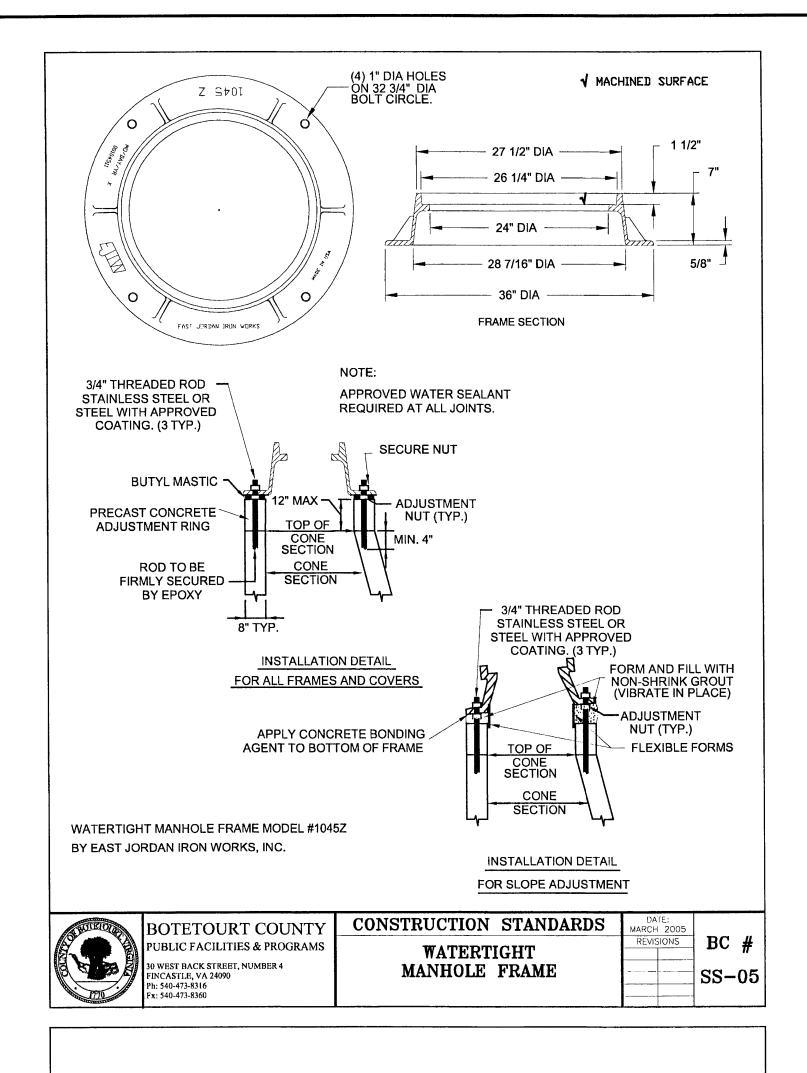
Substituting PVC pipe for Ductile Iron Pipe at delineated stream crossings, except for Tinker Creek may reduce future maintenance problems associated with changing the pipe material mid run. Where crossing delineated streams, the PVC pipe shall be encased in concrete, in accordance with the plans and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

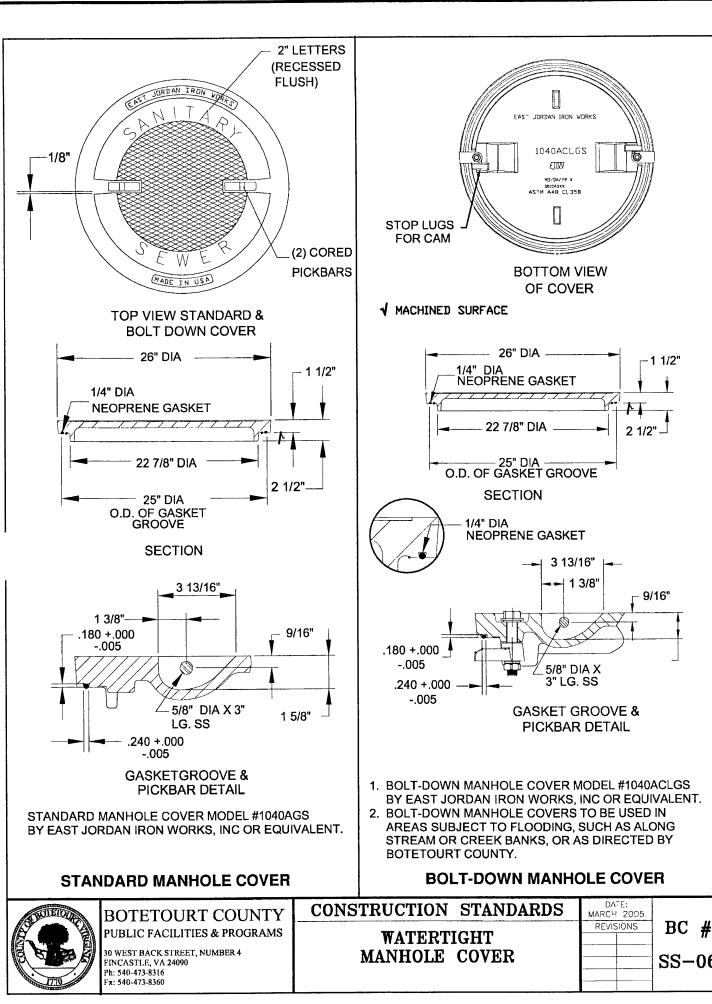
Answered by: Turner Perrow

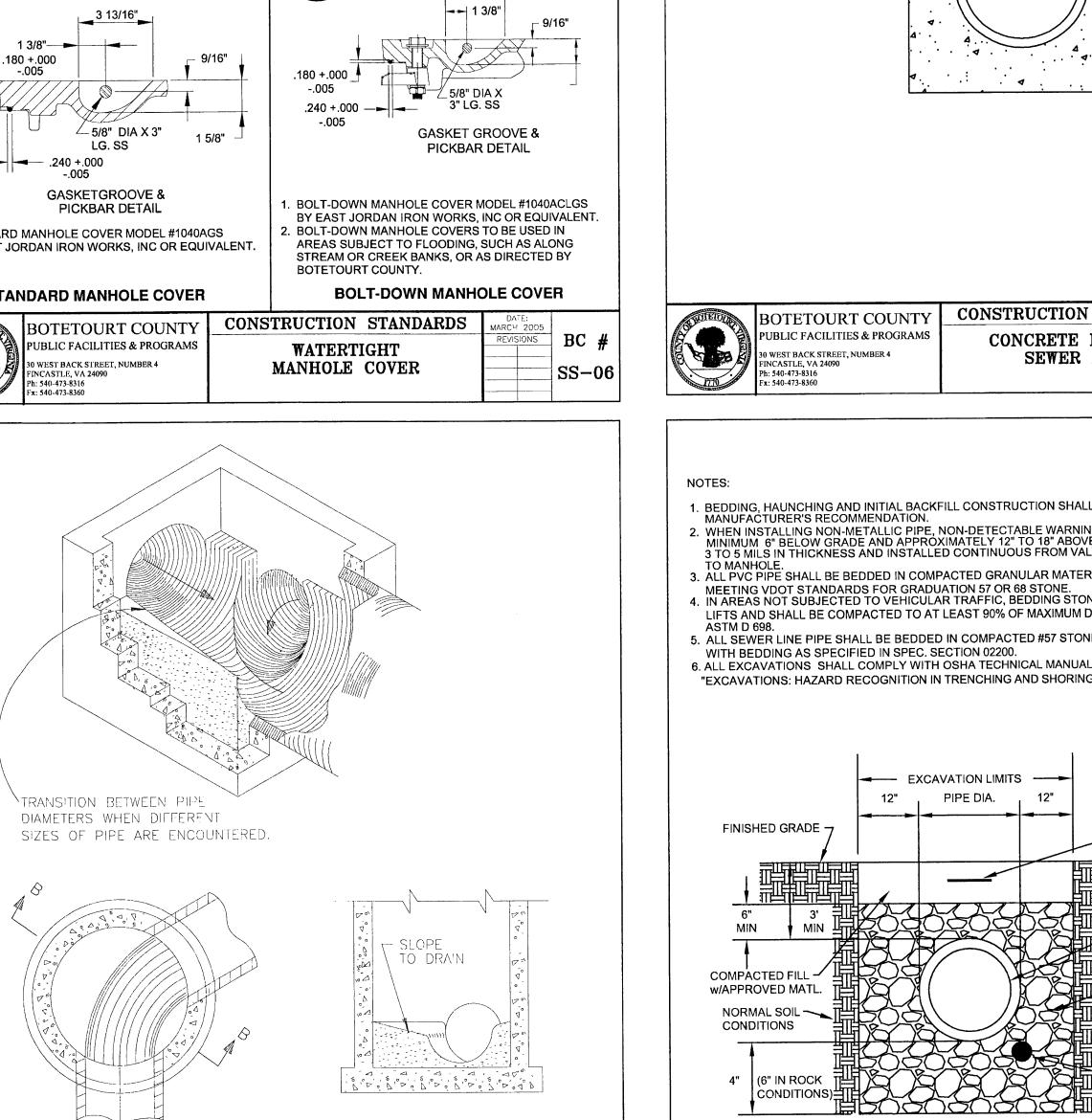
WW ASSOCIATES

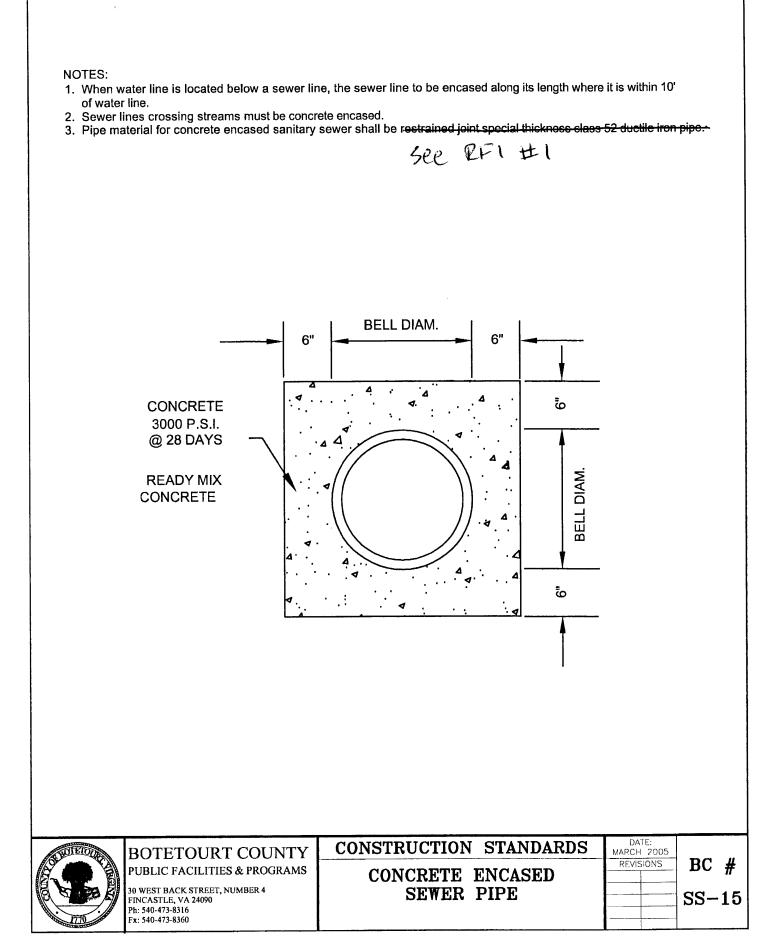
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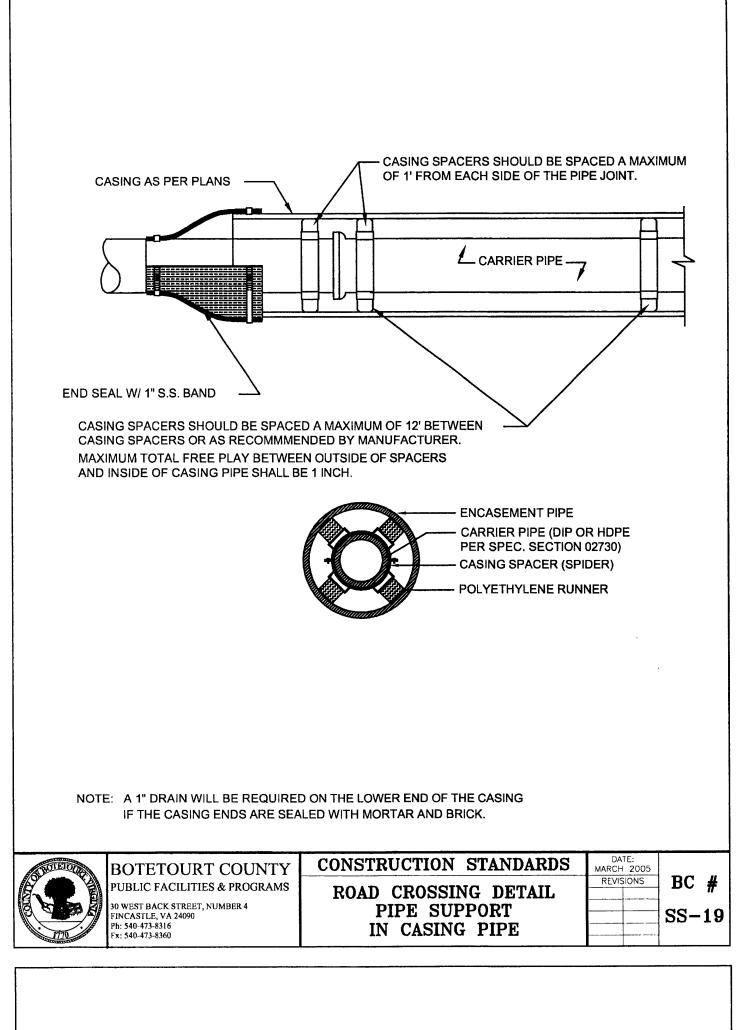
Answered date: February 16, 2012

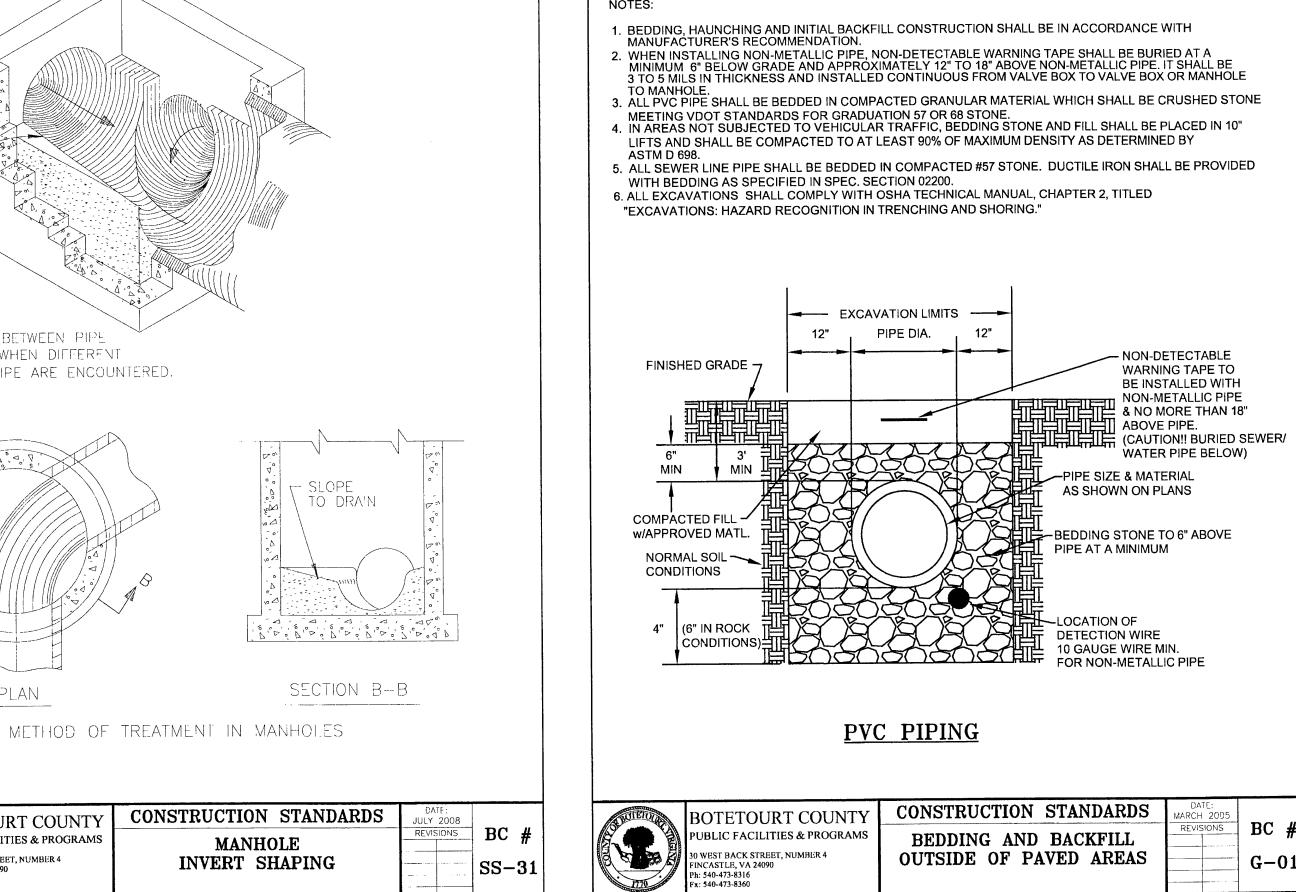


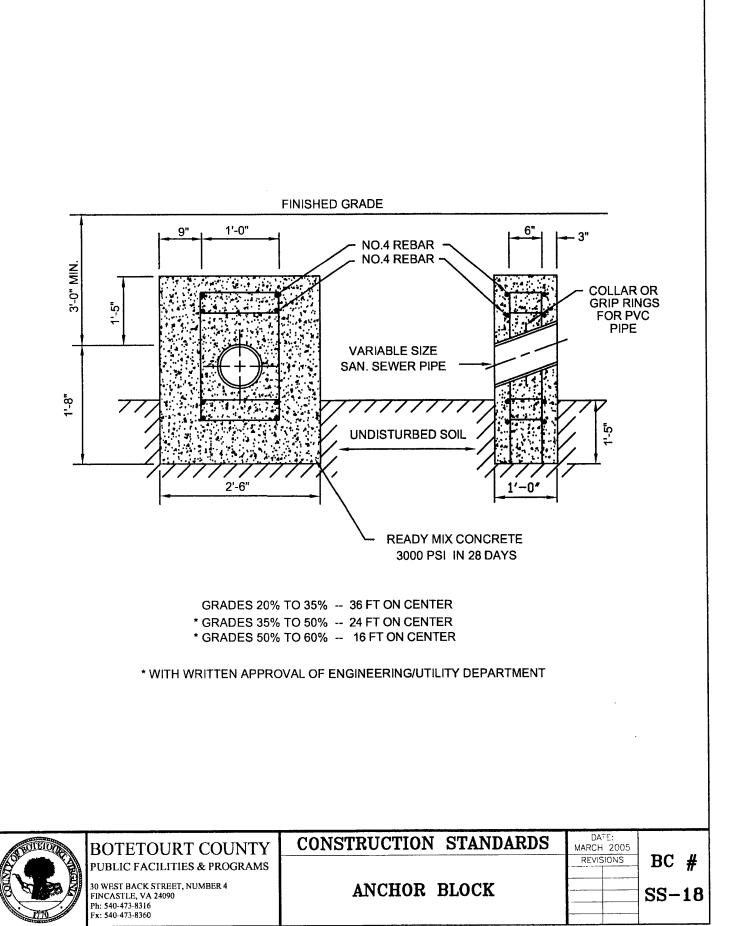


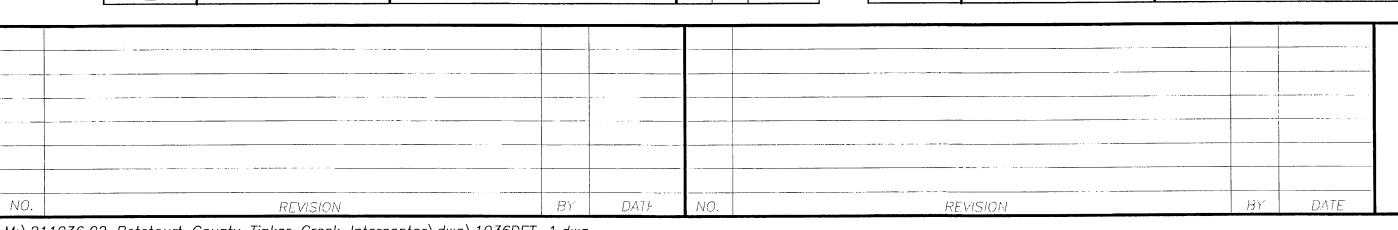












BC#

SS-20

BOTETOURT COUNTY

PUBLIC FACILITIES & PROGRAMS

30 WEST BACK STREET, NUMBER 4 FINCASTLE, VA 24090

FRAME & COVER

CONC. MANHOLE WALL

NON-SHRINK GROUT

BRASS SCREEN

CONSTRUCTION STANDARDS

MANHOLE VENT

OUT OF RIGHT-OF-WAY

Lic. No. 33605

ISSUED FOR CONSTRUCTION JANUARY 27, 2012



Ph: 540-	473-8360			J.	3 10
DESIGNED BY: JMF/JAC	PROJECT: BOTE	ETOURT C	OUNTY, VIRO	GINIA	revision set 2
DRAWN BY: WSW/CLP	SANITARY		INKER CREEK ERCEPTOR IMPRO	OVEMENTS	DRAWING NUMBER:
DIHR BY: EJTP	1716.	PROJECT	DETAILS		DET-1 SHEET NUMBER:
wwa NUMBER: 211036.02	FILE NAME: 1036DET-1.dwg	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V:	DATE: 7-15-11	16 OF 23

OTETOURT COUNTY

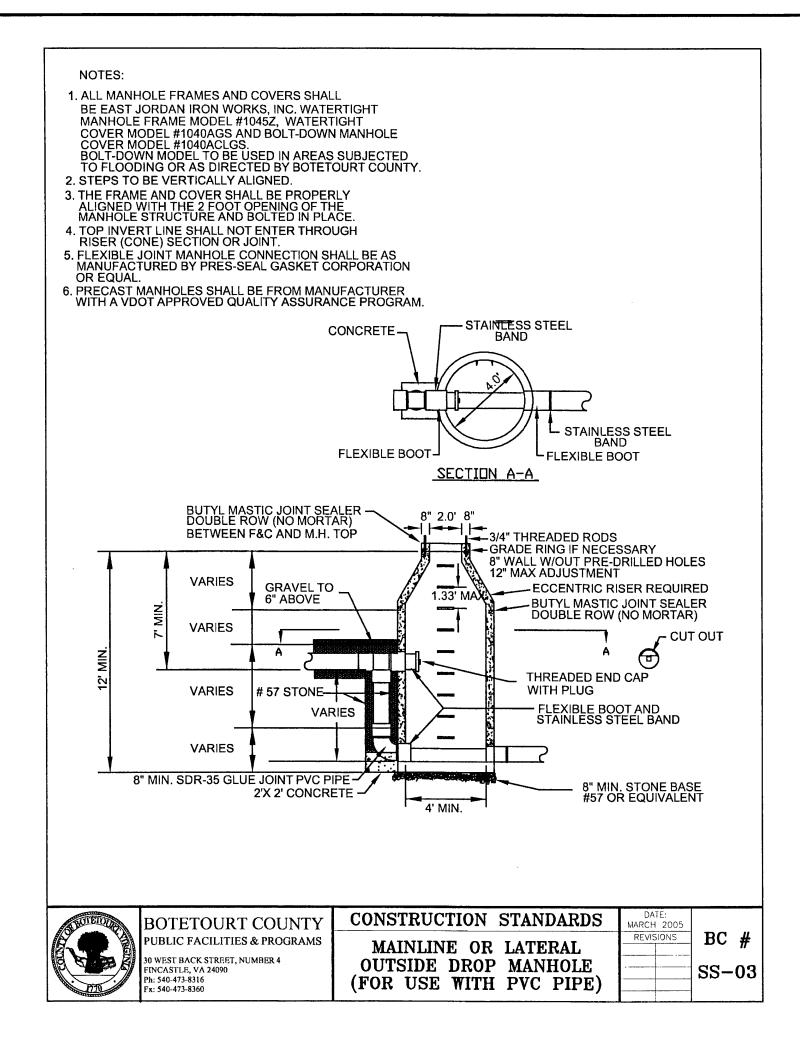
UBLIC FACILITIES & PROGRAMS

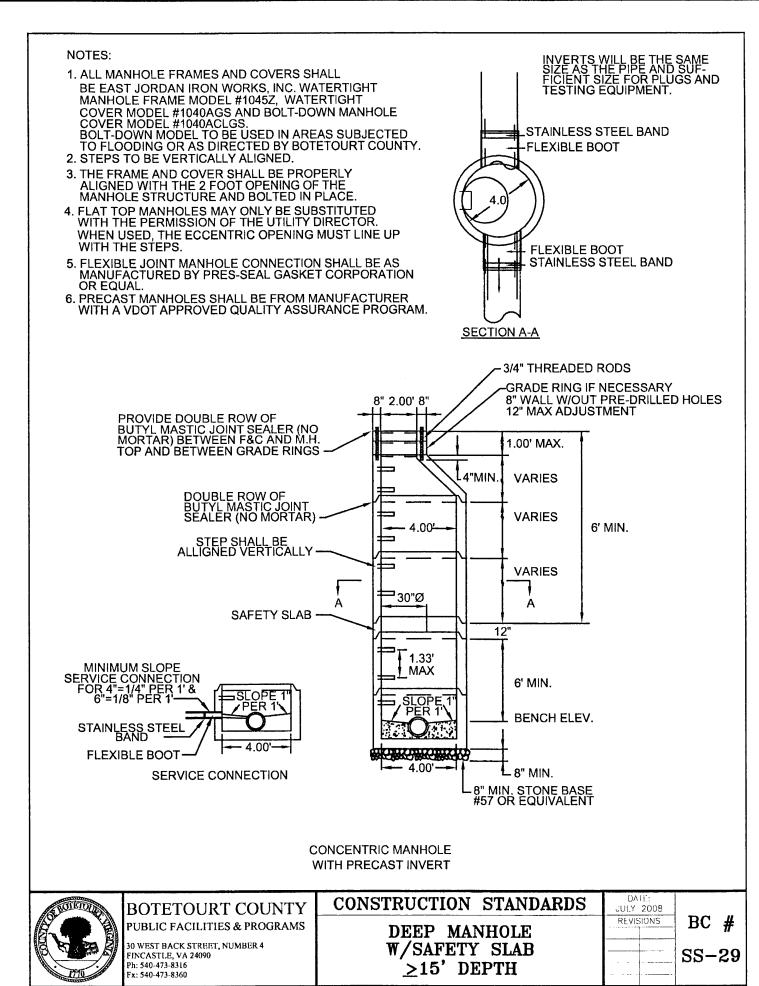
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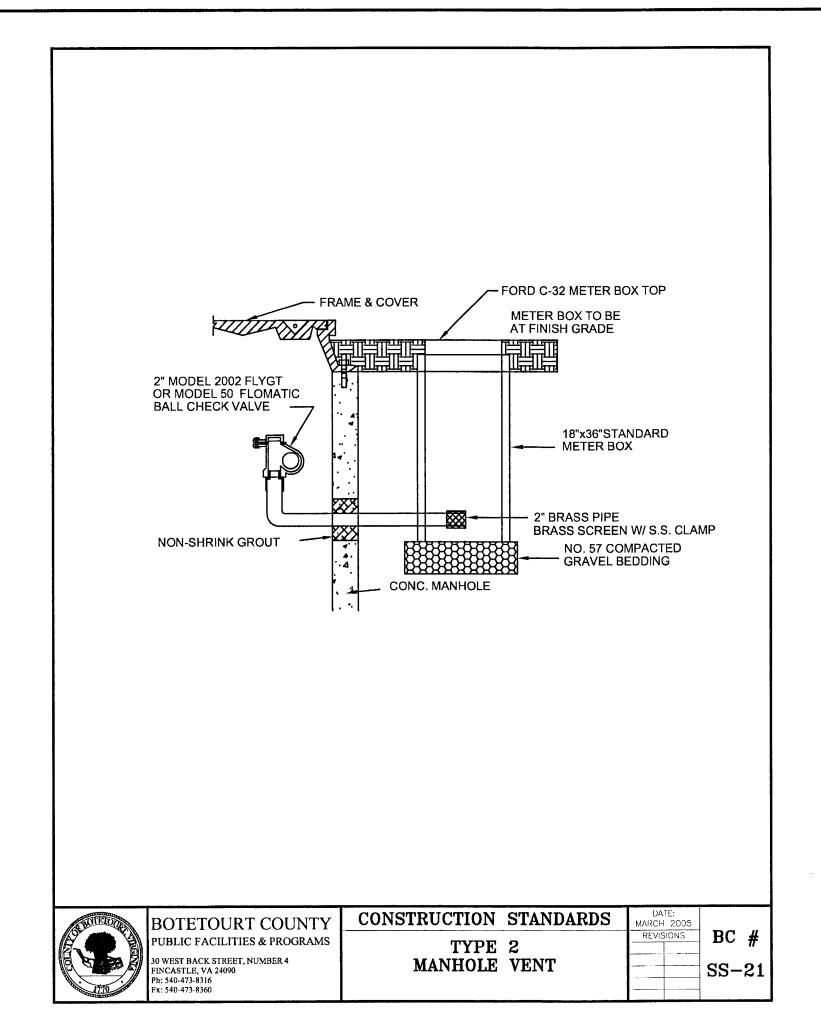
2" MODEL 2002 FLYGT OR MODEL 50

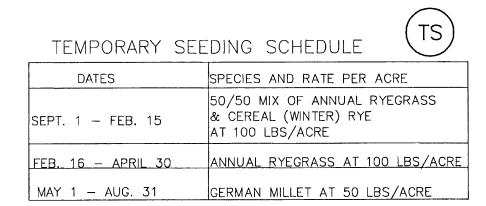
2" BRASS PIPE ----

FLOMATIC BALL CHECK VALVE



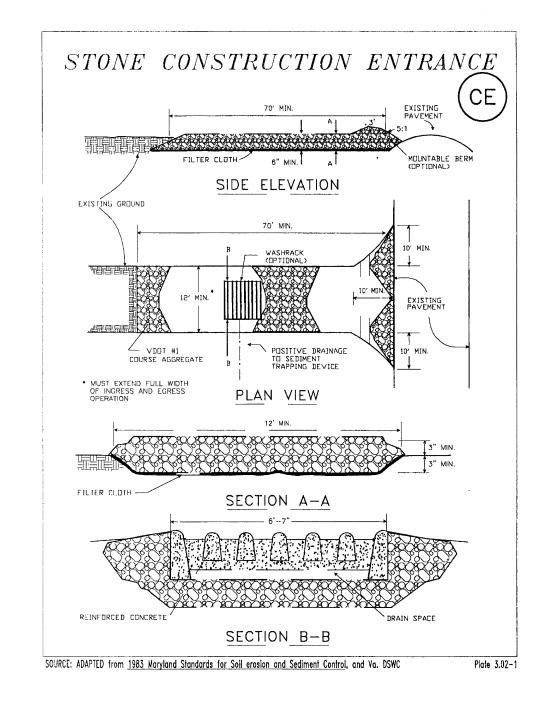


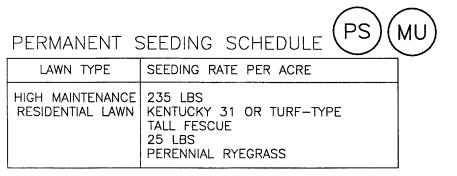




PLACE TEMPORARY SEEDING TO STABILIZE DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS AND TO SIDES OF SOIL STOCKPILES, DAMS, SEDIMENT BASINS, ROADBANKS, ETC.

TEMP. SEEDINGS MADE IN HOT SUMMER OR COLD WINTER MONTHS SHALL BE STRAW MULCHED. SEE SPEC. SECTION 02936 FOR LIME AND FERTILIZER REQUIREMENTS.

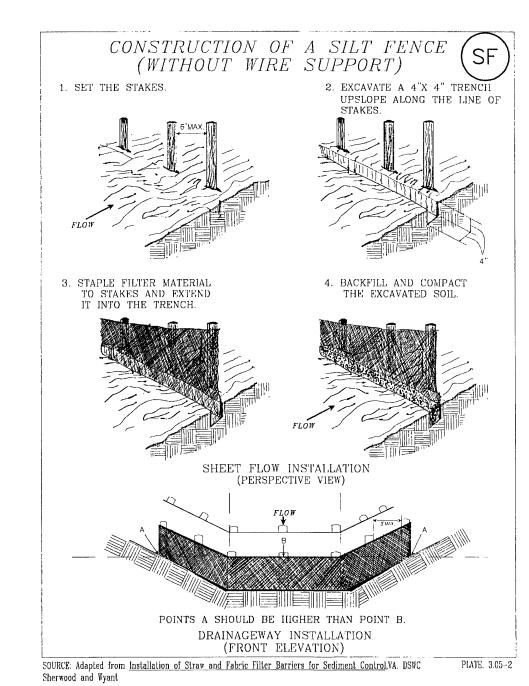


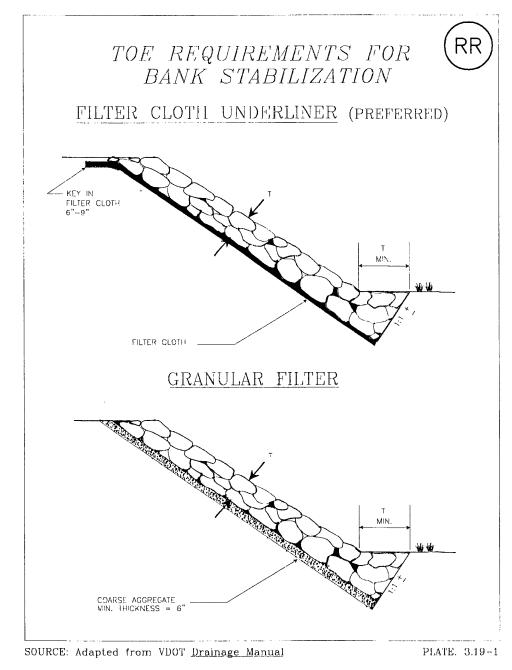


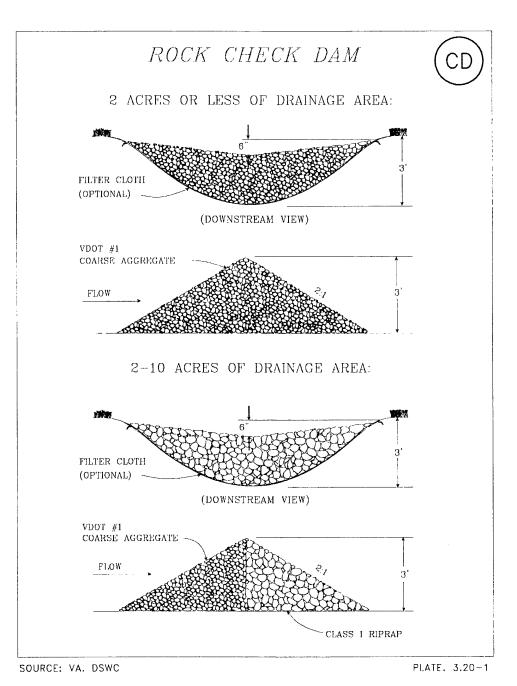
FERTILIZE ALL SEEDED AREAS WITH 5-10-5 AT 50 LBS/1,000 SF. APPLY STRAW MULCH AT A RATE OF 1.5 TONS PER ACRE.

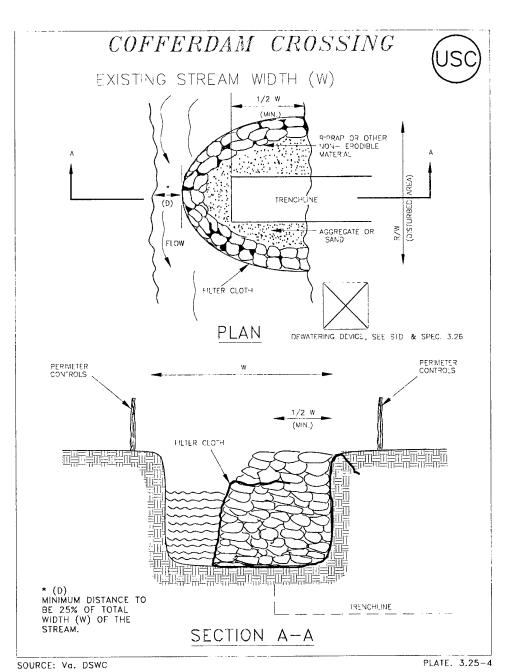
LIME AT 100 LBS/1,000 SF.

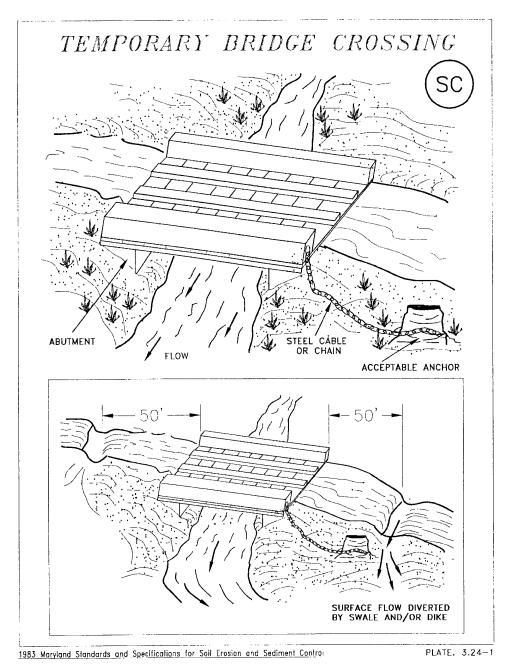
SEEDING AND FERTILIZING OF SLOPES MAY BE PERFORMED BY HYDROSEEDING. FOR AREAS OF SLOPES WHERE SURFACE ROUGHENING, TRACKING, AND HYDROSEEDING ARE UNSUCCESSFUL PROVIDE VDOT ST'D EC-2 BLANKETS AND OVERSEED.

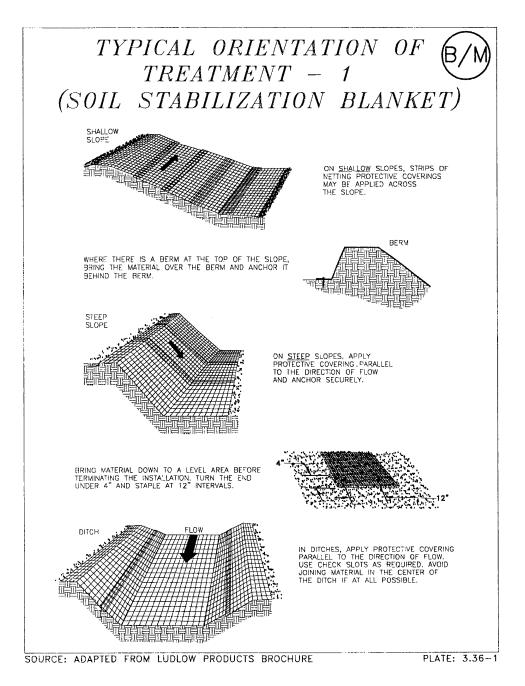












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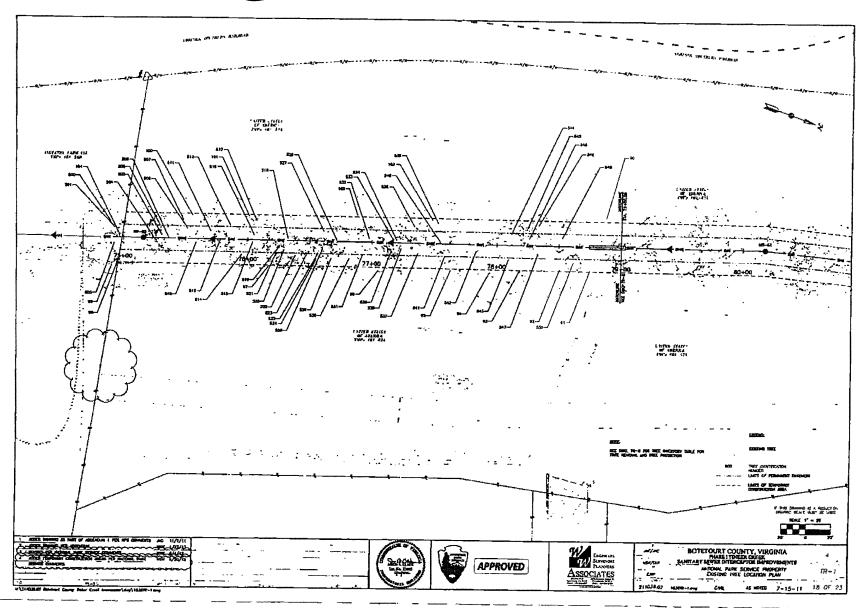
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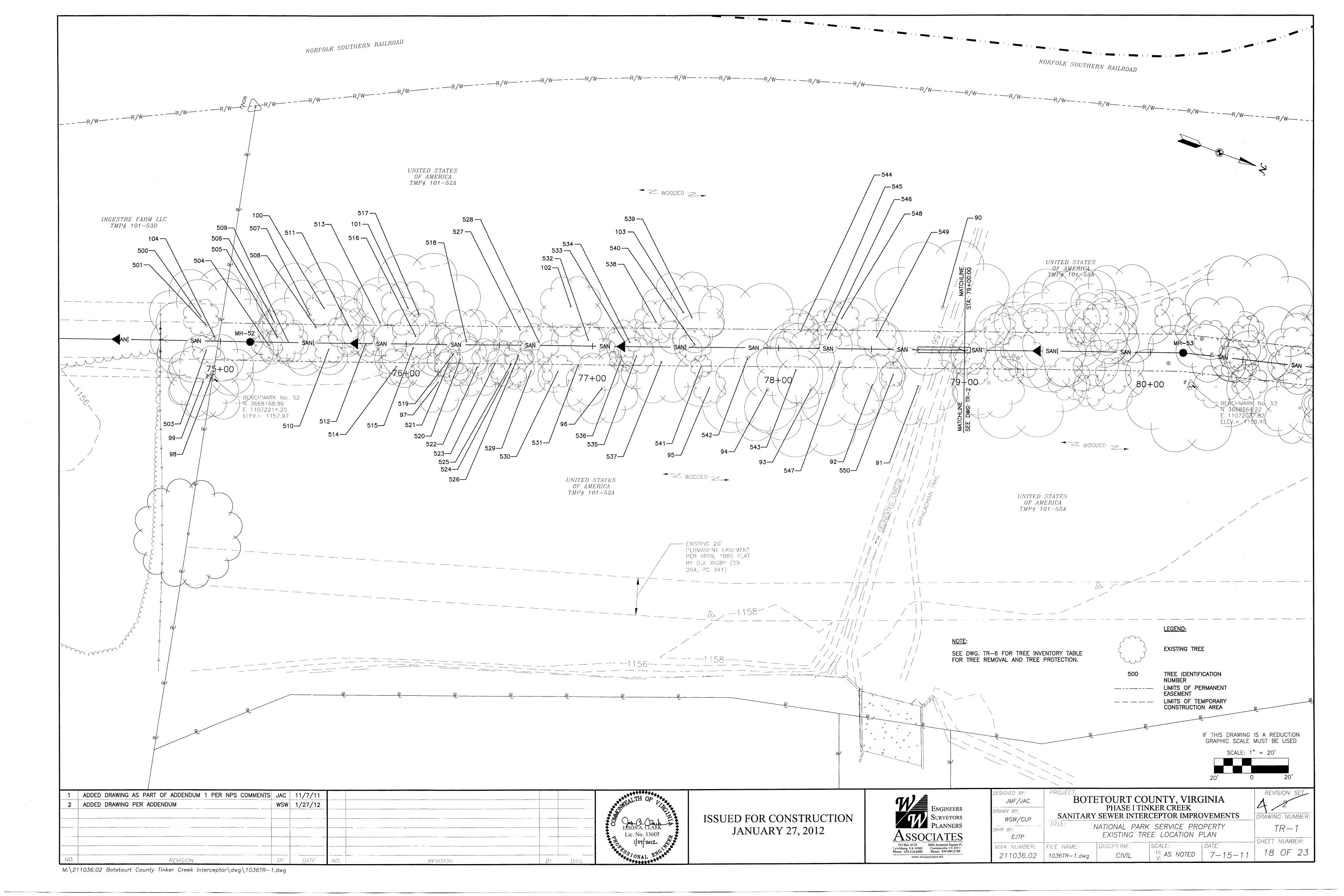
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PO Box 4119 Lynchburg, VA 24502 Phone: 434.316.6080	3040 Avemore Square Pl. Charlottesville, VA 22911 Phone: 434.984.2700
www.wwa	ssociates.net

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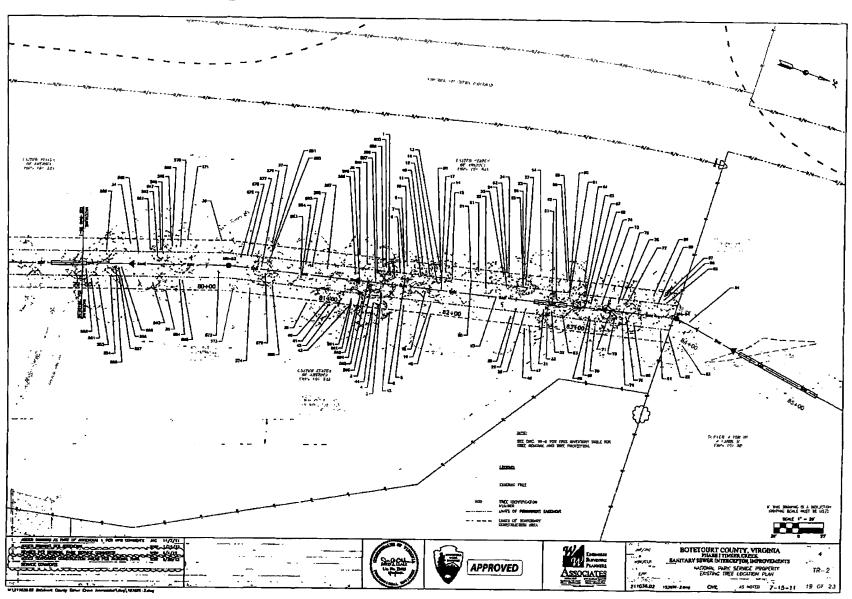
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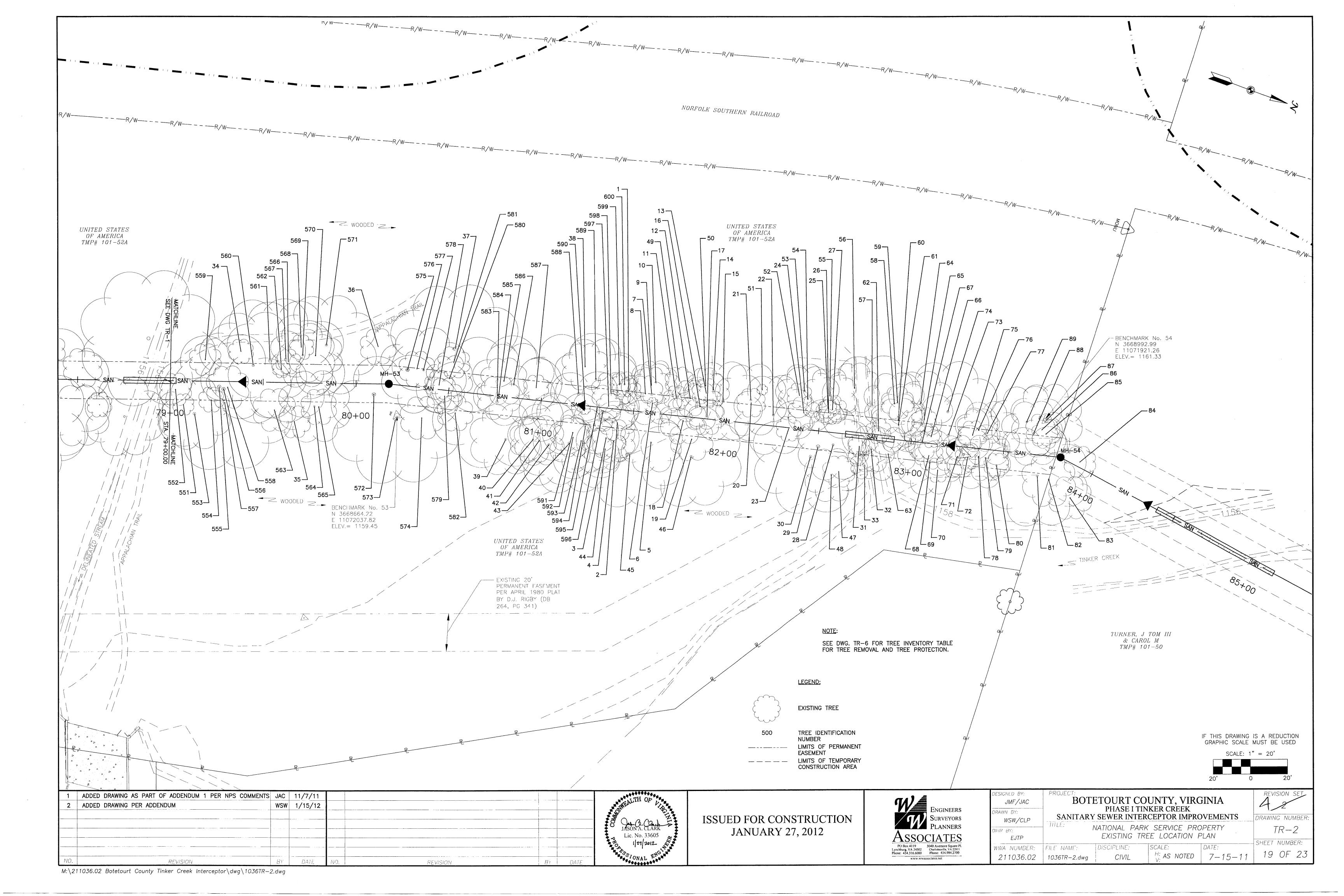
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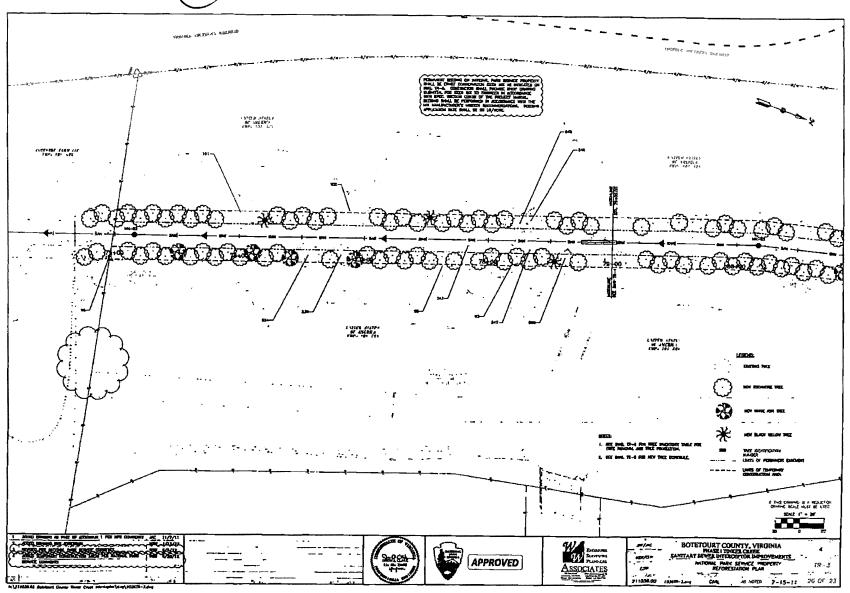


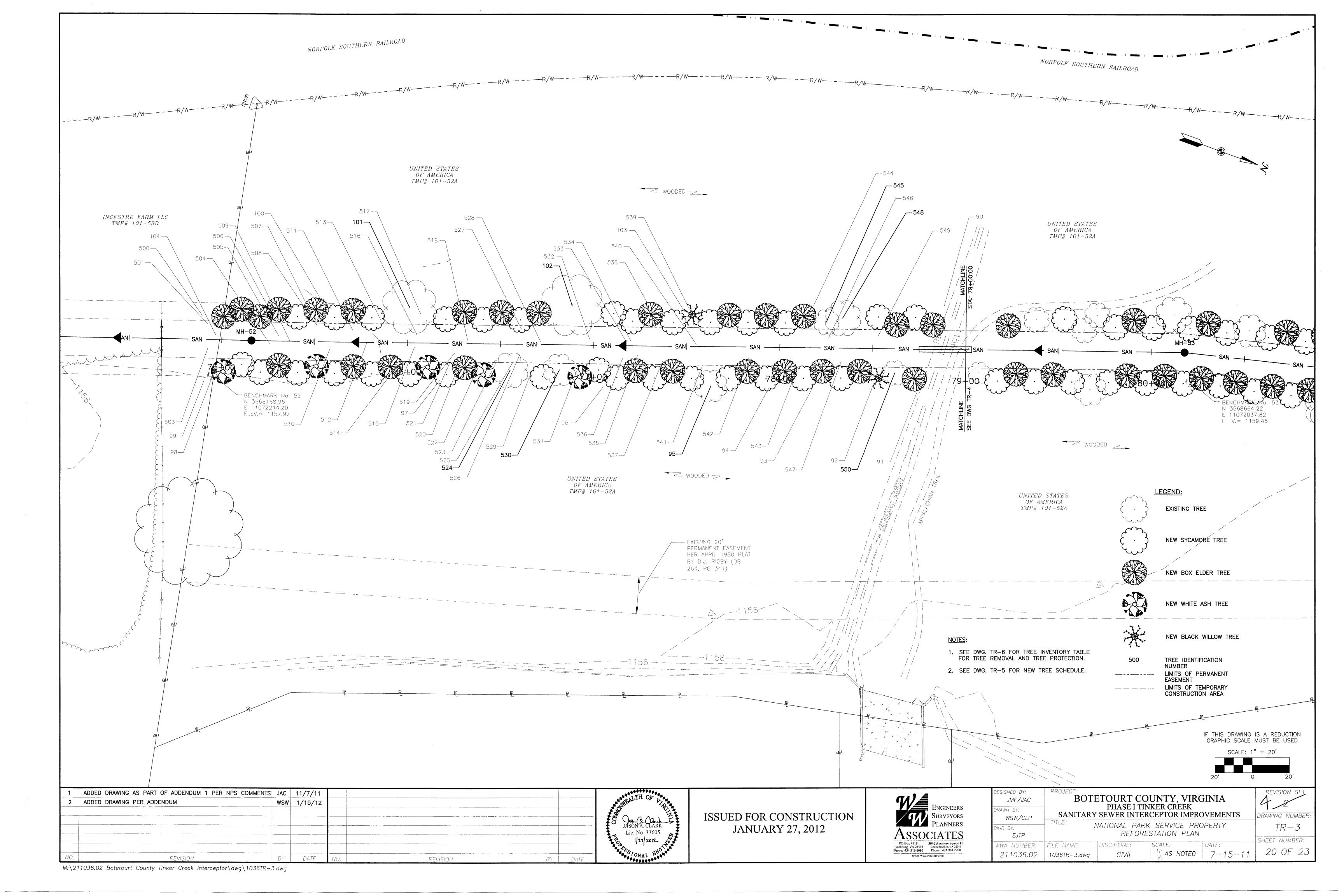
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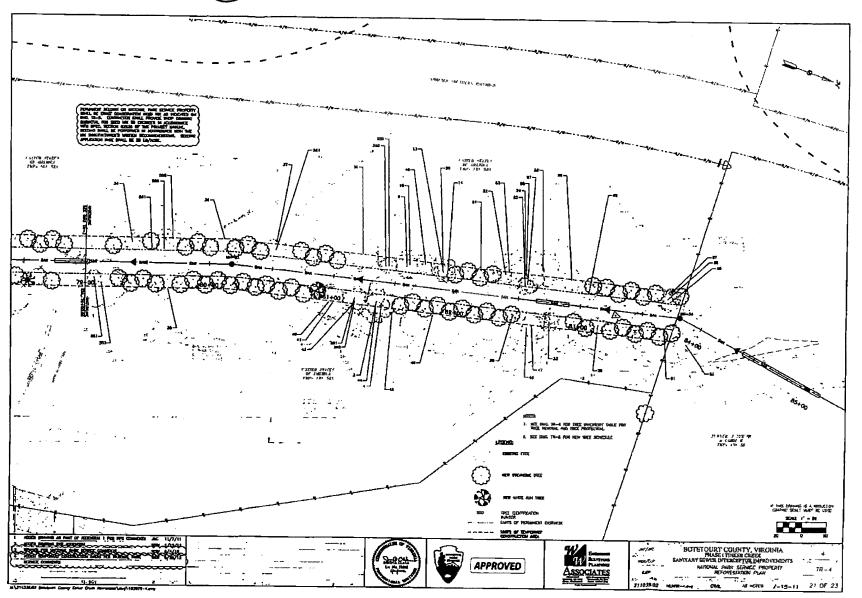


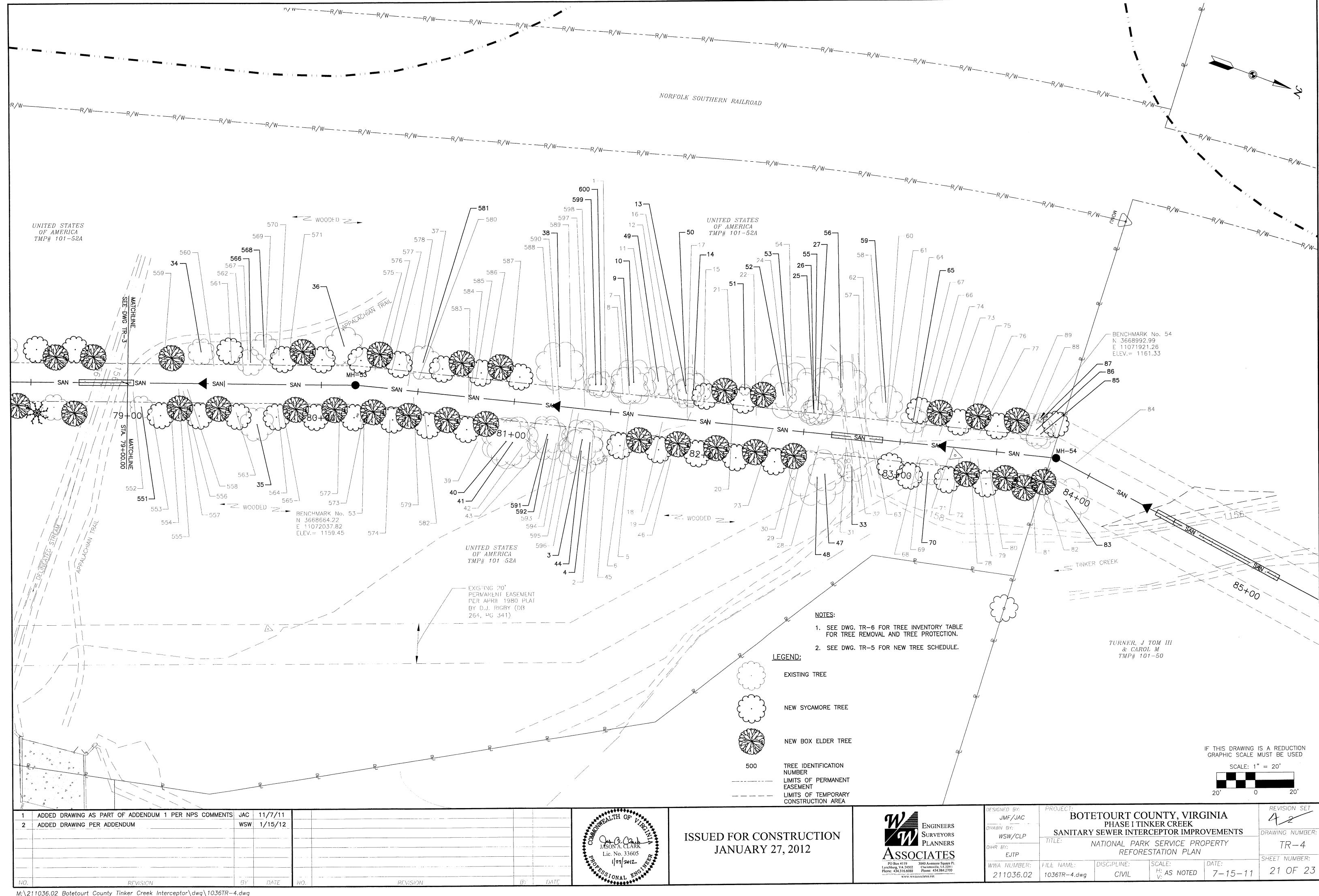
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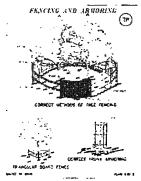




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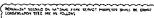
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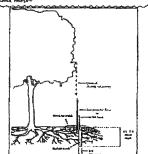
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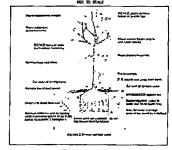
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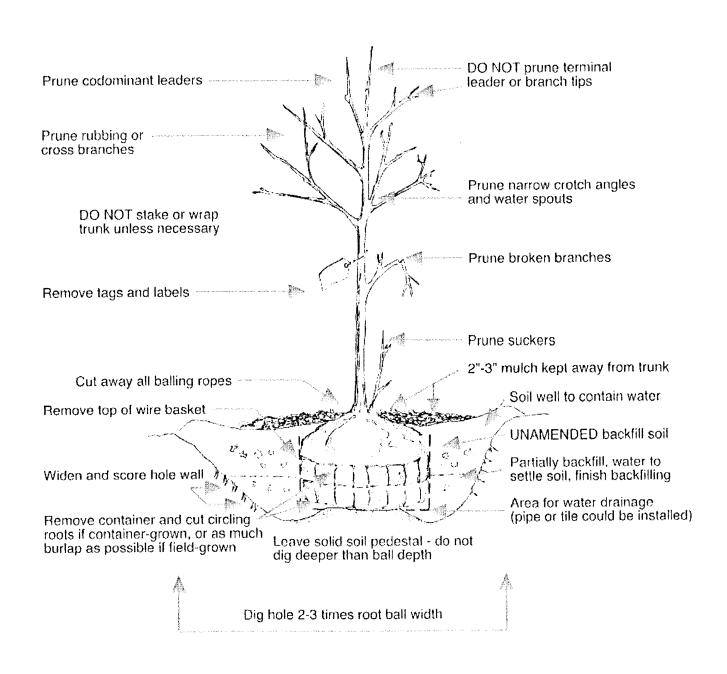
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PLANTING NOTES:

- 1. SOIL: ALL PLANTING SOILS SHALL CONSIST OF SANDY CLAY LOAM FRIABLE SOIL, CONTAINING A MINIMUM OF 1.5 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.
- 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 ROOT MAT. 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
- 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, WATERSPOUTS, 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.

- 21. MULCH SHALL BE APPLIED TO THE GENERAL PLANTING AREA TO AN AVERAGE DEPTH OF 3 IN. WITHIN 24 HOURS OF PLANTING. MULCH SHALL BE MAINTAINED AT A DISTANCE OF 3 IN. FROM THE TRUNK OR STEM OF ANY PLANT. THERE SHALL NOT BE ANY MOUNDING OF MULCH ONTO THE TRUNK OF ANY PLANT.
- 22. PLANTING SEASON: PLANTS SHALL BE INSTALLED WITHIN THE DATES SET FORTH BY LOCAL JURISDICTION; OR WHERE NO REQUIREMENT IS GIVEN, SHALL BE AS FOLLOWS: DECIDUOUS TREES FEBRUARY 15 TO MAY 15 FOR SPRING/SUMMER SEASON; AND SEPTEMBER 15 TO DECEMBER 31 FOR FALL/WINTER PLANTINGS.
- 23. MAINTENANCE: ALL INSTALLED TREES SHALL BE GUARANTEED AND MAINTAINED FOR A MINIMUM OF ONE (1) YEAR FROM THE TIME OF SUBSTANTIAL COMPLETION. MAINTENANCE SHALL BEGIN AT TIME OF PLANTING AND INCLUDE WATERING, MULCHING, PRUNING, FERTILIZING, PLANT HEIGHT AND ALIGNMENT ADJUSTMENTS AND STAKING AS NEEDED TO MAINTAIN HEALTHY THRIVING PLANT MATERIAL. ANY NEWLY INSTALLED OR PROTECTED EXISTING TREE THAT DIES DURING THE 1-YEAR WARRANTY PERIOD SHALL BE REMOVED BY THE CONTRACTOR AND REPLACED WITH A COMPARABLE TREE AT THE CONTRACTOR'S EXPENSE.
- 24. MONITORING SCHEDULE: CONTRACTOR SHALL PERFORM REGULAR MAINTENANCE INSPECTIONS AT A MINIMUM OF ONCE A WEEK FOR THE FIRST TEN (10) WEEKS AND SHALL SUBMIT A LOG OF THE INSPECTIONS TO THE COUNTY AFTER EACH VISIT. THE MONITORING OF THE PLANT MATERIAL SHALL CONTINUE AT LEAST ONCE A MONTH THEREAFTER WITH LOGS SUBMITTED EACH MONTH TO THE COUNTY.
- 25. MONITORING CHART: CREATE A PLANT CHART FROM THE PLANTING PLANS. LIST NAME AND QUANTITY OF PLANTS IN EACH PLANTING AREA. NOTE HEALTH AND CONDITION OF PLANTS AND SOILS AT TIME OF PLANTING, NOTE CONDITION OF PLANT AND SOILS AT TIME OF MONITORING, NOTE WEATHER CONDITIONS. LIST ACTION TAKEN IF ANY. DATE AND SIGN THE CHART, AND INCLUDE WITH INSPECTION LOG.
- 26. APPLICABLE STANDARDS: AMERICAN NATIONAL STANDARDS FOR TREE CARE OPERATIONS, ANSI A300. AMERICAN NATIONAL STANDARDS INSTITUTE, 11 WEST 42ND STREET, NEW YORK, N.Y. 10036. AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1. AMERICAN NURSERY AND LANDSCAPE ASSOCIATION, 1250 EYE STREET. NW, SUITE 500, WASHINGTON, D.C. 20005. HORTUS THIRD, THE STAFF OF THE L.H. BAILEY HORTORIUM. 1976. MACMILLAN PUBLISHING CO., NEW YORK. ALL STANDARDS SHALL INCLUDE THE LATEST ADDITIONS AND AMENDMENTS AS OF THE DATE OF ADVERTISEMENT FOR BIDS.

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



TREE PLANTING DETAIL NOT TO SCALE

NARRATIVE OF TREE PROTECTION

THE TREE IDENTIFICATION SURVEY FOR THE PROPOSED SANITARY SEWER IMPROVEMENTS ON THE NATIONAL PARK SERVICE PROPERTY WAS PERFORMED IN OCTOBER 2011. ONLY TRUNK, BRANCH AND TWIG IDENTIFICATION WERE USED FOR SPECIES IDENTIFICATION OF TREES IN THE FOREST. THERE WERE 203 TREES TAGGED AS PART OF THE SURVEY.

TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO CLEARING PER THE SEQUENCE OF CONSTRUCTION ON THE EROSION AND SEDIMENTATION CONTROL DRAWINGS. THE INSTALLATION OF ALL TREE PROTECTION DEVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, AND SHALL BE DONE IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION TO BE PRESERVED.

NATIONAL PARK SERVICE REPRESENTATIVES SHALL BE NOTIFIED AT LEAST (10) DAYS PRIOR TO THE COMMENCEMENT OF ANY CLEARING ACTIVITIES ON NATIONAL PARK SERVICE PROPERTY.

WHERE CONSTRUCTION EQUIPMENT IS USED NEAR TREES TO BE PRESERVED, CONTRACTOR SHALL USE ALL TREE PROTECTION DEVICES AS INDICATED ON THE DRAWINGS. AS A MINIMUM, AT LEAST 4 IN. OF HARDWOOD MULCH SHALL BE APPLIED OVER THE ROOTS OF ANY TREE IF IT HAS NOT ALREADY BEEN ROOT PRUNED AND MULCHED PER THE TREE PROTECTION PLAN. WHEN IN DOUBT, ADD MULCH OVER THE TYPICAL (CRITICAL) ROOT ZONES BENEATH THE DRIP LINE OF THE TREE CANOPY TO ADD ADDITIONAL PROTECTION TO TREE ROOTS WHEN NECESSARY

ANY TREE ROOTS OF TREES TO BE PROTECTED THAT ARE OVER 1 IN. IN DIAMETER AND EXPOSED OR DAMAGED DUE TO CONSTRUCTION ACTIVITY (INCLUDING TRENCHING) SHALL BE CLEANLY TRIMMED AND COVERED WITH ORGANIC MULCH, TOPSOIL OR OTHER SUITABLE MATERIAL TO PREVENT ROOTS FROM DRYING OUT.

ROOT PRUNING SHALL BE PERFORMED BY AN EXPERIENCED CONTRACTOR. ROOT PRUNING EQUIPMENT SHALL INCLUDE A VIBRATORY PLOW OR OTHER APPROVED EQUIPMENT. NATIONAL PARK SERVICE REPRESENTATIVES SHALL BE INFORMED WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

TREE REMOVAL SHALL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE DAMAGE TO SURROUNDING TREES TO REMAIN. THIS INCLUDES THOSE IMMEDIATELY AROUND THE CONSTRUCTION ZONES. TREES WITHIN CONSTRUCTION ZONES MAY BE FALLEN BY HAND IF THEY CAN BE FALLEN INTO THE CONSTRUCTION ZONE. TREES THAT MUST BE REMOVED SHALL BE REMOVED BY HAND IN A MANNER THAT WILL NOT INJURE SURROUNDING TREES. THIS MAY RESULT IN FALLING TREES TOWARD THE CONSTRUCTION ZONE IF THERE IS AMPLE DISTANCE TO AVOID FURTHER TREE DAMAGE. TOPPING TREES INTO SECTIONS AND REMOVING THEM IS AN OPTION TO AVOID DAMAGE TO OTHER TREES.

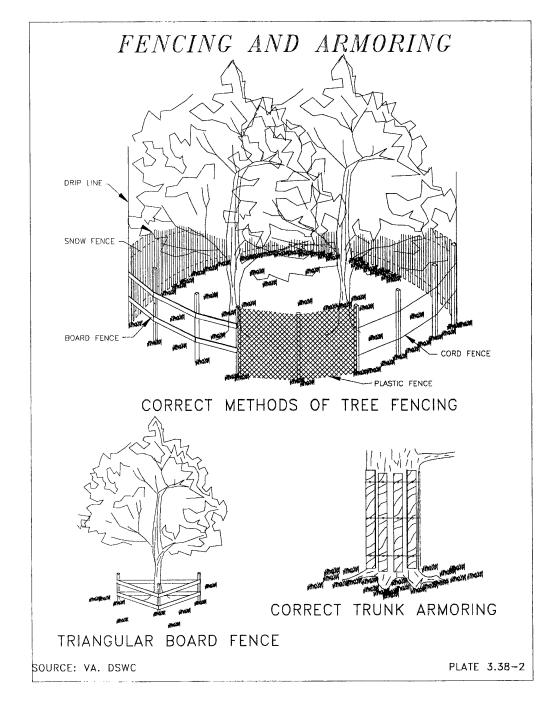
REMOVAL OF LOGS SHALL NOT FURTHER DAMAGE ROOTS, TRUNKS OR ORGANIC MATTER OF THE FOREST.

DISTURBED AREAS FROM TREE REMOVAL OPERATIONS SHALL BE RESTORED TO THE SATISFACTION OF NATIONAL PARK SERVICE REPRESENTATIVES FOR UNDERSTORY PLANT MATERIALS, LEAF LITTER AND SOIL CONDITIONS.

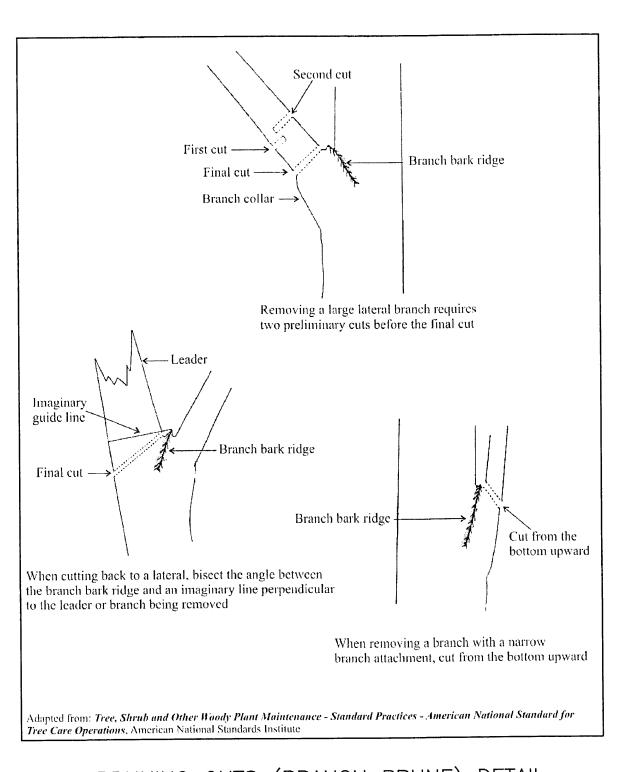
TREE PROTECTION DEVICES SHALL BE MAINTAINED UNTIL ALL WORK IN THE VICINITY HAS BEEN COMPLETED AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT THE CONSENT OF NATIONAL PARK SERVICE REPRESENTATIVES. IF PROTECTIVE DEVICES ARE DEEMED INADEQUATE, INSTALLATION OF ADDITIONAL DEVICES MAY BE REQUIRED.

HEAVY EQUIPMENT, VEHICULAR TRAFFIC, STOCKPILING OF MATERIALS OR DEPOSITION OF SEDIMENT SHALL NOT BE PERMITTED WITHIN TREE PRESERVATION AREAS.

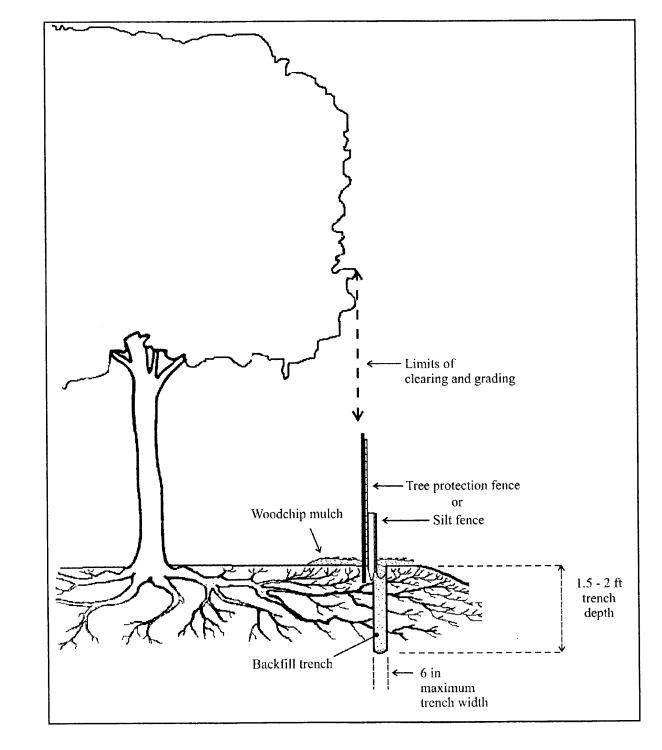
ANY PROTECTED TREE THAT DIES AS A RESULT OF CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR AND REPLACED WITH A COMPARABLE TREE AT THE CONTRACTOR'S EXPENSE.



TREE PRESERVATION/PROTECTION DETAIL NOT TO SCALE

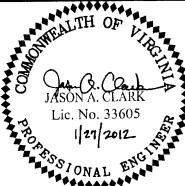


PRUNING CUTS (BRANCH PRUNE) DETAIL NOT TO SCALE



ROOT PRUNING DETAIL NOT TO SCALE

ADDED DRAWING AS PART OF ADDENDUM 1 PER NPS COMMENTS JAC | 11/7/11 2 ADDED DRAWING PER ADDENDUM WSW 1/27/12 DATE REVISION



ISSUED FOR CONSTRUCTION JANUARY 27, 2012



DESIGNED BY: JMF/JAC	PROJECT: BOTI	ETOURT (
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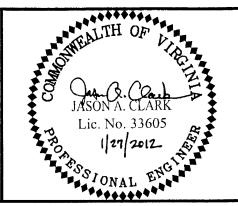
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	NAME)	DBH)	STA	ATUS	·
TREE#	TREE SPECIES (COMMON NAME)	EXISTING CALIPER SIZE (DBH)	PRESERVE/PROTECT	REMOVE	COMMENTS
500	Box Elder	5		X	Not on Park Property
501	Sycamore	19.25		X	Not on Park Property
104	Sycamore	19		X	Not on Park Property
503	Box Elder	3.25		X	Not on Park Property
504	Box Elder Box Elder	6.25		X	
506	Box Elder	5.5		X	1.2
507	Sycamore	16.75		X	
508	Sycamore	13.5		X	Double
509	Box Elder	3.25		X	
510	Ash	4.5		X	
511	Box Elder	4.75		X	
512	Box Elder	4.25		X	
513	Box Elder	10.75		X	
514	Box Elder Box Elder	4.75	···	X	
516	Black Willow	10.25 7.25		X	
517	Sycamore Sycamore	18.5		$\begin{array}{ c c c }\hline X \\ X \\ \end{array}$	
518	Box Elder	10		X	
519	Ash	7.5		X	
520	Box Elder	7		X	
521	Box Elder	3.25		X	
522	Box Elder	9.5		X	
523	Box Elder	7.25		X	Double
524 525	Box Elder Ash	3.75 6.5		X	Daulda (Daad)
526	Box Elder	3.5		X	Double (Dead)
527	Box Elder	6.75		X	
528	Box Elder	7.5		X	Double
529	Box Elder	6		X	Double
530	Box Elder	4	X		
531	Ash	11.25		X	
532	Box Elder	6		X	
533	Box Elder	4		X	
534	Box Elder	6.25		X	
535 536	Box Elder Box Elder	4.75		X	
537	Box Elder	12.5		X	
538	Box Elder	7.25	WT 11 11 11 11 11 11 11 11 11 11 11 11 11	X	
539	Black Willow	10		X	
540	Box Elder	4.25		X	
541	Box Elder	4.5		X	
542	Sycamore	25		X	
543	Sycamore	12.75		X	
544 545	Box Elder Box Elder	3.5	X	X	
546	Box Elder	3.5	Λ	X	
547	Sycamore	20.75		X	
548	Box Elder	4.25	X		
549	Box Elder	6.5		X	
550	Box Elder	3.5	X		•
551	Box Elder	4	X		
552	Box Elder	5		X	
553 554	Sycamore Box Elder	18.5 3.25		X	
555	Sycamore	3.23		$\begin{array}{ c c }\hline X \\ X \\ \end{array}$	Dead
556	Sycamore	7		X	Dead
557	Sycamore	21.5		X	
558	Box Elder	5.5		X	
559	Box Elder	5.75		Х	
560	Sycamore	16.5		X	
561	Sycamore	20.25		X	
562	Box Elder	3.5		X	
563 564	Box Elder Box Elder	5.5		X	
565	Box Elder	6.25		X	
566	Box Elder	3.75		X	
567	Sycamore	17.25		Х	
568	Sycamore	4	X		

	NAME)	DBH)	STA	ATUS	
TREE#	TREE SPECIES (COMMON NAME)	EXISTING CALIPER SIZE (DBH)	PRESERVE/PROTECT	REMOVE	COMMENTS
569	Sycamore	10.5		X	
570	Sycamore	6.5		X	
571 572	Sycamore Sycamore	6.5		X X	Dead
573	Sycamore	21		X	Deud
574	Box Elder	4.5		X	
575	Sycamore	11		X	Dead
576	Box Elder	4		X	
577 578	Sycamore Box Elder	11.75 3.75		X X	
579	Box Elder	3.73		X	
580	Sycamore	7.5		X	144
581	Box Elder	4	X		
582	Box Elder	4.75		X	
583	Sycamore	19		X	
584 585	Sycamore Box Elder	6.25		X	
586	Sycamore	11.25		X	
587	Box Elder	3.25		X	-
588	Sycamore	18		X	
589	Box Elder	11		X	
590	Sycamore	6.5	17	X	
591 592	Sycamore Sycamore	6.5 5.5	X X		
593	Sycamore	10.5	X	X	
594	Sycamore	15		X	
595	Sycamore	6		X	
596	Ash	8		X	Dead
597	Sycamore	3		X	
598 599	Box Elder Sycamore	5 8.25	X	X	
600	Sycamore	9	X		
1	Sycamore	10		Х	
2	Sycamore	4.25		X	
3	Sycamore	6.25	X		-
4	Sycamore	6.75	X	X	***
5	Sycamore Sycamore	10.25 3.75		X	
7	Sycamore	15.25		X	
8	Box Elder	3.75		X	
9	Sycamore	5.25	X		
10	Sycamore	6.75	X	37	
11	Box Elder	3.25		X	
13	Sycamore Sycamore	6.75	X	Λ	And the second s
14	Sycamore	4.5	X		
15	Sycamore	17.5		X	
16	Sycamore	7		X	
17 18	Sycamore	7.25		X X	
19	Sycamore Box Elder	5.25		X	
20	Box Elder	4		X	
21	Sycamore	13		X	
22	Sycamore	12.5		X	
23	Box Elder	3.25		X	
24 25	Sycamore	3.25	X	X	
26	Sycamore Sycamore	3.25	X		
27	Sycamore	5	X		
28	Sycamore	14.25		X	
29	Sycamore	4		X	Dead
30	Sycamore	17.5		X	
31	Box Elder	8.5		X	
	Sycamore			Λ	
32	Box Elder	3.25	X	1	
	Box Elder Box Elder	3.25 3.5	X		
32 33					Triple

	NAME)	DBH)	STA	ATUS	
TREE#	FREE SPECIES (COMMON NAME)	EXISTING CALIPER SIZE (DBH)	PRESERVE/PROTECT	REMOVE	COMMENTS
	Box Elder	7.5	X X	- - -	Ŭ
38	Box Elder	14.5	Λ	X	
40	Sycamore	8.75	X	Λ	
41	Sycamore	8	X		
42	Sycamore	14		X	
43	Sycamore	17.5		X	
44	Sycamore	5.75	X	77	
45	Sycamore	19.5 15		X	
47	Sycamore Box Elder	4	X	^	
48	Sycamore	9.5	X		
49	Box Elder	3	X		
50	Sycamore	6.5	X		
51	Sourwood	4.5	X		
52	Sycamore	3.75	X		
53	Sycamore	11.75	X	77	
54	Sycamore Sycamore	9.25 7.75	X	X	
56	Sycamore Box Elder	7.75	X		
57	Sycamore	17		X	
58	Sycamore	8.5		X	
59	Sycamore	4.5	X		
60	Sycamore	9		X	
61	Sycamore	8.5		X	
62	Sycamore Box Elder	8		X	
64	Sycamore	12.5		X	
65	Sycamore	4.25	X	1	
66	Sycamore	3.25		X	
67	Sycamore	6.75		X	
68	Sycamore	4.25	<u> </u>	X	
69	Sycamore	11.25	V	X	
70	Box Elder Sycamore	6.5	X	X	
72	Box Elder	3.75		X	
73	Sycamore	13.5		X	
74	Sycamore	15.5		X	
75	Sycamore	5		X	
76	Sycamore	7		X	· · · · · · · · · · · · · · · · · · ·
77	Sycamore	10.5		X	
78 79	Sycamore Sycamore	8.75 9		X X	
80	Box Elder	12		X	
81	Box Elder	15		X	Double
82	Box Elder	8.75		X	Painted
83	Box Elder	6.25	X		Not on Park Property
84	Box Elder	4.5	**	X	Not on Park Property
85	Sycamore	5 4.25	X	 	
86	Sycamore Sycamore	11.25	^	X	
88	Sycamore	9.5		X	
89	Sycamore	11.25		X	
90	Box Elder	21.5		X	
91	Box Elder	12		X	Double
92	Black Willow	8		X	
93 94	Box Elder Sycamore	19.25 21		X	
94	Box Elder	4	X		1770
96	Box Elder	11		X	
97	Box Elder	8.5		X	
98	Ash	13.5		X	Painted
-	Box Elder	11.5	1,	X	Not on Park Property
99	Log Eldor	5.75	X	1	
100	Box Elder Box Elder	2.5	Y	1	
	Box Elder Willow	8.5 11.5	X X		

2 ADDED DRAW	ING PER ADDENDUM	WSW 1/27/12			
7,0000 01000	THE TEXT POSITION	1727/12			
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			1		
			Value and A condition		
O.	REVISION	BY DATE	l NO.	REVISION	BY I DA



ISSUED FOR CONSTRUCTION JANUARY 27, 2012



PROJECT: JMF/JAC BOTETOURT COUNTY, VIRGINIA PHASE I TINKER CREEK					REVISION SET
WSW/CLP	SANITARY	SEWER INTE	ERCEPTOR IMPRO	OVEMENTS	DRAWING NUMBER:
DIHR BY: EJTP]	TREE II	NVENTORY TABLI	<u>-</u>	TR-6 SHEET NUMBER:
www. NUMBER: 211036.02	FILE. NAME: 1036TR-6.dwg	DISCIPLINE: CIVIL	SCALE: H: AS NOTED	DATE: 7-15-11	23 OF 23