

CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA

SITE DATA

OWNER INFORMATION:
NAME: CULPEPER COUNTY
CONTACT: PAUL HOWARD JR., DIRECTOR OF ENVIRONMENTAL SERVICES
ADDRESS: 118 W DAVIS ST.
SUITE 101
CULPEPER, VA 22701
TELEPHONE: (540)727-3409

ENGINEER INFORMATION:
NAME: WW ASSOCIATES, INC.
CONTACT: HERBERT F. WHITE III, P.E.
ADDRESS: 110 VISTA CENTRE DRIVE, SUITE 1
FOREST, VA 24551
TELEPHONE: (434)316-6080
FAX: (434)316-6081
E-MAIL: HWHITE@WWASSOCIATES.NET
TOWN, STATE: CULPEPER COUNTY, VA

UTILITY CONTACTS

MISS UTILITY DESIGN TICKET NO. A621700579-00A

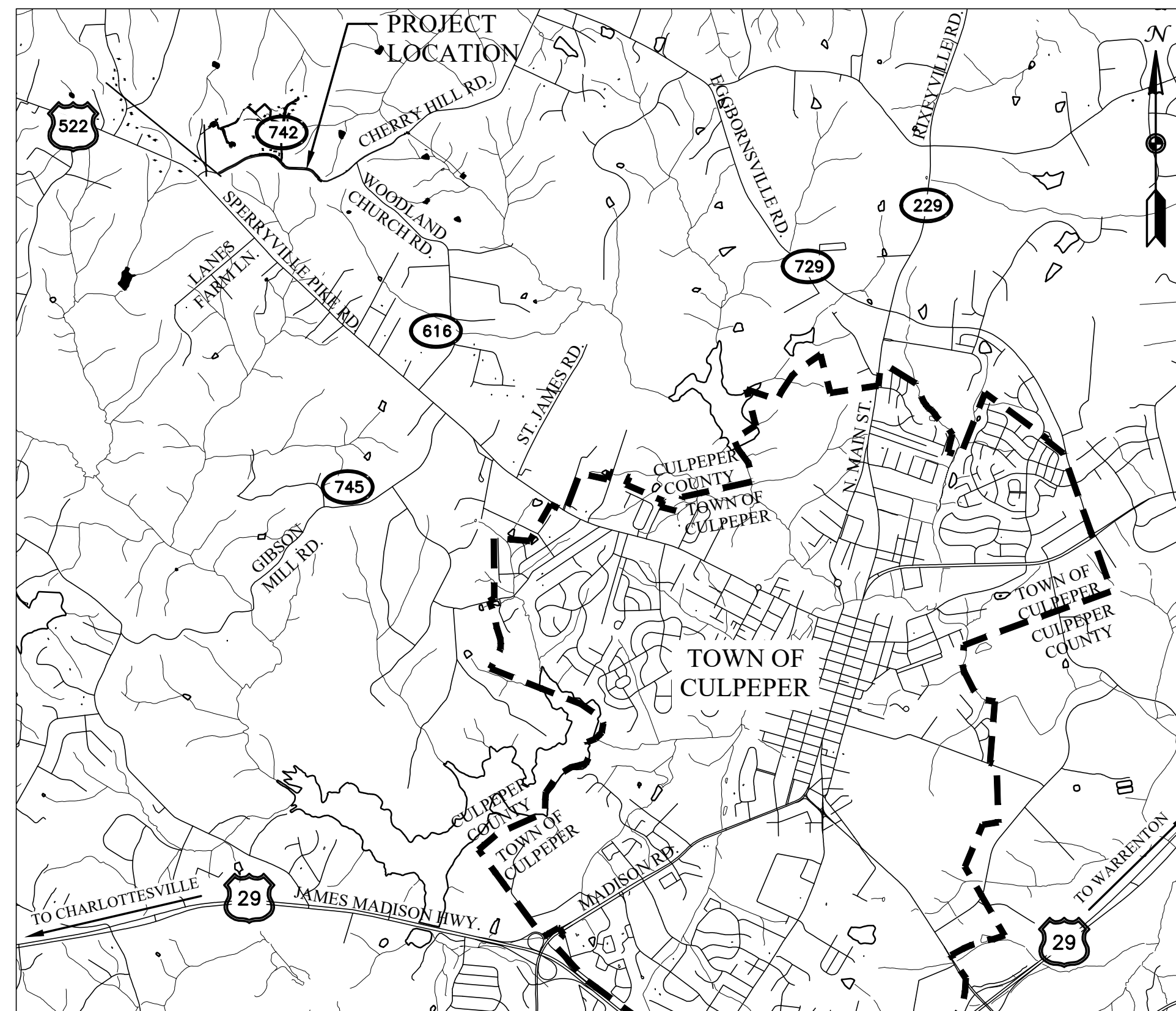
GAS: COLUMBIA GAS TRANSMISSION - (CGT909)
LOCATOR OR UTILITY OPERATOR MUST CONTACT
EXCAVATOR AND MUST BE PRESENT DURING EXCAVATION
FIELD CONTACT: TERRY COLE (304)357-3468
IN THE EVENT OF DAMAGE TO A FACILITY CALL: (800)835-7191

ELECTRICITY: DOMINION VA POWER ELEC DI - (DOM710)
FIELD CONTACT: S & N (804)608-5640
IN THE EVENT OF DAMAGE TO A FACILITY CALL: (888)667-3000

RAPPAHANNOCK ELECTRIC - (REC502)
FIELD CONTACT: UTILIQUEST (703)754-2116
IN THE EVENT OF DAMAGE TO A FACILITY CALL: (540)891-5945

TELEPHONE/FIBER OTIC: VERIZON - (VZN)
FIELD CONTACT: UTILIQUEST (703)754-2116
IN THE EVENT OF DAMAGE TO A FACILITY CALL: (888)483-1233

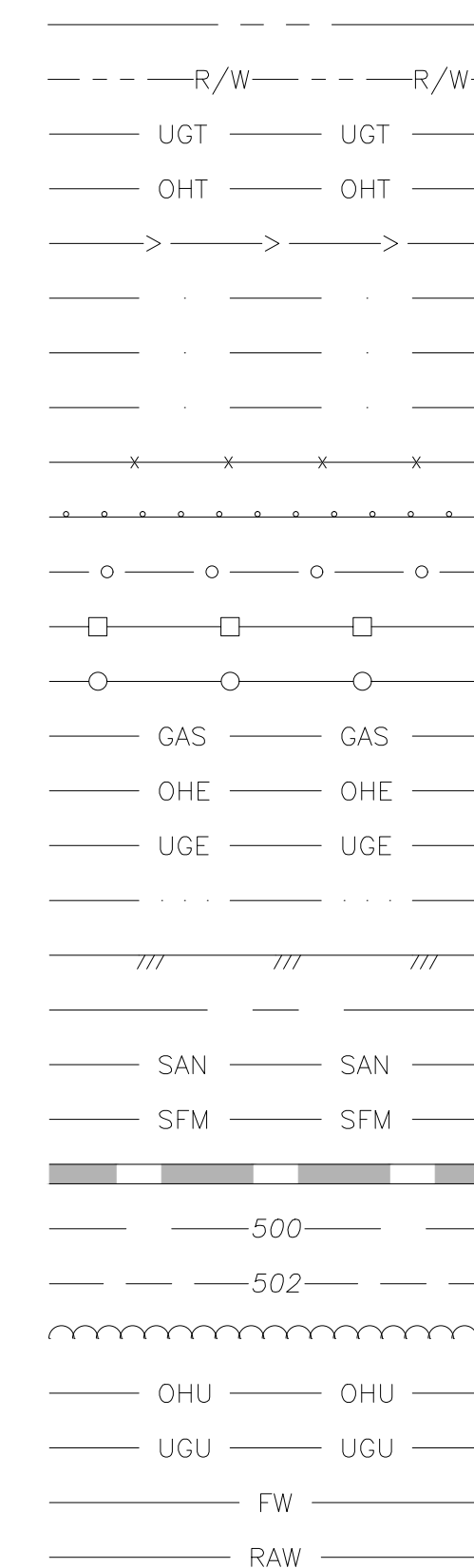
CABLE: COMCAST - (502)
FIELD CONTACT: CABLE PROTECTION SERVICES (804)562-3861
IN THE EVENT OF DAMAGE TO A FACILITY CALL: (800)441-6917 EXT. OPT. 1



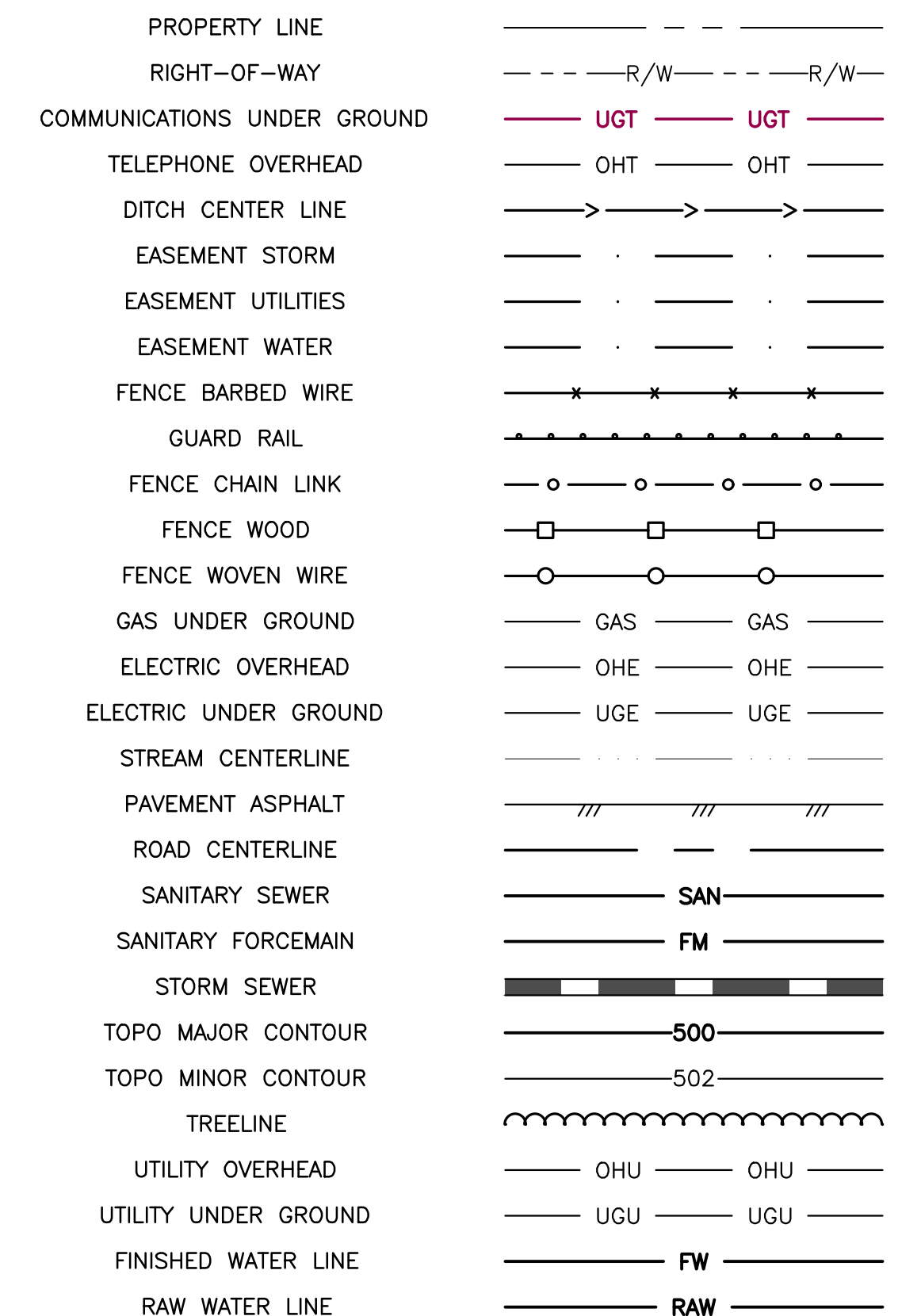
VICINITY MAP
SCALE: 1" = 3000'

SHEET NO.	DRAWING NO.	TITLE
1 OF 22	C-1	COVER SHEET
2 OF 22	C-2	GENERAL NOTES AND OVERALL LAYOUT
3 OF 22	C-3	NEW RAW & FINISHED WATER LINES - PLAN & PROFILE
4 OF 22	C-4	NEW RAW & FINISHED WATER LINES - PLAN & PROFILE
5 OF 22	C-5	NEW RAW & FINISHED WATER LINES - PLAN & PROFILE
6 OF 22	C-6	NEW RAW & FINISHED WATER LINES - PLAN & PROFILE
7 OF 22	C-7	NEW RAW WATER LINE - PLAN & PROFILE
8 OF 22	C-8	NEW RAW WATER LINE - PLAN & PROFILE
9 OF 22	C-9	NEW RAW WATER LINE - PLAN & PROFILE
10 OF 22	C-10	NEW RAW WATER LINE - PLAN & PROFILE
11 OF 22	C-11	NEW RAW WATER LINE - PLAN & PROFILE
12 OF 22	C-12	NEW RAW WATER LINE - PLAN & PROFILE
13 OF 22	C-13	NEW FINISHED WATER LINE TO NEW WATER STORAGE TANK - PLAN & PROFILE
14 OF 22	C-14	NEW FINISHED WATER LINE - PLAN & PROFILE (CHERRY HILL ROAD)
15 OF 22	C-15	NEW FINISHED WATER LINE - PLAN & PROFILE (SCANTLIN MOUNTAIN ROAD)
16 OF 22	C-16	PROJECT DETAILS
17 OF 22	C-17	PROJECT DETAILS
18 OF 22	C-18	OVERALL TRAFFIC CONTROL PLAN AND NOTES
19 OF 22	C-19	TRAFFIC CONTROL PLAN WORK AREAS
20 OF 22	C-20	TRAFFIC CONTROL PLAN WORK AREAS AND NOTES
21 OF 22	C-21	TRAFFIC CONTROL PLAN WORK AREAS AND NOTES
22 OF 22	C-22	TRAFFIC CONTROL PLAN DETAILS

EXISTING



LINETYPE LEGEND



NEW

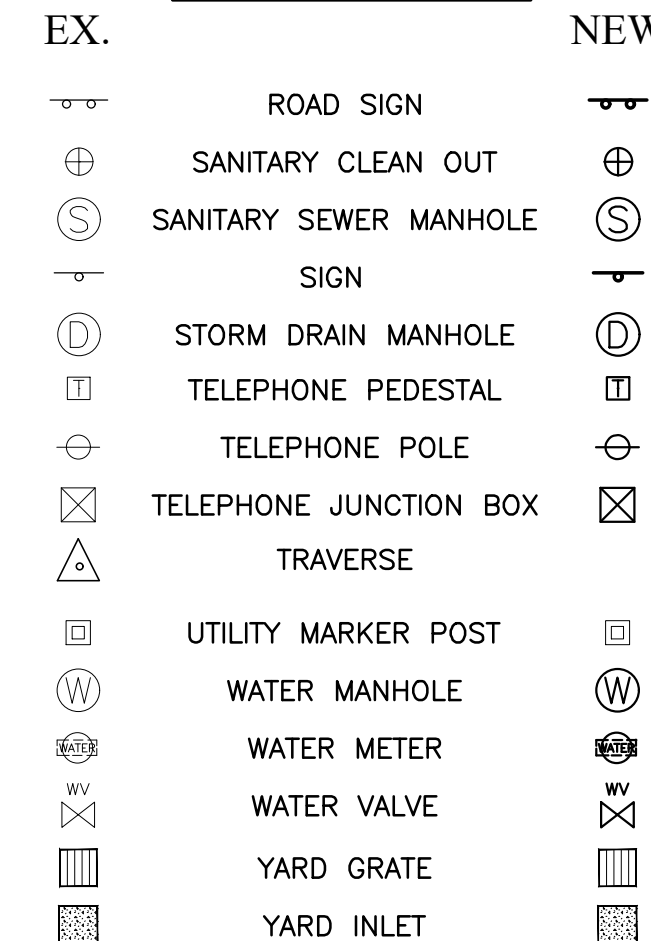
ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	GALV	GALVANIZED	SAN	SANITARY SEWER
ARV	AIR RELEASE VALVE	GE	GROUND ELEVATION	SD	STORM DRAIN
BC	BACK OF CURB	GV	GATE VALVE	SQ	SQUARE
BM	BENCH MARK	HB	HORIZONTAL BEND	S.S.	STAINLESS STEEL
BK	BACK	HDPE	HIGH DENSITY POLYETHYLENE	SSMH	SANITARY SEWER MANHOLE
CG	CURB & GUTTER	HP	HIGH PRESSURE	STA	STATION
CIP	CAST IRON PIPE	ID	INNER DIAMETER	STD	STANDARD
CL	CENTER LINE	INV	INVERT	SW	SIDEWALK
C.L.	CHAIN LINK	IPS	IRON PIN SET	TBA	TO BE ABANDONED
CMP	CORRUGATED METAL PIPE	IPF	IRON PIN FOUND	TC	TOP OF CURB
CO	CLEAN OUT	LAT	LATERAL	TYP	TYPICAL
CONC	CONCRETE	LF	LINEAR FEET	UG	UNDERGROUND
CP	CONTROL POINT	LP	LOW PRESSURE	UON	UNLESS OTHERWISE NOTED
CY	CUBIC YARDS	MH	MANHOLE	VB	VERTICAL BEND
D.I.	DUCTILE IRON	NTS	NOT TO SCALE	WL	WATER LINE
DIA	DIAMETER	O.C.	ON CENTER	WM	WATER METER
DIP	DUCTILE IRON PIPE	PE	POLYETHYLENE	WT	WATERTIGHT
EL	ELEVATION	PED	PEDESTRIAN	WWF	WOVEN WIRE FABRIC
ELEC	ELECTRIC	PROP	PROPOSED	YD	YARD DRAIN
EOP	EDGE OF PAVEMENT	PVC	POLYVINYL CHLORIDE	YDS	YARDS
EX OR EXIST	EXISTING	PVMT	PAVEMENT		
FF	FINISHED FLOOR	RCP	REINFORCED CONCRETE PIPE		
FH	FIRE HYDRANT	REQ'D	REQUIRED		
FC	FACE OF CURB	R/W	RIGHT OF WAY		

SYMBOL LEGEND



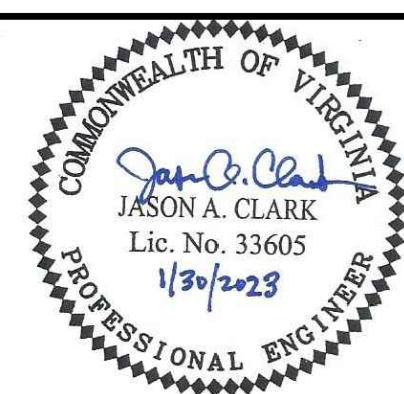
SYMBOL LEGEND



NOTES:
1. THE SIZE OF THE SYMBOLS MAY VARY FROM THOSE SHOWN.
2. ALL SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT BE USED.

M:\216038.02 Cherry Hill Water System\Water Lines (7-17-19)\216038.02L_CS.dwg

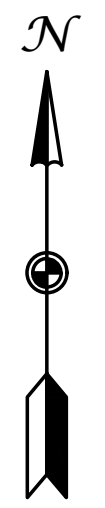
NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



BID SET

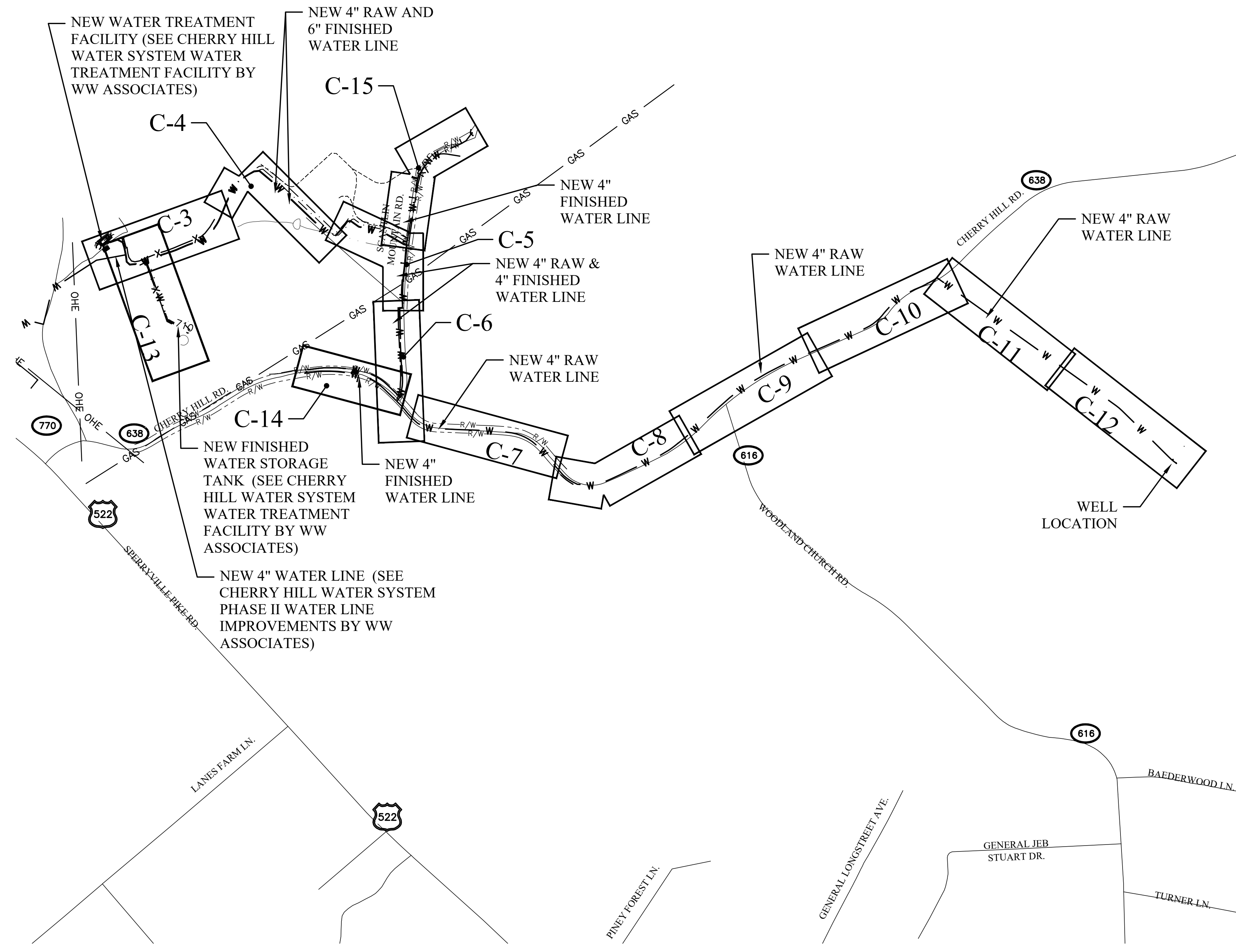


DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: COVER SHEET	DRAWING NUMBER: C-1
DIHR BY: HFV	FILE NAME: 216038.02L_CS.dwg	SHEET NUMBER: 1 of 22
WVA NUMBER: 216038.02	DISCIPLINE: GENERAL	SCALE: H: AS NOTED V: N/A
	DATE: 1/30/23	



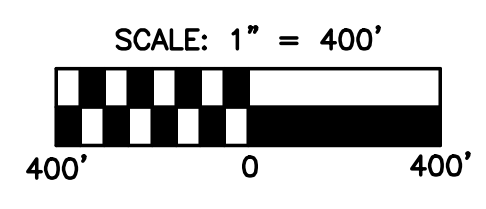
GENERAL NOTES

1. PHYSICAL FEATURES ARE BASED ON FIELD SURVEY PERFORMED BY WW ASSOCIATES IN AUGUST AND SEPTEMBER 2016. UNDERGROUND UTILITIES ARE BASED ON MISS UTILITY TICKET #A521700579-0A. BENCHMARK AND CONTROL LOCATIONS ARE SHOWN ON THE DRAWINGS. HORIZONTAL POSITION IS BASED ON VIRGINIA STATE GRID, NORTH ZONE, NAD-83(93). VERTICAL ELEVATION IS BASED ON NAVD83 DATUM. PROPERTY BOUNDARIES AND RIGHT OF WAYS ARE BASED ON COURTHOUSE RECORD DATA. CHERRY HILL VDOT DEDICATED RIGHT OF WAY IS BASED ON INFORMATION FROM DEED BOOK 245 PAGE 576, RECORDED ON SEPTEMBER 12, 1974.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS AND THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF HEALTH (VDH) WATERWORKS REGULATIONS AND THE CULPEPER COUNTY SERVICE AUTHORITY'S DESIGN AND CONSTRUCTION STANDARDS. ALL WORK IN VDOT RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS. ALL WORK IN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
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 NON-DESTRUCTIVE, AIR VACUUM POTHOLE WORK EVERY 50 FEET AND AT THE DISCRETION OF WW ASSOCIATES, INC. AND PROVIDE LOCATION SERVICE AT NO ADDITIONAL COST TO THE OWNER AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES OR STRUCTURES. EXISTING UNDERGROUND UTILITIES ARE BASED ON MARKS PROVIDED BY MISS UTILITY OF VIRGINIA. CONTACT MISS UTILITY (TELEPHONE NO. 811) 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.
4. THE FLOOD INSURANCE RATE INDEX MAP FOR CULPEPER COUNTY, VIRGINIA (COMMUNITY PANEL No. 51047C0125C), DATED JUNE 18, 2007, INDICATES THAT THE PROJECT SITE LIES WITHIN FEMA DEFINED FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% CHANCE FLOOD.
5. 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 AND UTILITIES, 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.
6. ALL NEW RAW WATER LINE PIPING SHALL BE DIRECTIONAL DRILLED USING HDPE PIPE AS SPECIFIED IN THE PROJECT MANUAL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
7. VALVES OR MANHOLES SHALL NOT BE LOCATED IN GRAVEL SURFACED ROADWAY AREAS.
8. MAINTAIN AND PROTECT ALL OVERHEAD AND UNDERGROUND ELECTRICAL, TELEPHONE, CABLE TV, WATER, GAS, AND ALL OTHER UTILITIES DURING ENTIRE CONSTRUCTION PERIOD.
9. CONTRACTOR SHALL BE INFORMED AND COMPLY WITH THE VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT. ANY COSTS TO COVER LINES OR DISCONNECT SERVICE TO NEARBY POWER LINES SHALL BE AT THE CONTRACTOR'S EXPENSE.
10. PROVIDE RESTRAINING DEVICES FOR BURIED PRESSURE PIPING AT ALL VALVES, FITTINGS, AND DEAD ENDS AS SPECIFIED IN THE PROJECT MANUAL. IF MECHANICAL RESTRAINING DEVICES ARE USED, INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS.
11. ALL WATER MAIN PIPING SHALL MAINTAIN A MINIMUM COVER OF 42 INCHES UNLESS OTHERWISE INDICATED. WATER MAIN SHALL BE INSTALLED AS REQUIRED TO ALLOW FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN NEW WATER MAIN PIPING, EXISTING UTILITIES, FOOTINGS, AND STRUCTURES UNLESS OTHERWISE INDICATED. A POSITIVE GRADE SHALL BE MAINTAINED FOR THE VERTICAL ALIGNMENT OF ALL WATER MAIN PIPING TO ELIMINATE THE FORMATION OF AIR POCKETS.
12. ISOLATION VALVES AND VALVE BOXES: PROVIDE AN EXTENDED VALVE STEM WHERE DEPTH TO TOP OF VALVE EXCEEDS 5 FEET.
13. THE CONTRACTOR SHALL PROVIDE VERTICAL PIPE FITTINGS, CONNECTING PIECES AND TRANSITION PIECES AS REQUIRED FOR COMPLETE AND OPERABLE PIPE INSTALLATIONS AND TO MAKE FINAL PIPING CONNECTIONS. VERTICAL FITTINGS ARE NOT SHOWN ON THE DRAWINGS.
14. 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.
15. DISTURBED AREA FOR THIS PROJECT WILL BE LESS THAN 10,000 SF. INSTALL SILT FENCE AS NEEDED ON DOWNHILL SIDE OF PIPE TRENCHES AND AT OTHER LOCATIONS TO PREVENT SEDIMENT FROM ENTERING DRAINAGEWAYS.
16. CONSTRUCTION LIMITS SHALL INCLUDE ALL DISTURBED AREAS. ALL DISTURBED AREAS SHALL BE SEEDED AND PROVIDED WITH EROSION CONTROL DURING AND AT THE END OF CONSTRUCTION.
17. 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.
18. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CONFINED SPACE ENTRY REGULATIONS.
19. 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, SIGNS, CURBS, GUARDRAIL, FENCING, STRUCTURES, LANDSCAPING, PLANTERS, SHRUBS, AND OTHER PHYSICAL IMPROVEMENTS, ETC. CONTRACTOR SHALL REPLACE ROADSIDE SHOULDERS, DITCHES, FILL SLOPES/CUTS TO STABILIZED PRECONSTRUCTION CONDITIONS. ROADSIDE TREES SHALL BE PROTECTED AS MUCH AS POSSIBLE. IF TREES ARE DAMAGED, THEY SHALL BE TRIMMED OR REPAIRED TO PRESERVE THEIR LIFE. PRIVATE ENTRANCE CULVERTS SHALL BE MAINTAINED FOR POSITIVE ROADSIDE DRAINAGE. MINIMUM CULVERT SIZE SHALL BE 15" REGARDLESS OF SIZE OF EXISTING CULVERT.
20. ALL ASPHALT DRIVEWAYS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SAWCUT AND REPLACED PER RESIDENTIAL DRIVEWAY ASPHALT PAVEMENT REPAIR DETAIL. ALL GRAVEL DRIVEWAYS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED PER GRAVEL DRIVEWAY REPAIR DETAIL.
21. 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.
22. ALL PROPERTY PINS AND VDOT MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LAND SURVEYOR LICENSED BY THE COMMONWEALTH OF VIRGINIA.
23. MAINTAIN TRAFFIC TO ALL PROPERTIES AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. WHENEVER CONSTRUCTION IS IN OR ADJACENT TO VDOT OR LOCAL 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.
24. CONSTRUCT EXCAVATION SUPPORT SYSTEMS AS REQUIRED BY OSHA AND U.S. ARMY CORPS OF ENGINEERS SAFETY & HEALTH REQUIREMENTS MANUAL EM 385-1-1. SECTIONS 25 A THROUGH E, AND WHERE INDICATED ON THE DRAWINGS TO ADEQUATELY SUPPORT EXISTING SOIL AND ADJACENT STRUCTURES DURING EXCAVATION ACTIVITIES.
25. 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 REQUIRED.
26. 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.
27. TREES TO REMAIN IN PLACE SHALL BE ROPED OFF PRIOR TO CONSTRUCTION TO KEEP EQUIPMENT AWAY FROM ROOT SYSTEMS. THE CONTRACTOR SHALL COORDINATE TREE REMOVAL AND DIRECTIONAL DRILLING ACTIVITIES BENEATH TREES WITH INDIVIDUAL PROPERTY OWNERS PRIOR TO CONSTRUCTION. DIRECTIONAL DRILLING SHALL BE PERFORMED AS FAR AWAY FROM TREE TRUNKS AS POSSIBLE, PREFERABLY OUTSIDE THE BRANCHES OR CROWN SPREADS OF TREES, TO REDUCE THE AMOUNT OF ROOT AREA DAMAGED.
28. DEFLECT PIPE JOINTS AS REQUIRED TO MAINTAIN WATER LINE ALIGNMENT AS SHOWN.
29. WATER METER LOCATIONS AND WATER SERVICE LATERAL SIZES SHOWN ON THE DRAWINGS ARE APPROXIMATE. PROVIDE NEW SERVICE LATERALS AND WATER METERS AS REQUIRED FROM THE NEW MAIN TO PROVIDE COMPLETE AND OPERABLE WATER SERVICES TO ALL CUSTOMERS, WHETHER INDICATED ON THE DRAWINGS OR NOT. NEW WATER METERS SHALL BE PROVIDED BY THE OWNER AND HOUSED INSIDE A METER BOX. ALL WATER SERVICE CONNECTIONS SHALL BE APPROVED BY AND COORDINATED WITH THE PROPERTY OWNER AND THE OWNER. WATER METER AND WATER SERVICE PRODUCTS/APPOINTMENTS SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE LATEST COUNTY WATER AND SEWER AUTHORITY STANDARDS UNLESS OTHERWISE INDICATED.
30. CONTRACTOR SHALL PROVIDE NEW ASPHALT FOR PATCHING. PROVIDE ADDITIONAL ASPHALT TO MAINTAIN POSITIVE DRAINAGE. PROVIDE MILLED EDGE FOR SMOOTH TRANSITIONS.
31. 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 TO PREVENT INTRUSION OF STORM WATER INTO MANHOLE COVERS. ALL VALVE AND METER BOXES SHALL BE SET TO FINISHED GRADE.
32. 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 THE COUNTY'S AND VDOT'S SATISFACTION. REGRADE ALL DITCHES AND LINE THEM WITH SOIL STABILIZATION BLANKETS/MATTING AS SPECIFIED IN SPEC. SECTION 02936.
33. THE CONTRACTOR SHALL PROVIDE (5) SAMPLING STATIONS AS PART OF THE BID FOR THE PHASE I WATER LINE IMPROVEMENTS. THE CONTRACTOR SHALL INSTALL SAMPLING STATIONS AT LOCATIONS AS DIRECTED BY THE OWNER.



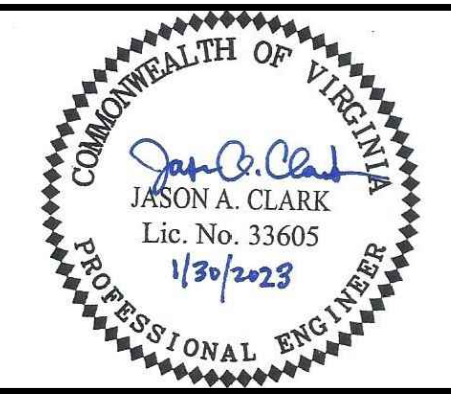
OVERALL LAYOUT
SCALE: 1" = 400'

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED



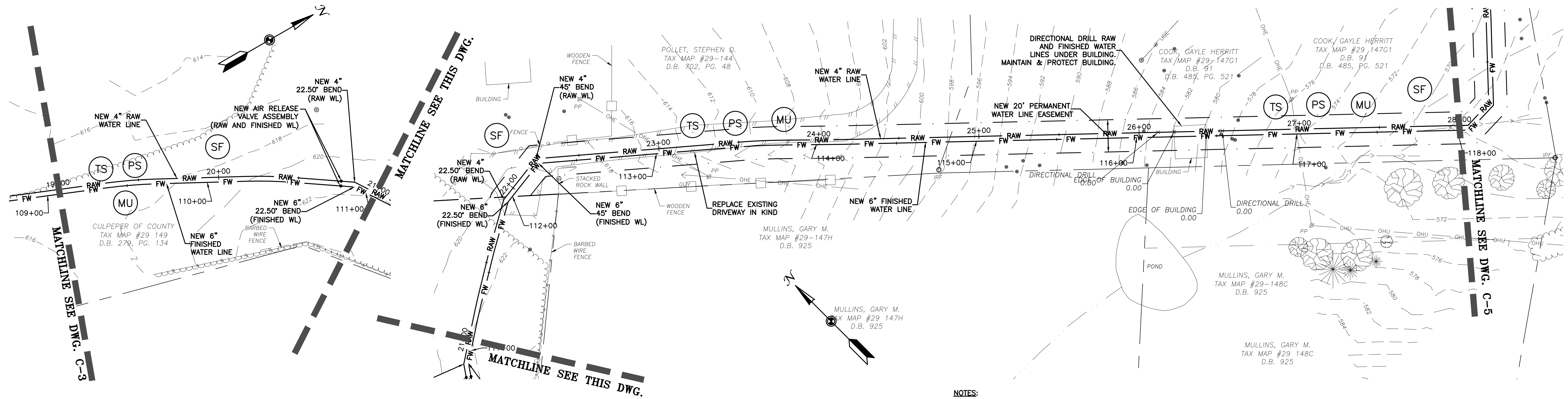
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NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



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DRAWN BY: WSW/DJC	TITLE: GENERAL NOTES AND OVERALL LAYOUT	DRAWING NUMBER: C-2
DIHR BY: HFV	FILE NAME: 216038.02L_OV.dwg	SHEET NUMBER: 2 of 22
WWA NUMBER: 216038.02	DISCIPLINE: GENERAL	SCALE: H: AS NOTED V: N/A
	DATE: 1/30/23	

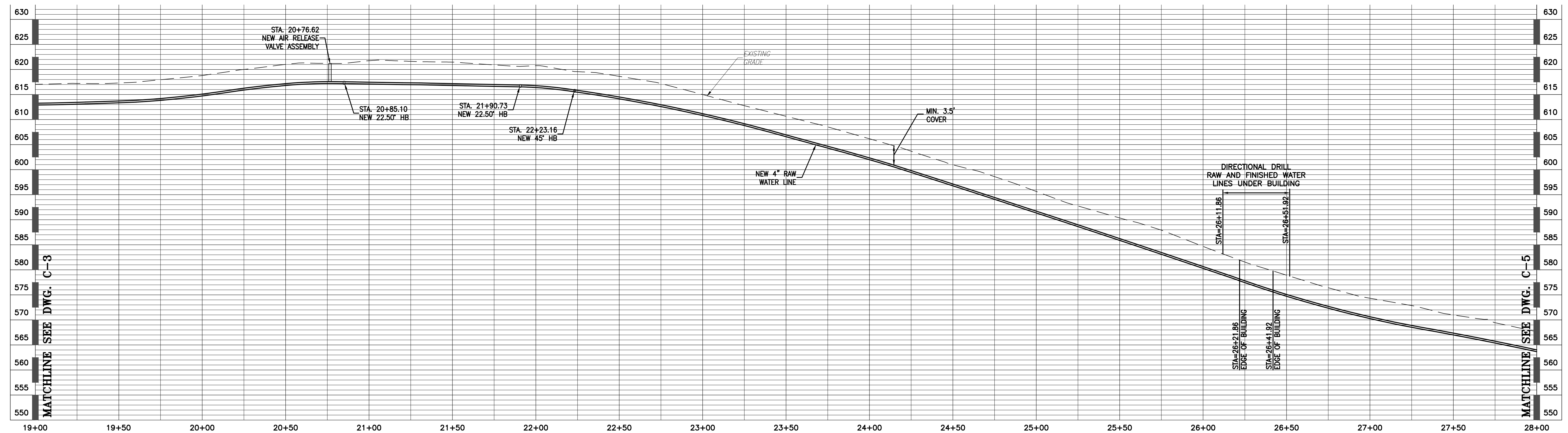
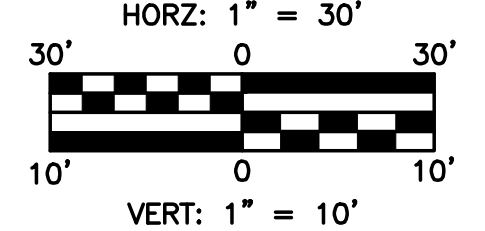
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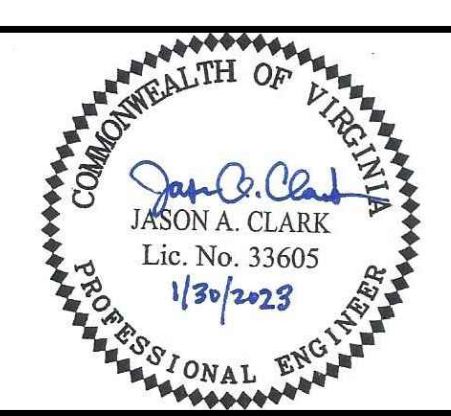
NOTES:

- NEW 4" RAW WATER LINE IS USED FOR PIPE STATIONS IN PROFILE VIEW. THE NEW 6" FINISHED WATER LINE FOLLOWS THE SAME TRENCH AND IS NOT SHOWN FOR CLARITY. PROVIDE THE SAME APPURTENANCES FOR 4" RAW AND 6" FINISHED WATER LINES.
- THE INVERT OF THE NEW 4" RAW WATER LINE AND NEW 6" FINISHED WATER LINE MATCH.

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED



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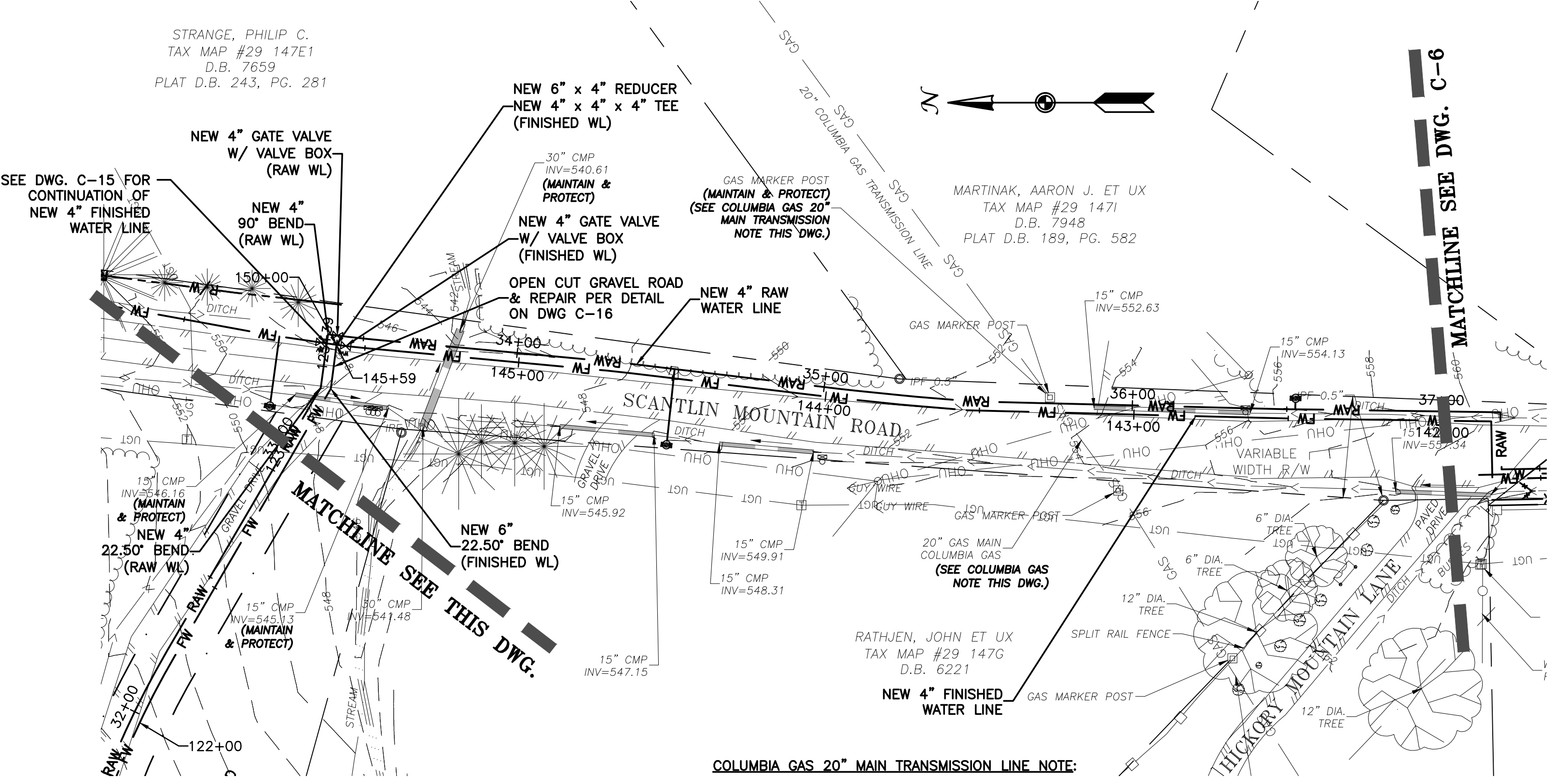
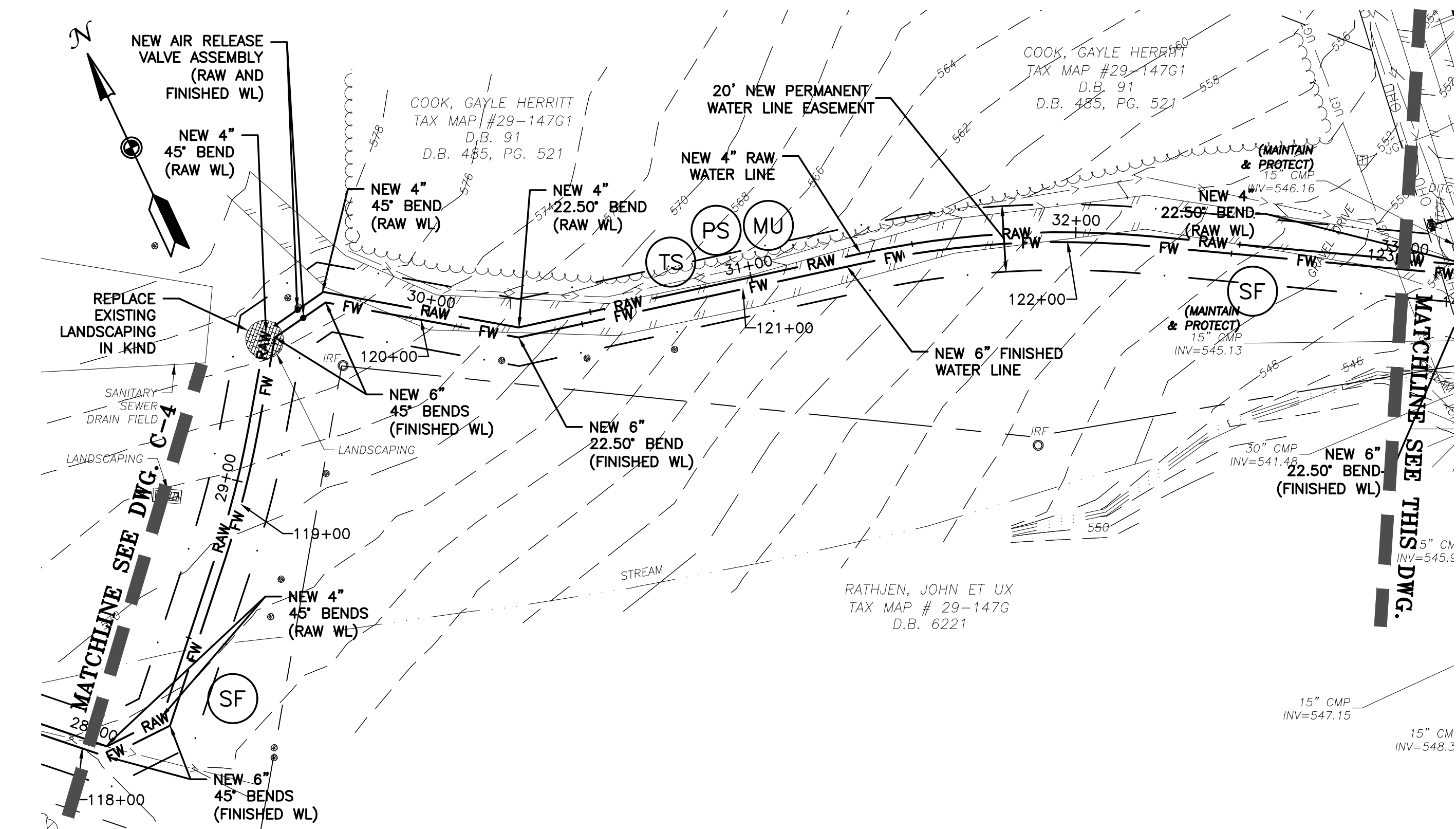


DESIGNED BY: SVS
 DRAWN BY: WSW
 DIHR BY: HFW



DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO: -
DRAWN BY: WSW	TITLE: NEW RAW & FINISHED WATER LINES - PLAN & PROFILE	DRAWING NUMBER: C-4
DIHR BY: HFW	FILE NAME: 216038.02_PP2.dwg	SHEET NUMBER: 4 of 22
WVA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
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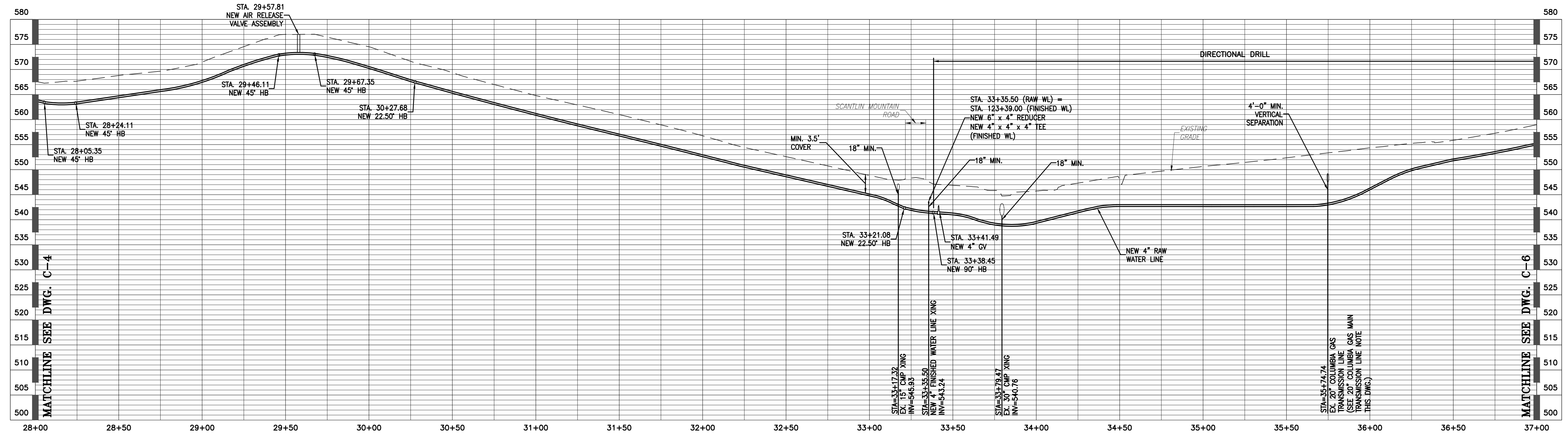
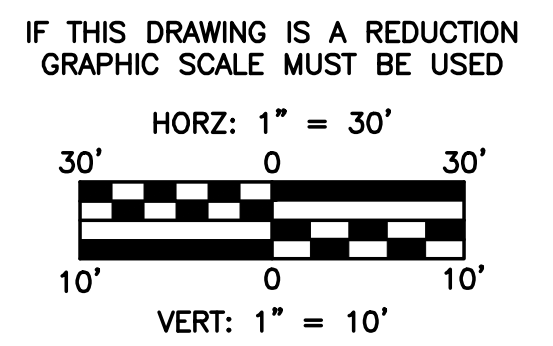
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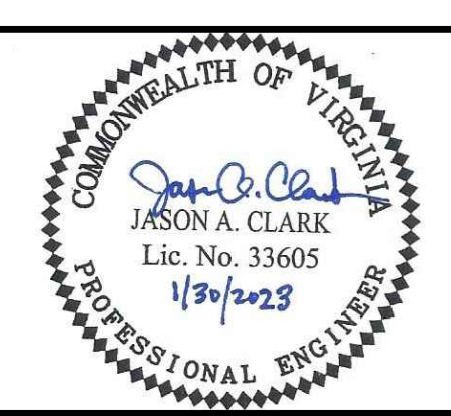
- NOTES:**
1. NEW 4" RAW WATER LINE IS USED FOR PIPE STATIONS IN PROFILE VIEW. THE NEW 6" FINISHED WATER LINE FOLLOWS THE SAME TRENCH AND IS NOT SHOWN FOR CLARITY. PROVIDE THE SAME APPURTENANCES FOR 4" RAW AND 6" FINISHED WATER LINES.
 2. THE INVERT OF THE NEW 4" RAW WATER LINE AND NEW 6" FINISHED WATER LINE MATCH.

NOTE:
THE NEW 4" RAW WATER AND 4" FINISHED WATER LINES SHALL BE DIRECTIONAL DRILLED FROM STA. 33+38.47 TO STA. 37+19.16.

COLUMBIA GAS 20" MAIN TRANSMISSION LINE NOTE:
CONTRACTOR SHALL NOTIFY COLUMBIA GAS BEFORE ANY WORK IS TO BE DONE NEAR THE 20" MAIN TRANSMISSION LINE. THE CONTRACTOR SHALL POTHOLE WORK TO DETERMINE THE EXACT LOCATION AND DEPTH OF THE EXISTING GAS TRANSMISSION LINE. AN ASSOCIATE WITH COLUMBIA GAS SHALL VERIFY THE LOCATION AND DEPTH OF THE TRANSMISSION MAIN AND SHALL BE PRESENT AT ALL TIMES WHILE THERE IS ANY WORK BEING COMPLETED NEAR THE TRANSMISSION LINE.



NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



STRANGE, PHILIP C.
TAX MAP #29-147E1
D.B. 91
PLAT D.B. 243, PG. 281

MARTINAK, AARON J. ET UX
TAX MAP #29-147I
D.B. 7948
PLAT D.B. 189, PG. 582

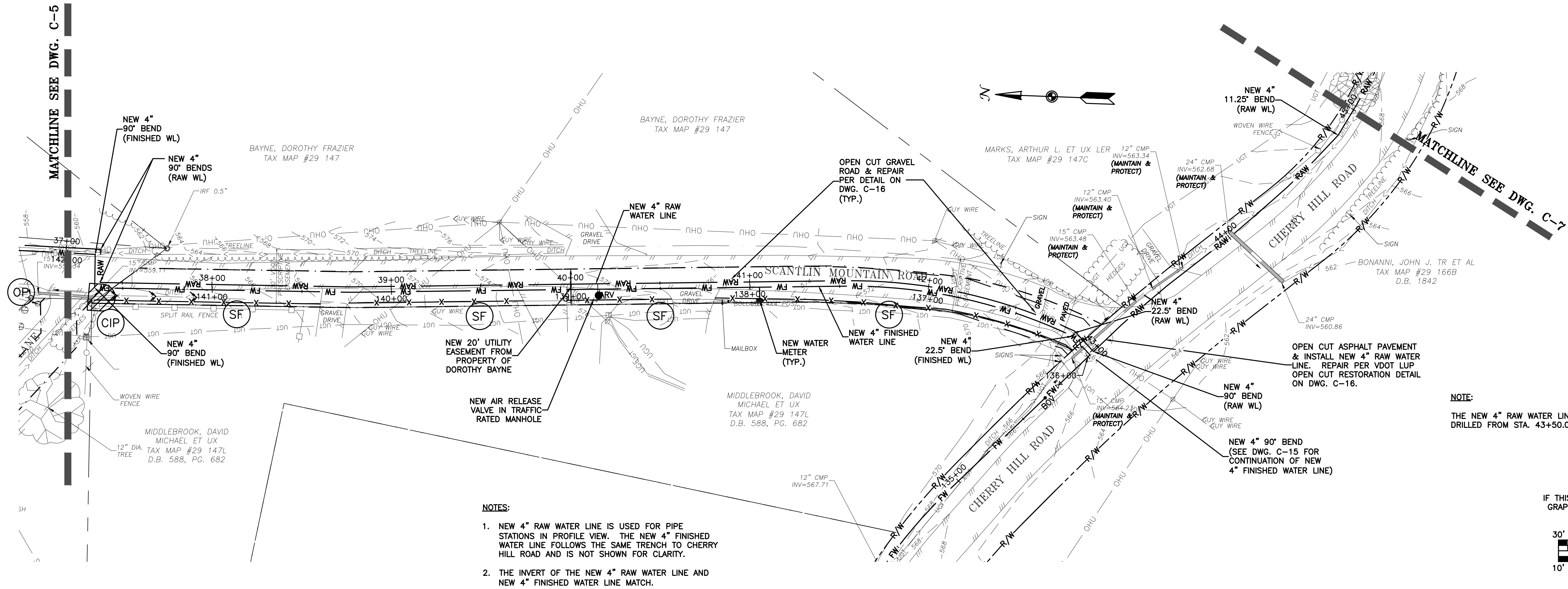
RATHJEN, JOHN ET UX
TAX MAP #29-147G
D.B. 6221

COOK, GAYLE HERRITT
TAX MAP #29-147G1
D.B. 91
D.B. 485, PG. 521

ENGINEERS SURVEYORS PLANNERS ASSOCIATES

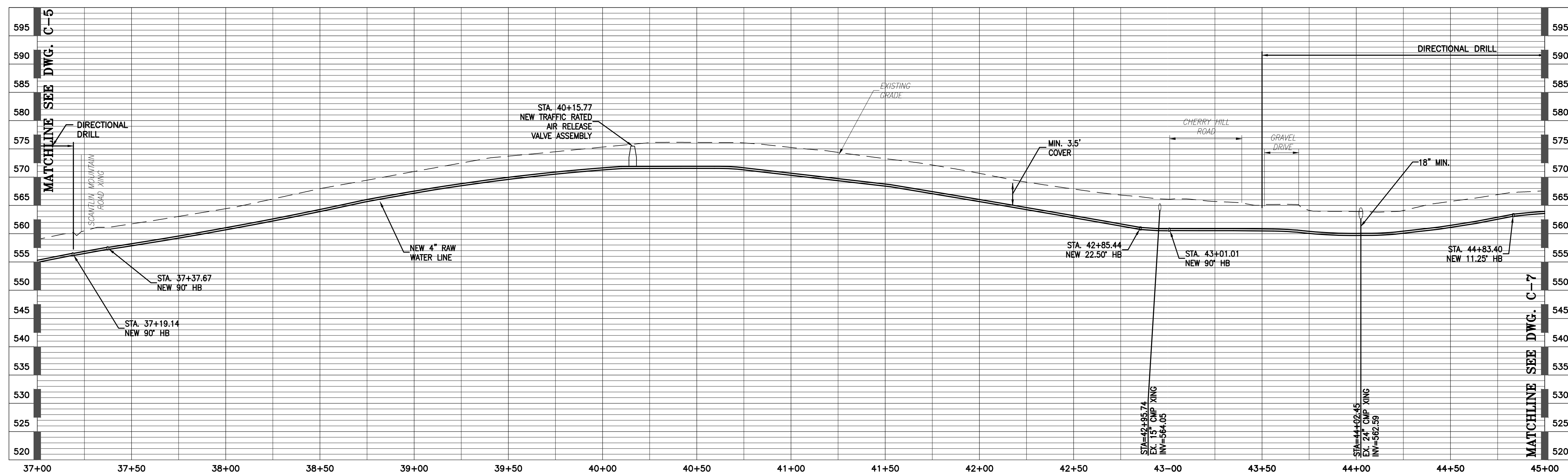
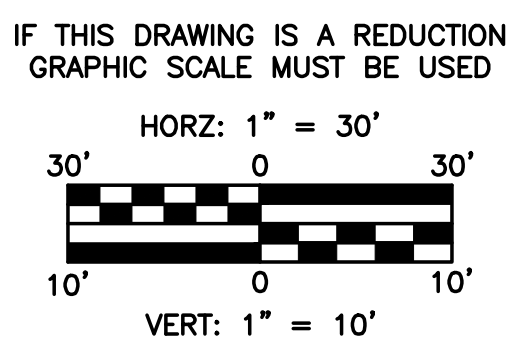
DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: NEW RAW & FINISHED WATER LINES - PLAN & PROFILE	DRAWING NUMBER: C-5
DIHR BY: HFV	DISCIPLINE: CIVIL	SHEET NUMBER: 5 of 22
WWA NUMBER: 216038.02	FILE NAME: 216038.02_PP3.dwg	DATE: 1/30/23
SCALE: H: AS NOTED V: N/A	DATE: 1/30/23	

M:\216038.02 Cherry Hill Water System\Water Lines (7.17.19)\216038.02_PP4.dwg

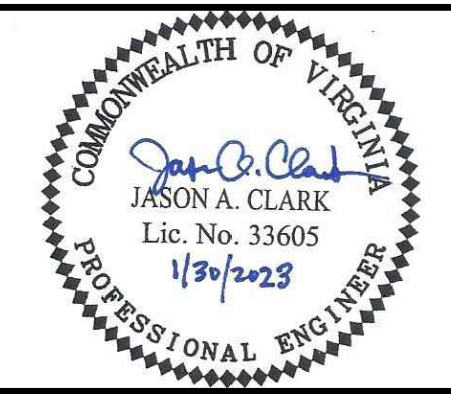


- NOTES:**
1. NEW 4" RAW WATER LINE IS USED FOR PIPE STATIONS IN PROFILE VIEW. THE NEW 4" FINISHED WATER LINE FOLLOWS THE SAME TRENCH TO CHERRY HILL ROAD AND IS NOT SHOWN FOR CLARITY.
 2. THE INVERT OF THE NEW 4" RAW WATER LINE AND NEW 4" FINISHED WATER LINE MATCH.

NOTE:
THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL DRILLED FROM STA. 43+50.00 TO STA. 80+68.03.



NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: JAC
 DRAWN BY: WSW/DJC
 DIHR BY: HFW

W ASSOCIATES
 ENGINEERS SURVEYORS PLANNERS
 80 Box 4119 Lynchburg, VA 24502 Phone: 434.316.6080
 968 Olympia Drive, Suite 101 Charlottesville, VA 22911 Phone: 434.984.2700

PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA
 TITLE: NEW RAW & FINISHED WATER LINES - PLAN & PROFILE
 WWA NUMBER: 216038.02
 FILE NAME: 216038.02_PP4.dwg
 DISCIPLINE: CIVIL
 SCALE: H: AS NOTED V: N/A
 DATE: 1/30/23

SET REV. NO. -
 DRAWING NUMBER: C-6
 SHEET NUMBER: 6 of 22

UX LER
7C

12" CMP
INV=563.34
(MAINTAIN & PROTECT)

24" CMP
INV=563.68
(MAINTAIN & PROTECT)

ET AL
SB

MARKS, ARTHUR L. ET UX LER
TAX MAP #29 147C

CRITCHFIELD, BRANDY JO HARLOW
TAX MAP #29 147D

LEWIS, ANDREW
TAX MAP #29 147A

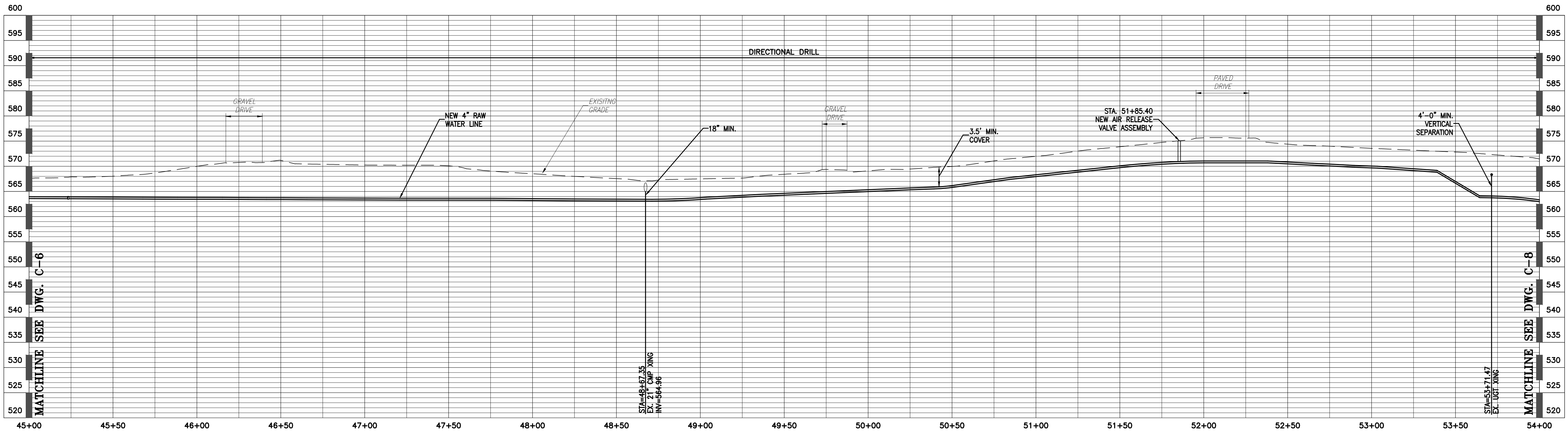
LEWIS, ANDREW
TAX MAP #29 147A

PHILLIPS, AUBREY L. ET UX
TAX MAP #29 169A
D.B. 7181
PLAT FOLDER 1 PG. 139

CREEL, LUCY B.
TAX MAP #29 169
D.B. 414, PG. 306

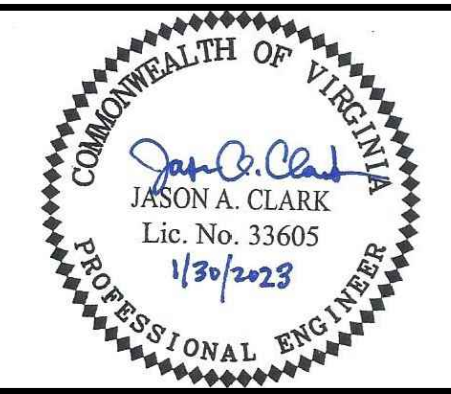
NOTE:
THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL
DRILLED FROM STA. 43+50.00 TO STA. 80+68.03.

IF THIS DRAWING IS A REDUCTION
GRAPHIC SCALE MUST BE USED
HORZ: 1" = 30'
VERT: 1" = 10'



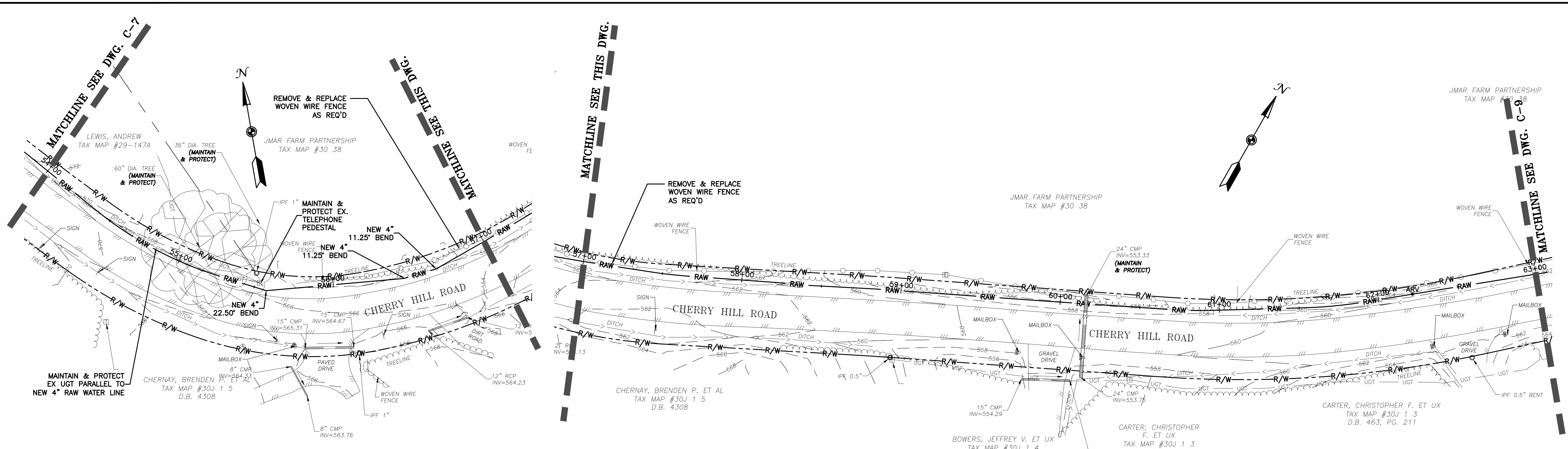
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NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE

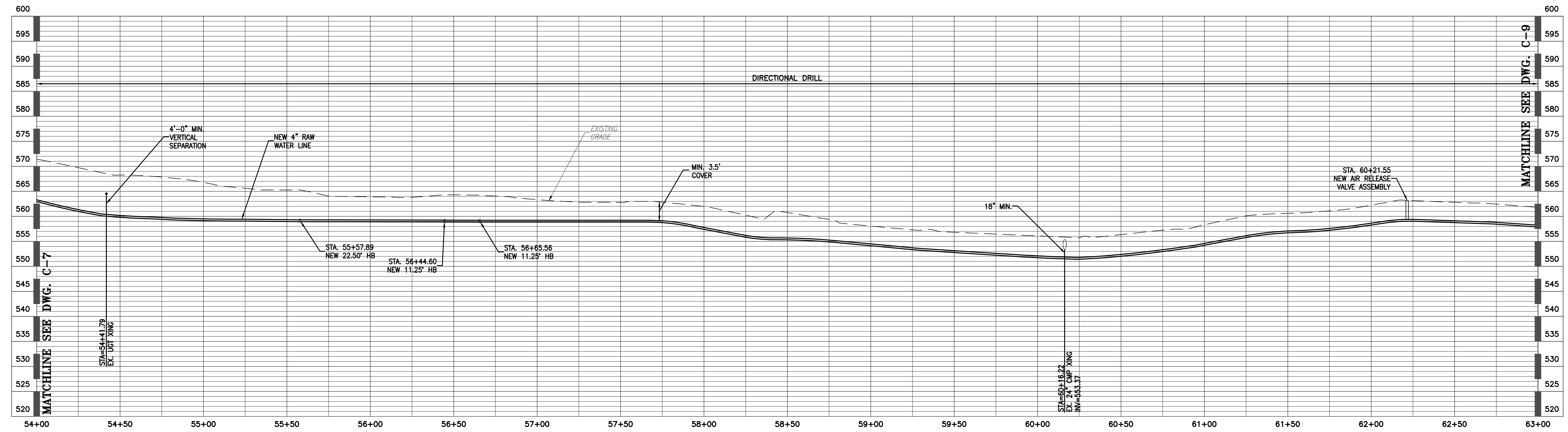
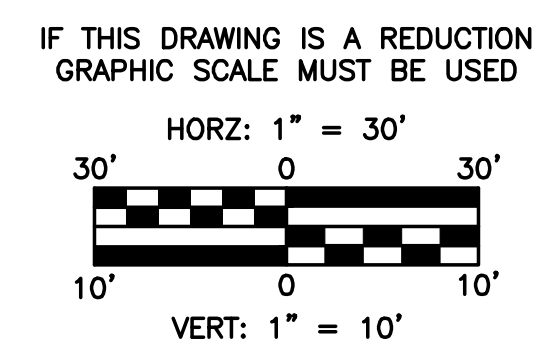


DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: NEW RAW WATER LINE - PLAN & PROFILE	DRAWING NUMBER: C-7
DIHR BY: HFW	FILE NAME: 216038.02L_PP5.dwg	SHEET NUMBER: 7 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
DATE: 1/30/23		

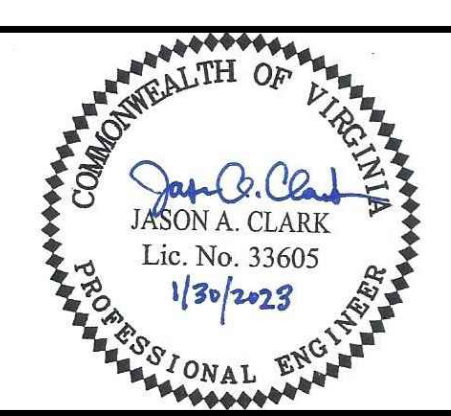
M:\216038.02 Cherry Hill Water System\Water Lines (7.17.19)\216038.02_PP6.dwg



NOTE:
 THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL DRILLED FROM STA. 43+50.00 TO STA. 80+68.03.

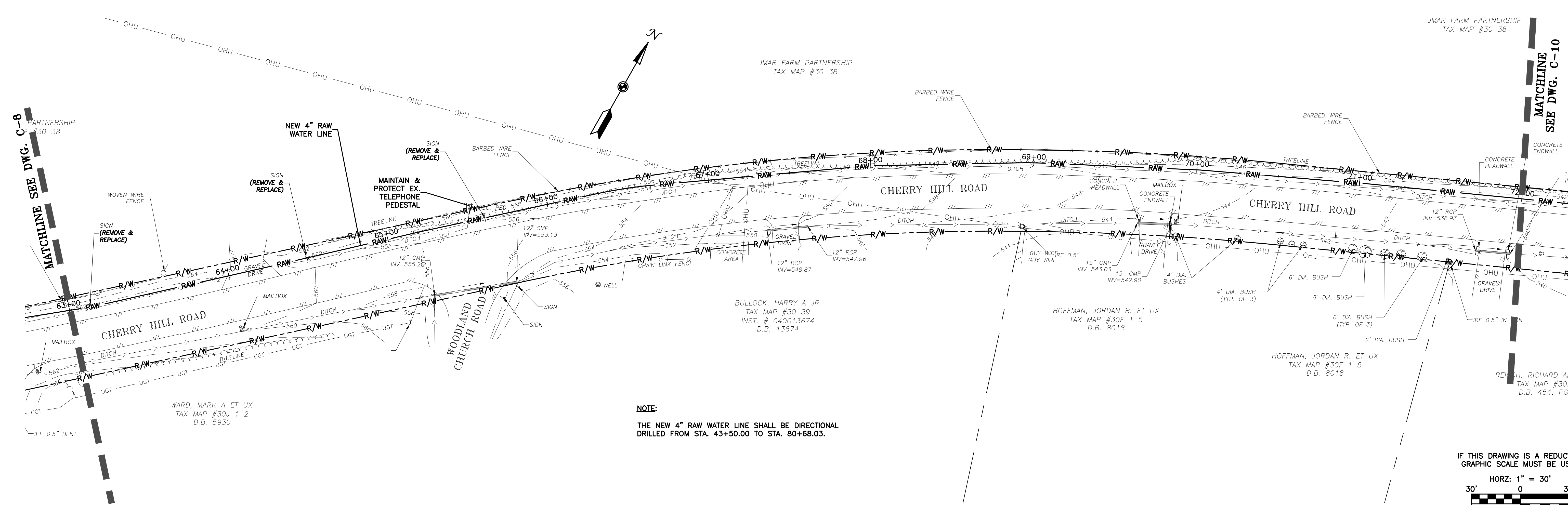


NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE

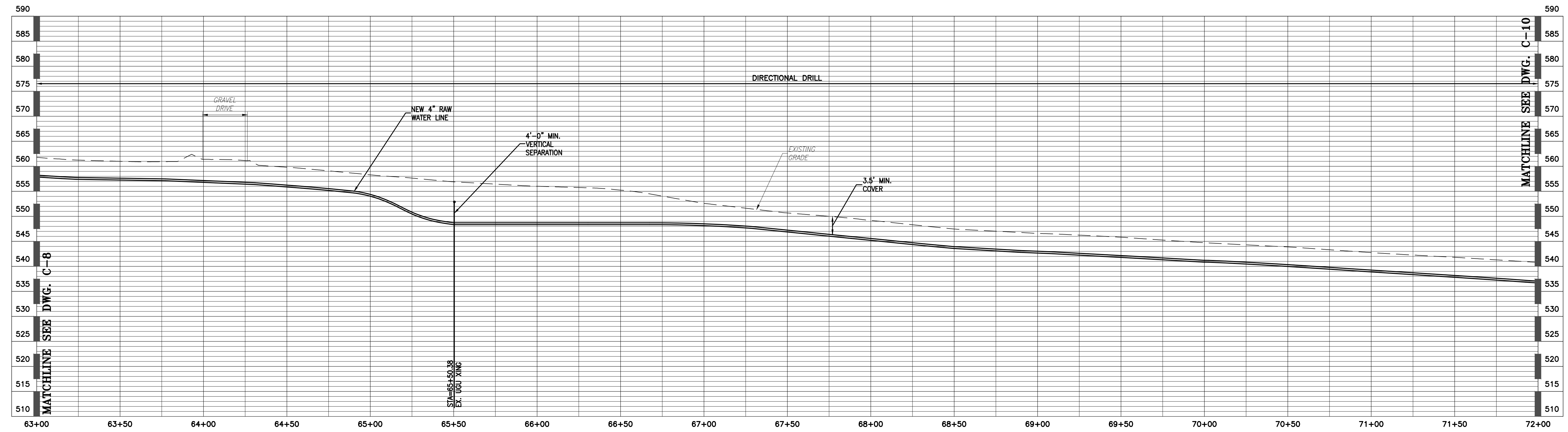
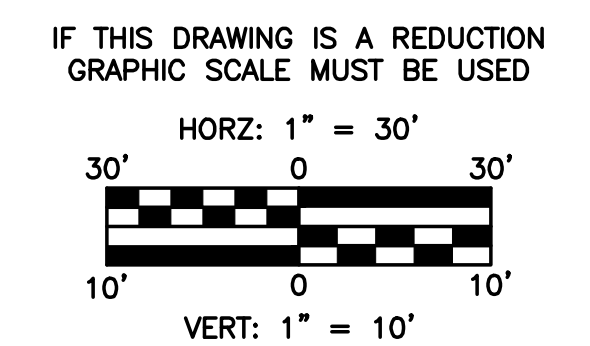


DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: NEW RAW WATER LINE - PLAN & PROFILE	DRAWING NUMBER: C-8
DIHR BY: HFV	WVA NUMBER: 216038.02	SHEET NUMBER: 8 of 22
FILE NAME: 216038.02_PP6.dwg	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
DATE: 1/30/23		

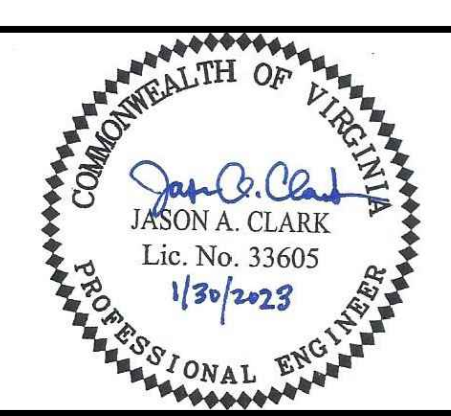
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NOTE:
THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL DRILLED FROM STA. 43+50.00 TO STA. 80+68.03.



NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: SVS
 DRAWN BY: WSW
 DIHR BY: HFW

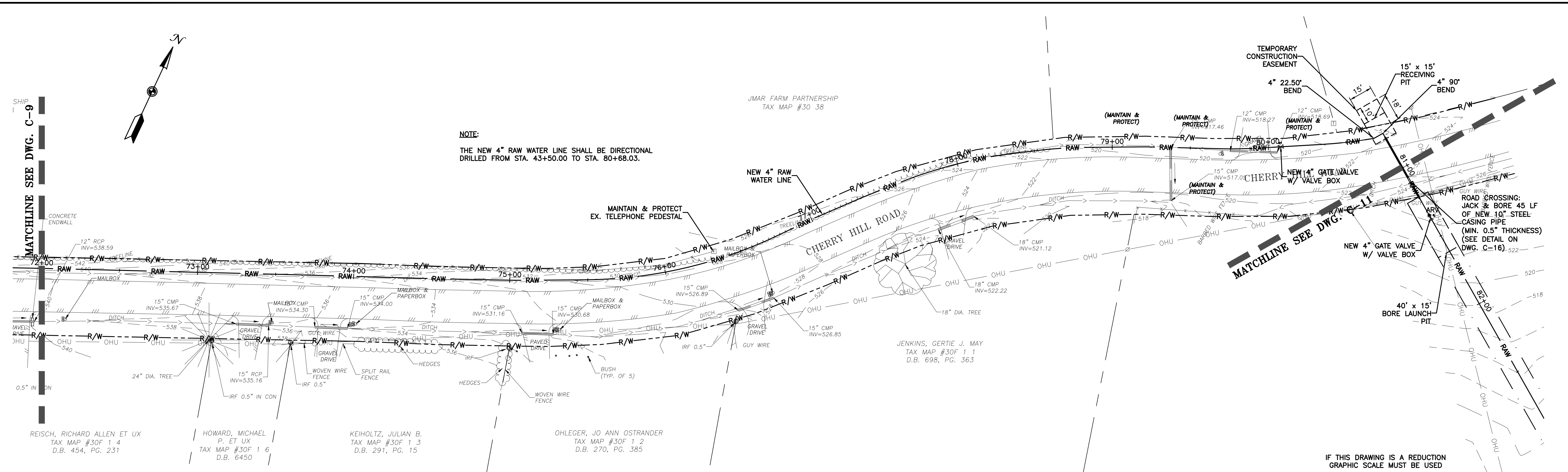
PROJECT: CHERRY HILL WATER SYSTEM
 PHASE I WATER LINE IMPROVEMENTS-REBID
 CULPEPER COUNTY, VIRGINIA

TITLE: NEW RAW WATER LINE - PLAN & PROFILE

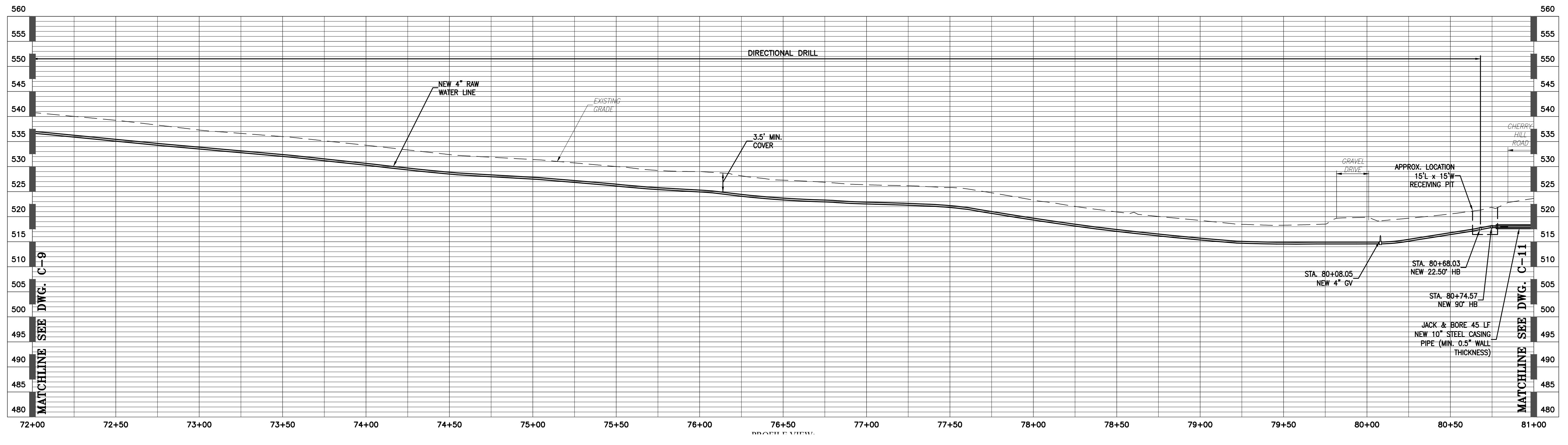
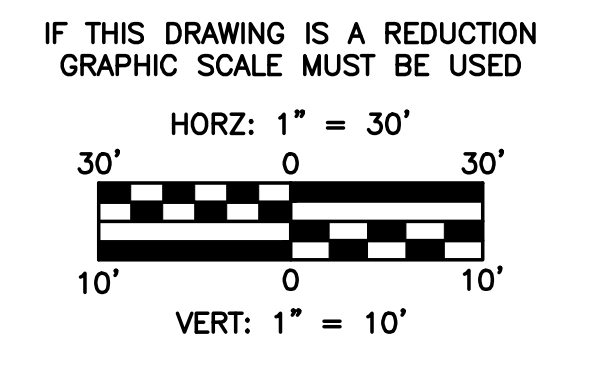
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 FILE NAME: 216038.02L_PP7.dwg
 DISCIPLINE: CIVIL
 SCALE: H: AS NOTED
 DATE: 1/30/23

SET REV. NO. -
 DRAWING NUMBER: C-9
 SHEET NUMBER: 9 of 22

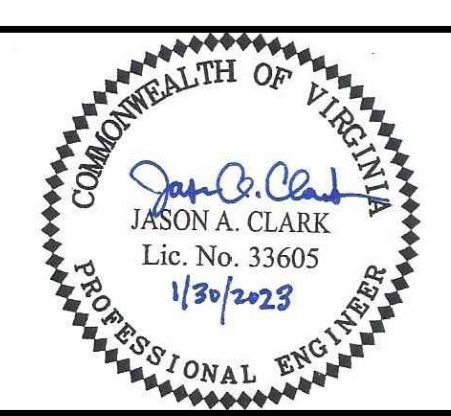
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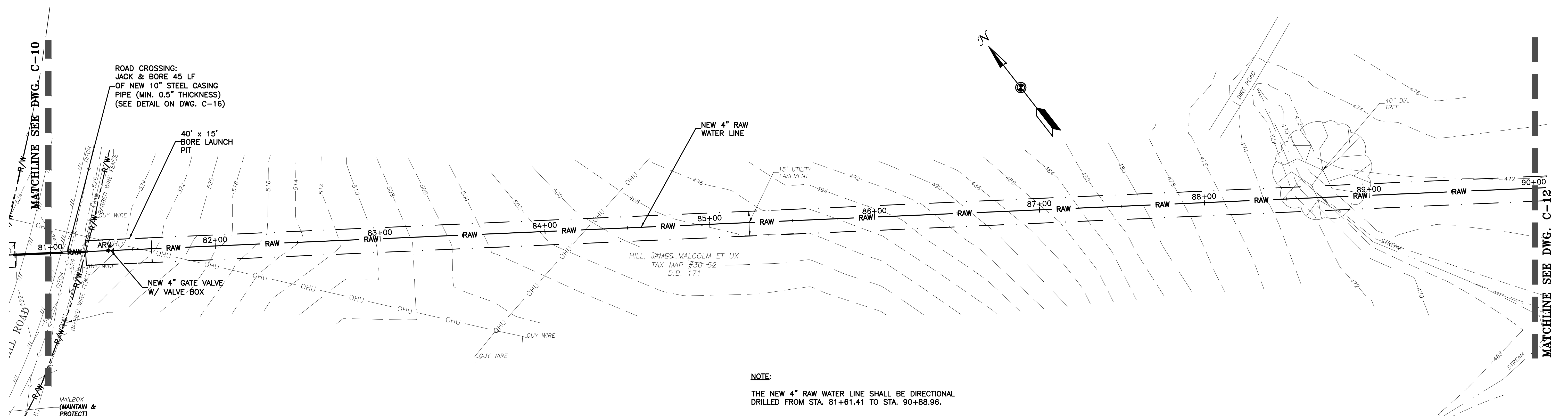
NOTE:
THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL DRILLED FROM STA. 43+50.00 TO STA. 80+68.03.



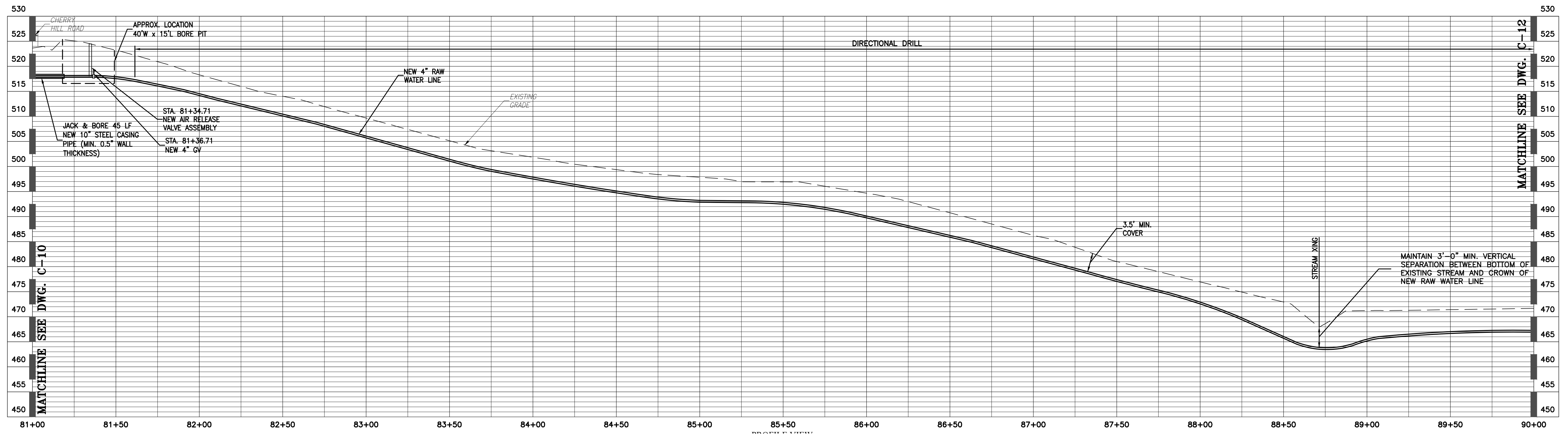
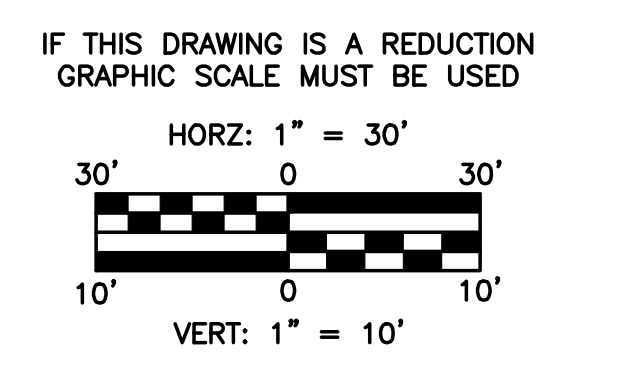
NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW	TITLE: NEW RAW WATER LINE - PLAN & PROFILE	DRAWING NUMBER: C-10
DIHR BY: HFW	FILE NAME: 216038.02L_PP8.dwg	SHEET NUMBER: 10 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
DATE: 1/30/23		

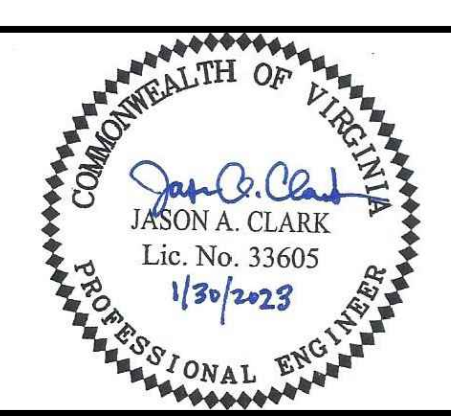


NOTE:
 THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL DRILLED FROM STA. 81+61.41 TO STA. 90+88.96.



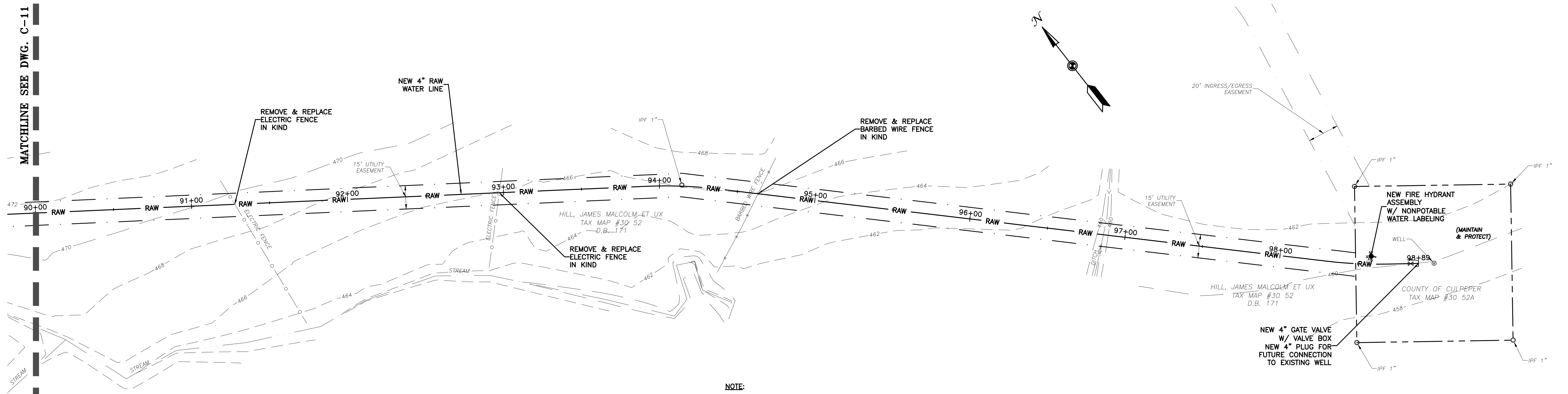
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NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



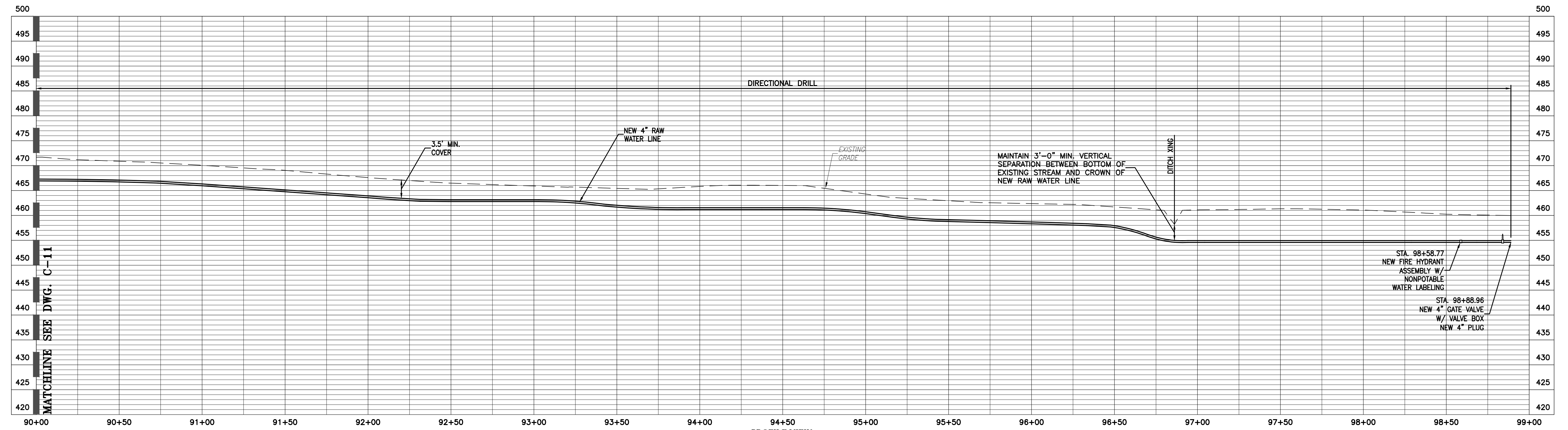
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DRAWN BY: WSW	TITLE: NEW RAW WATER LINE - PLAN & PROFILE	DRAWING NUMBER: C-11
DIHR BY: HFW	FILE NAME: 216038.02_L_PP9.dwg	SHEET NUMBER: 11 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
	DATE: 1/30/23	

M:\216038.02 Cherry Hill Water System\Water Lines (7.17.19)\216038.02_PP10.dwg



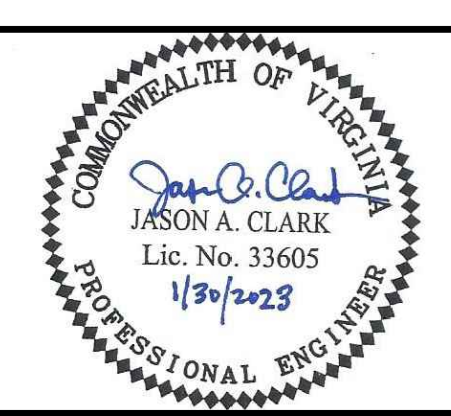
NOTE:
 THE NEW 4" RAW WATER LINE SHALL BE DIRECTIONAL
 DRILLED FROM STA. 81+61.41 TO STA. 90+88.96.

IF THIS DRAWING IS A REDUCTION
 GRAPHIC SCALE MUST BE USED
 HORZ: 1" = 30'
 30' 0 30'
 10' 0 10'
 VERT: 1" = 10'



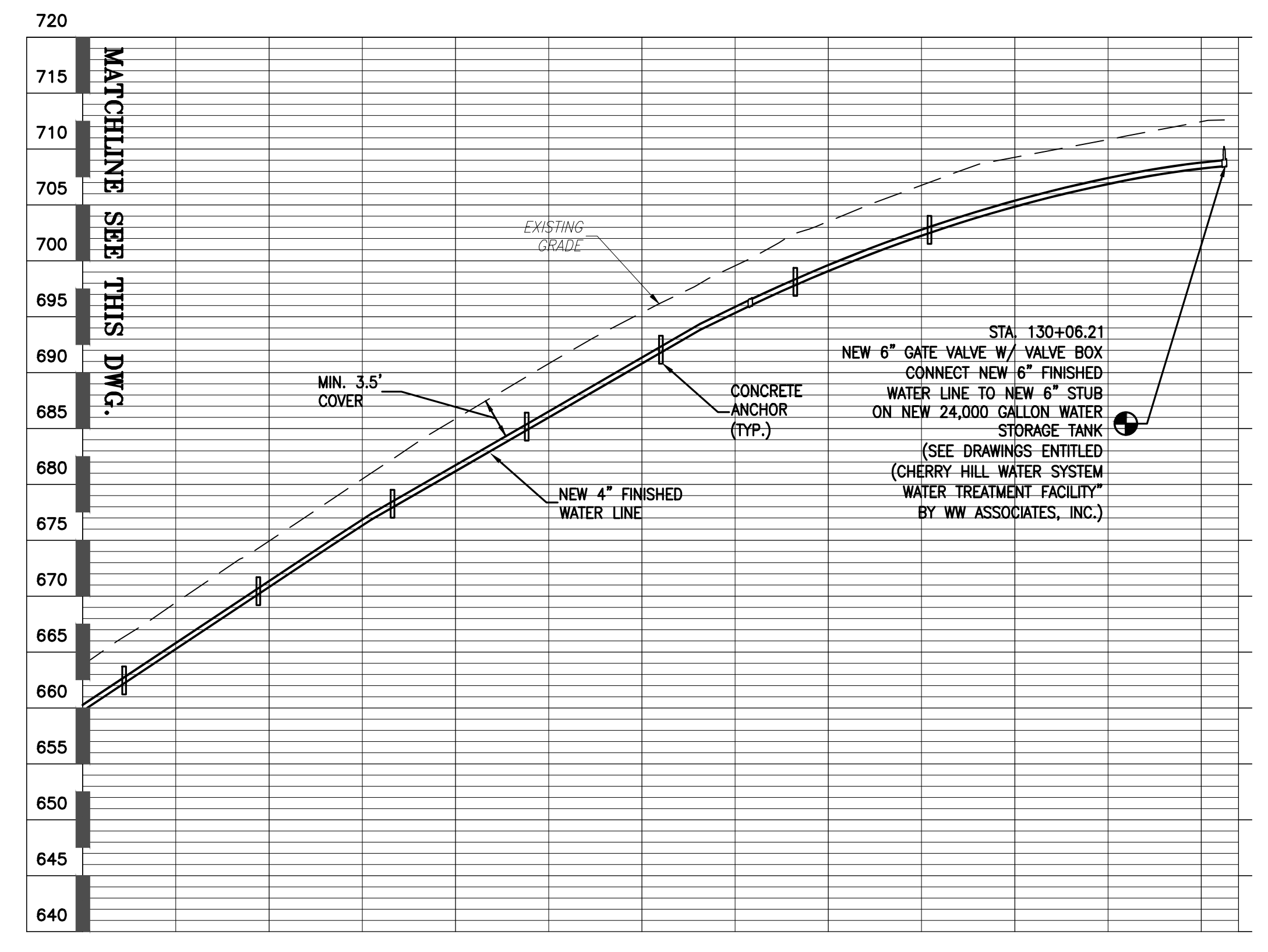
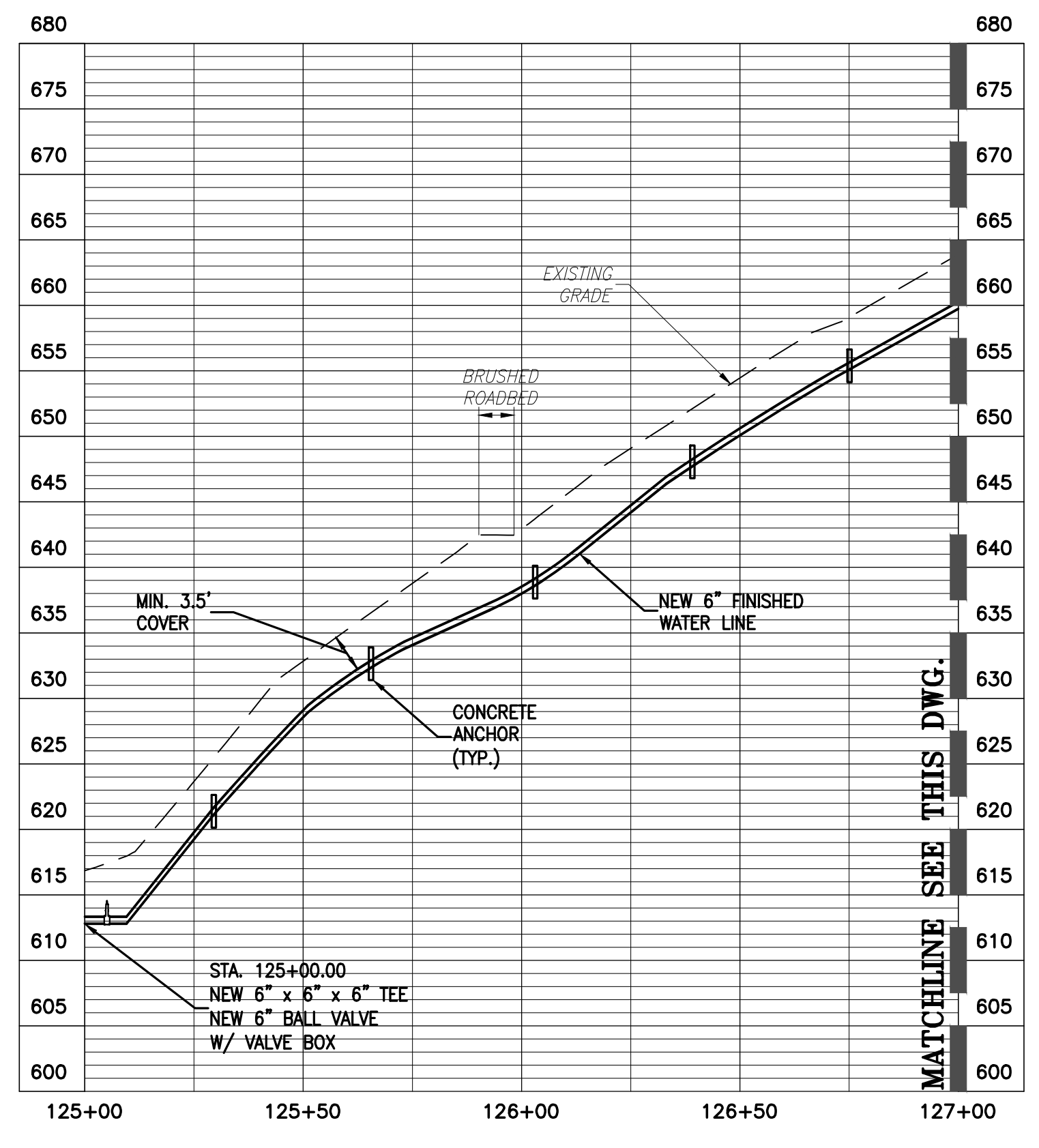
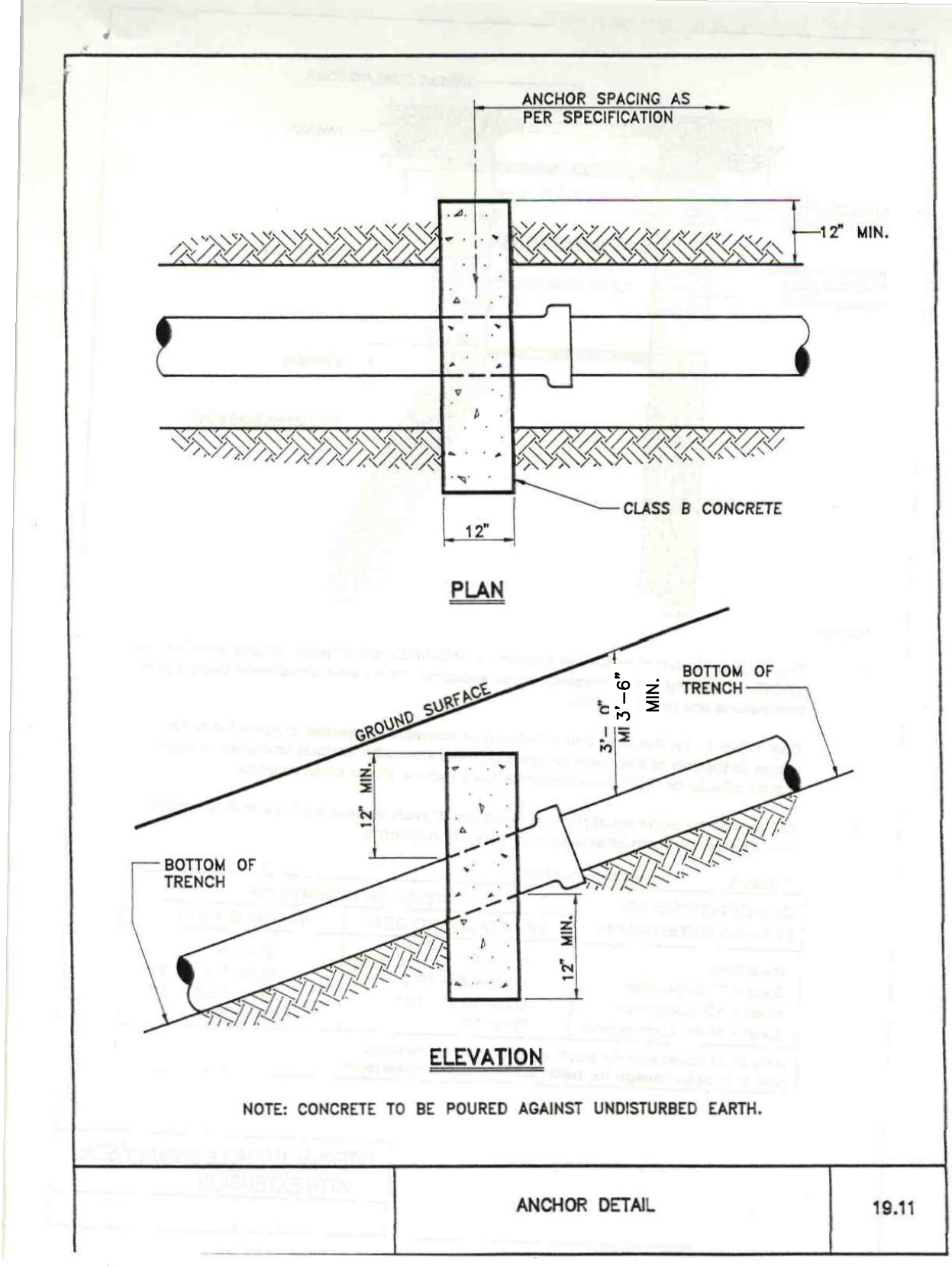
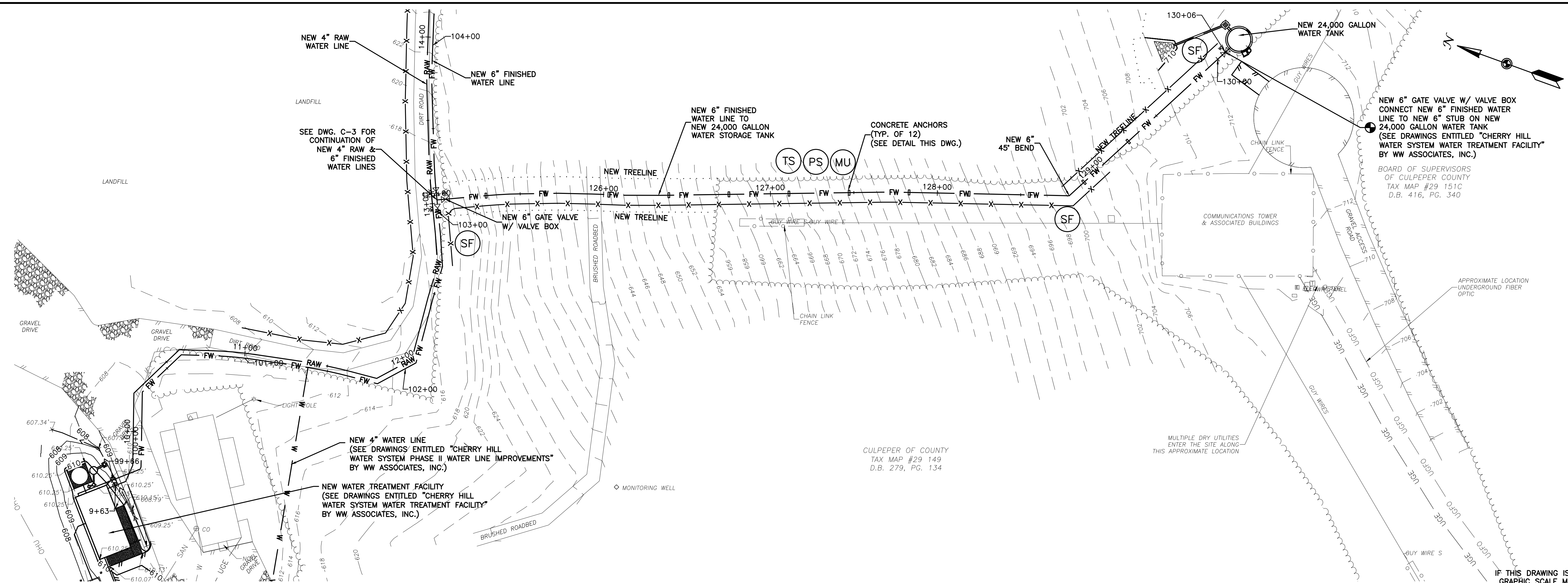
MATCHLINE SEE DWG. C-11

NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



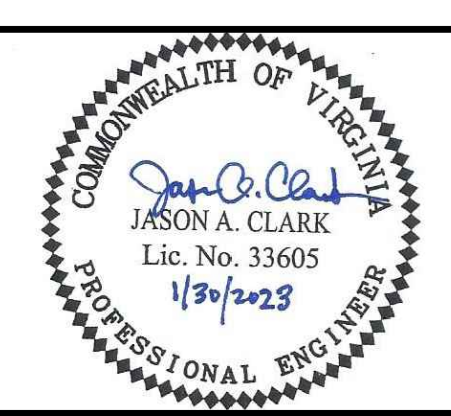
DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW	TITLE: NEW RAW WATER LINE - PLAN & PROFILE	DRAWING NUMBER: C-12
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WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
	DATE: 1/30/23	

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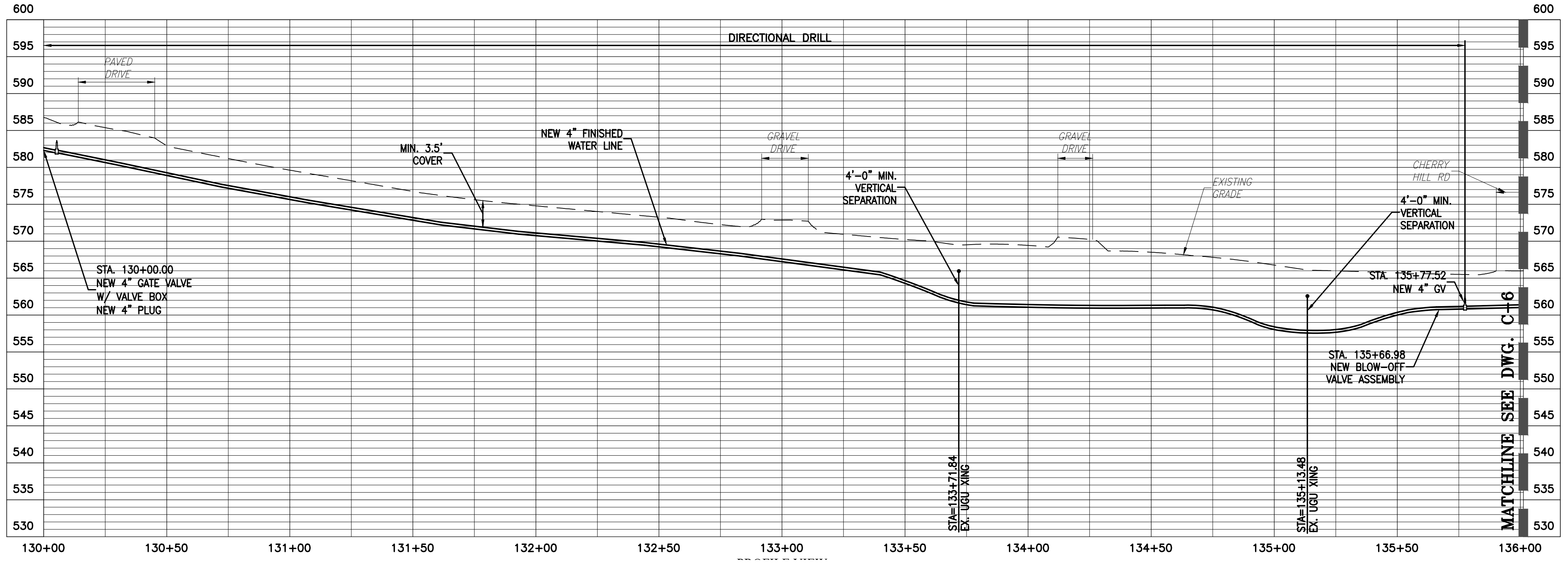
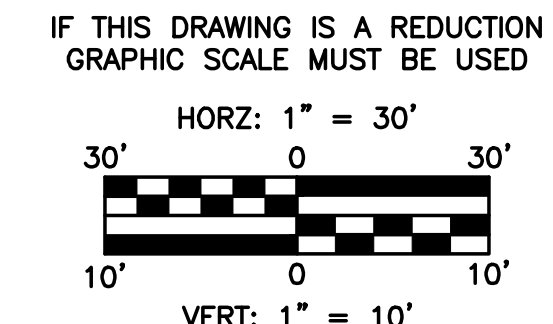
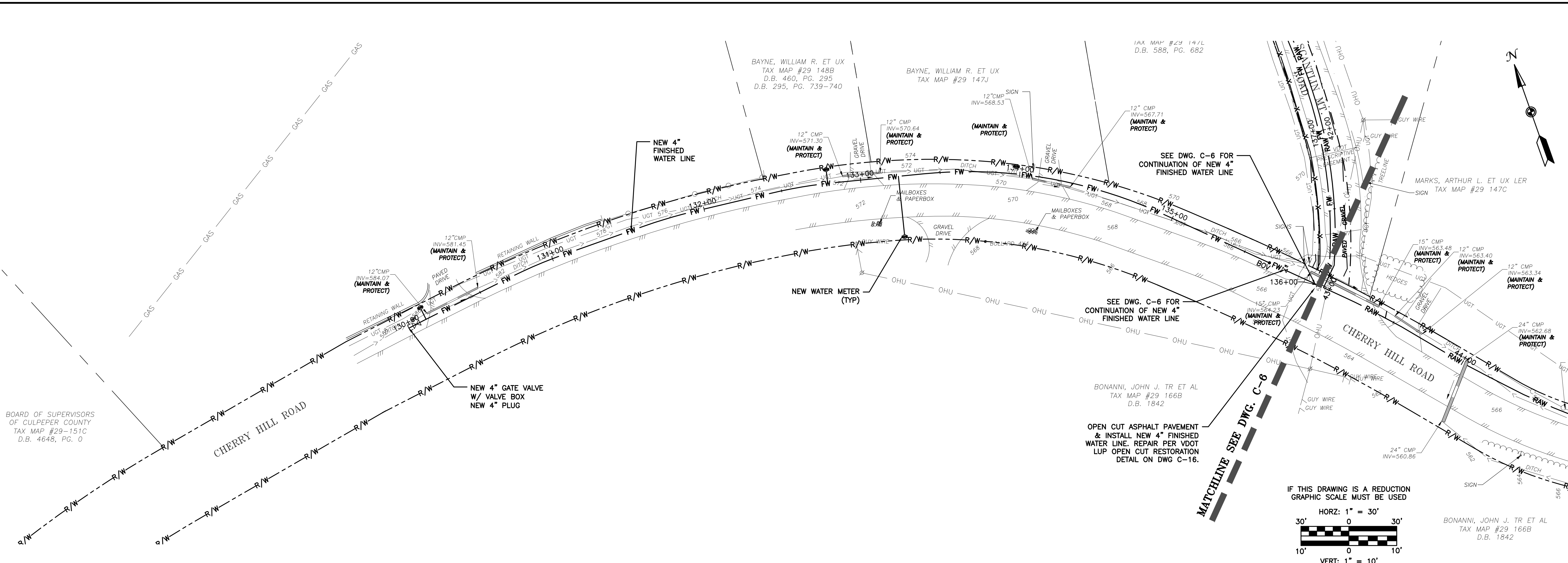


IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED
HORZ: 1" = 30'
VERT: 1" = 10'

NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE

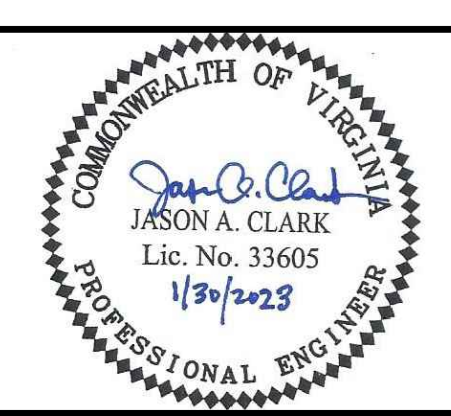


DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: NEW FINISHED WATER LINE TO NEW WATER STORAGE TANK - PLAN & PROFILE	DRAWING NUMBER: C-13
DIHR BY: HFV	FILE NAME: 216038.02_PP1.dwg	SHEET NUMBER: 13 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
DATE: 1/30/23	DATE: 1/30/23	



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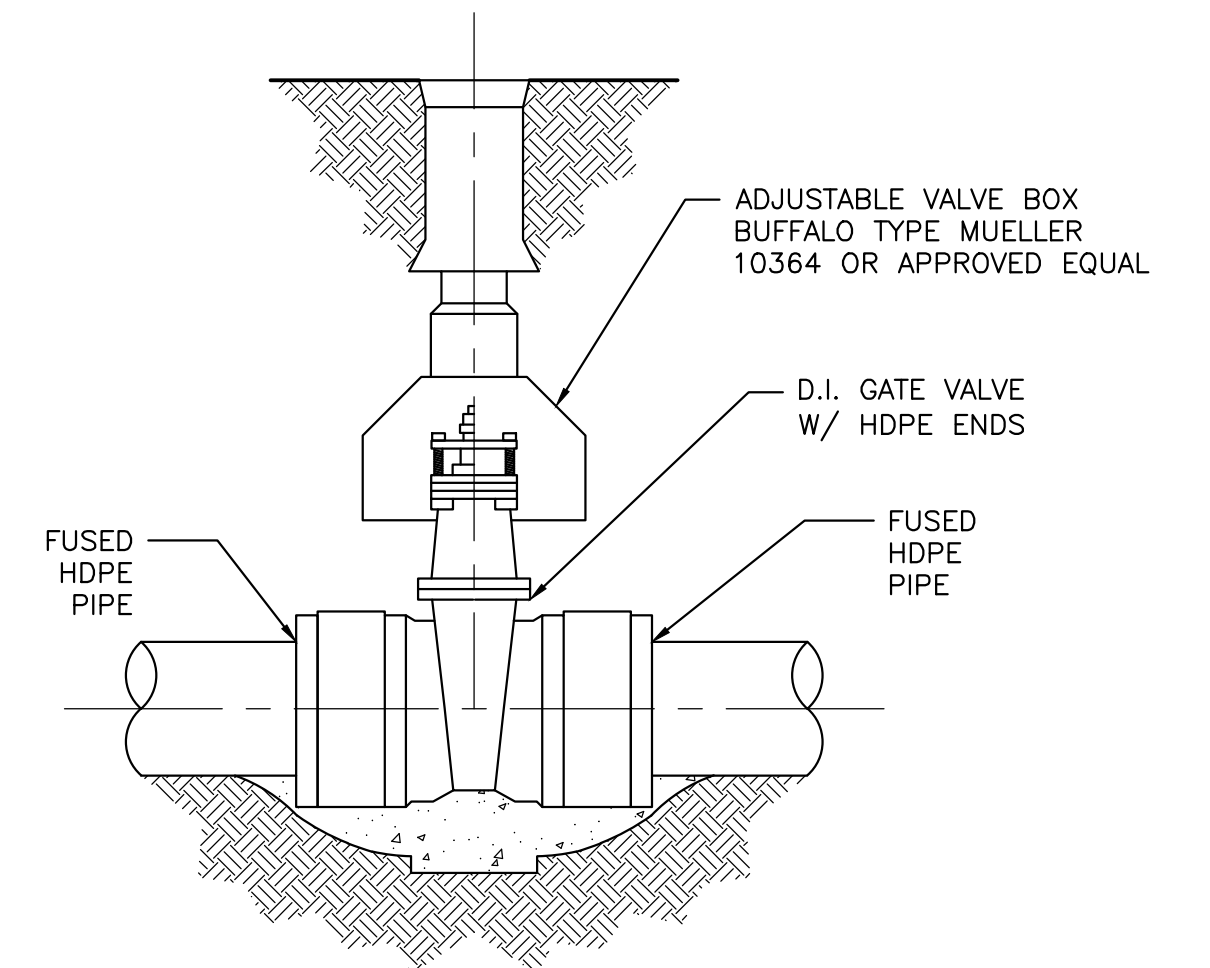
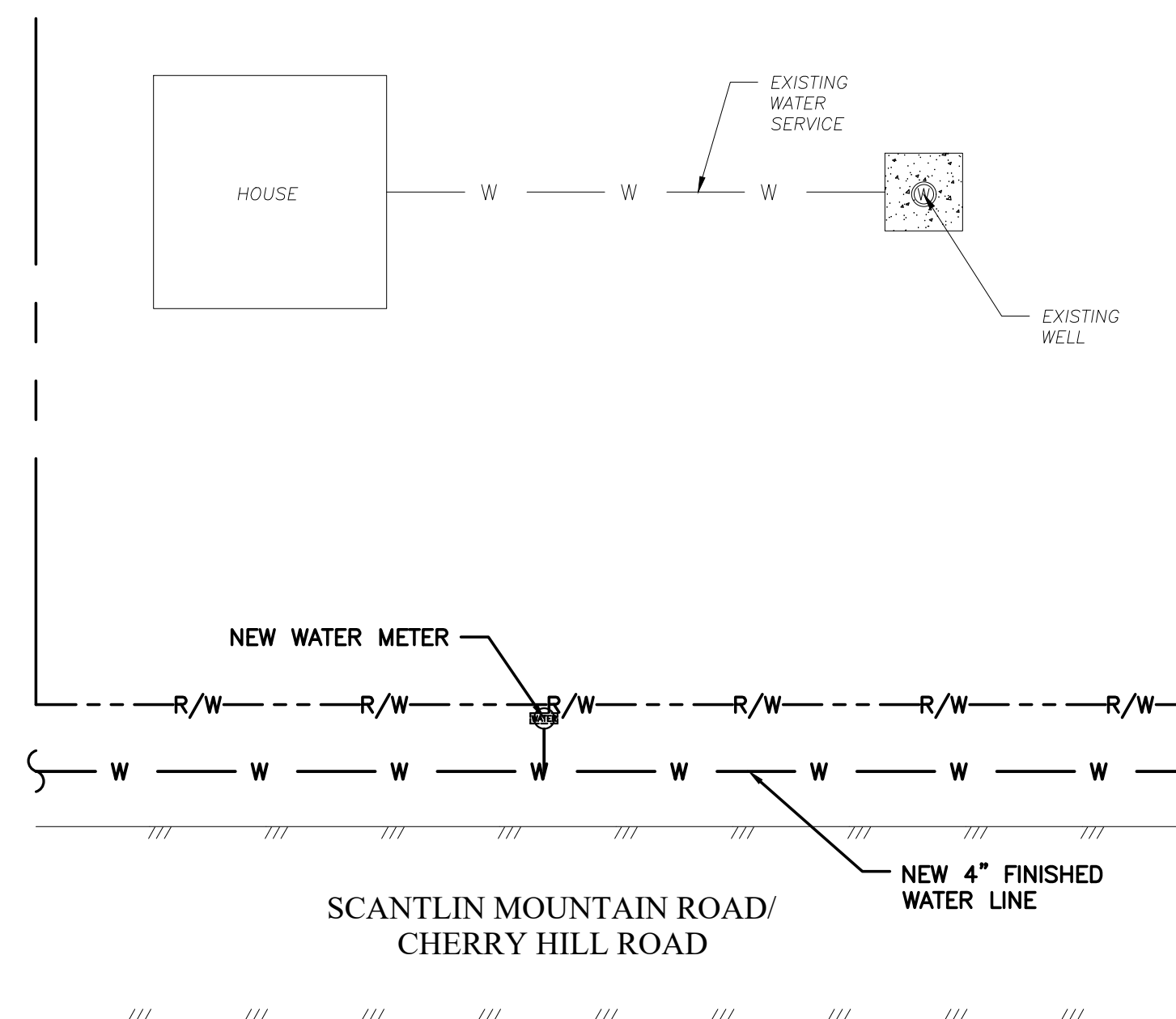
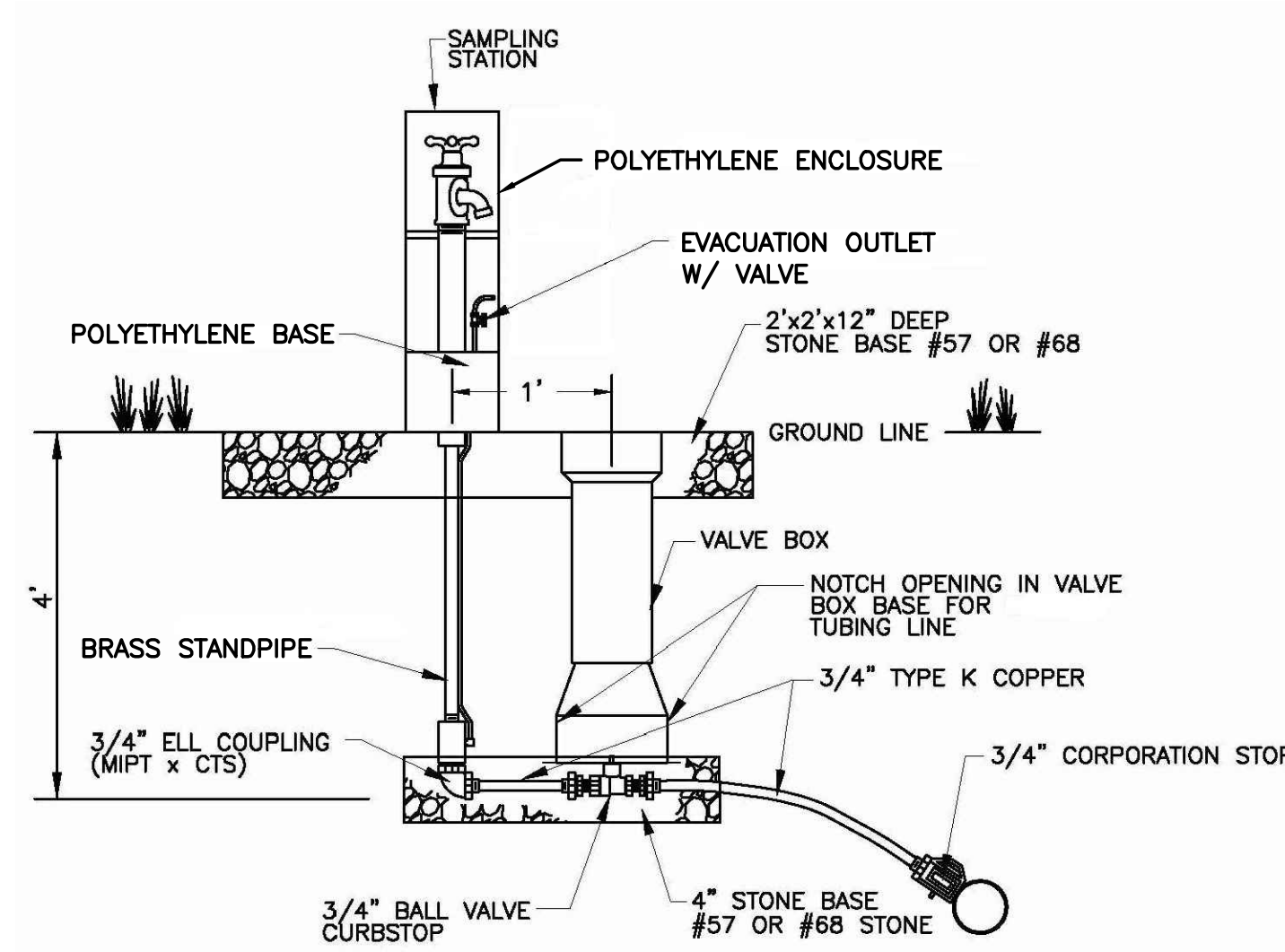
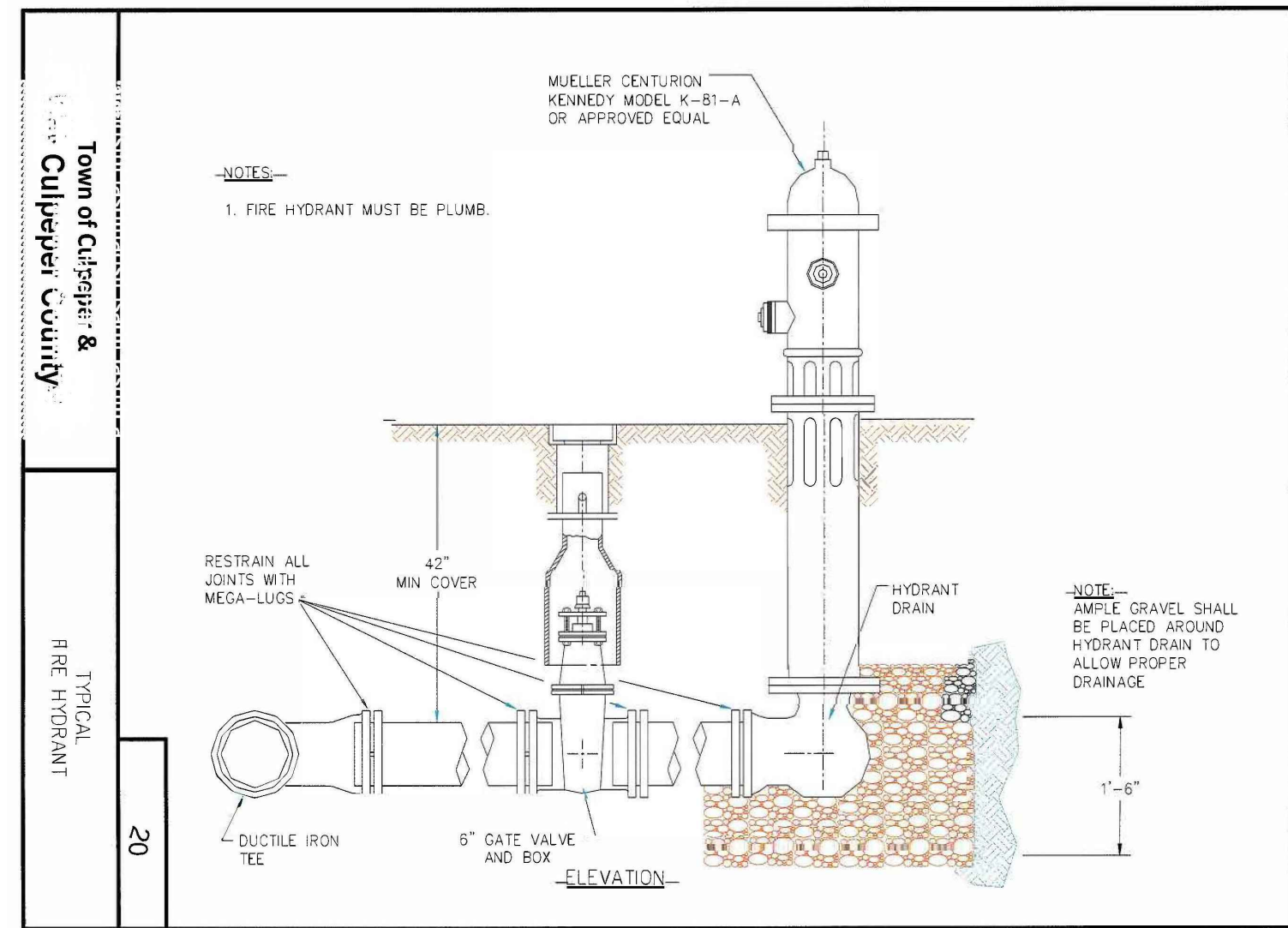
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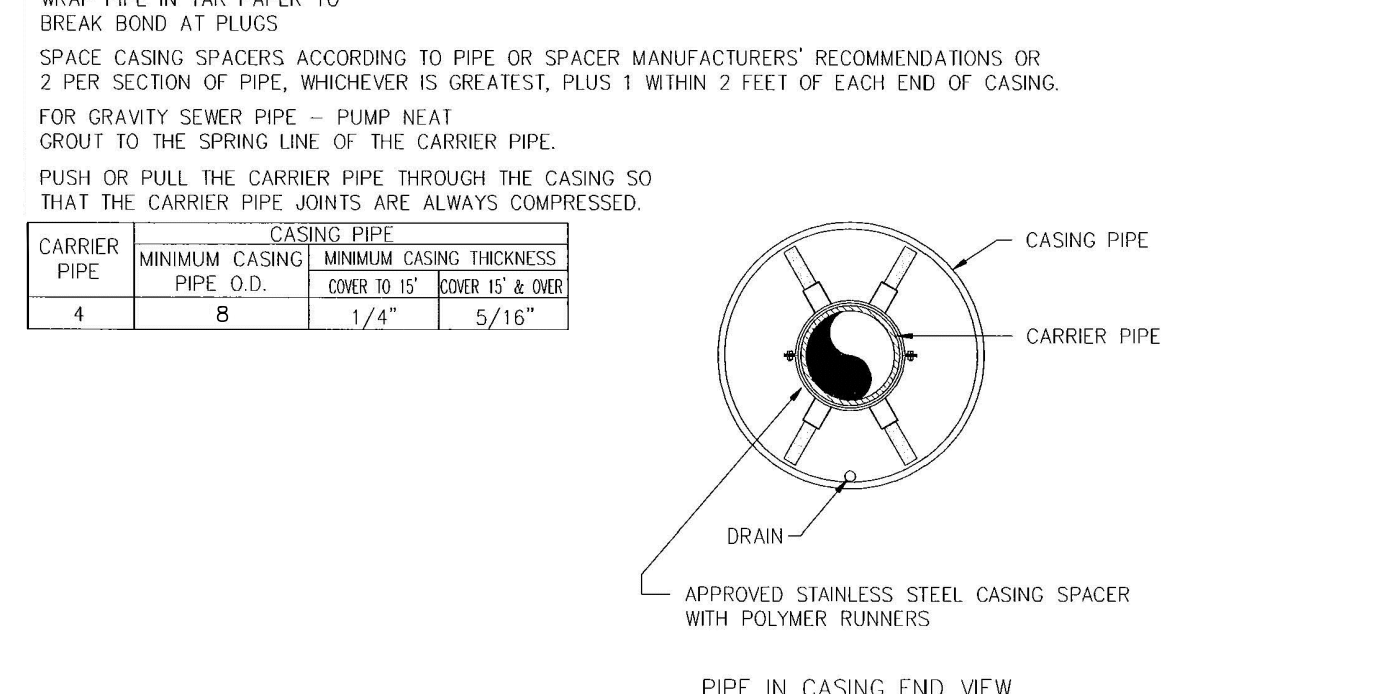
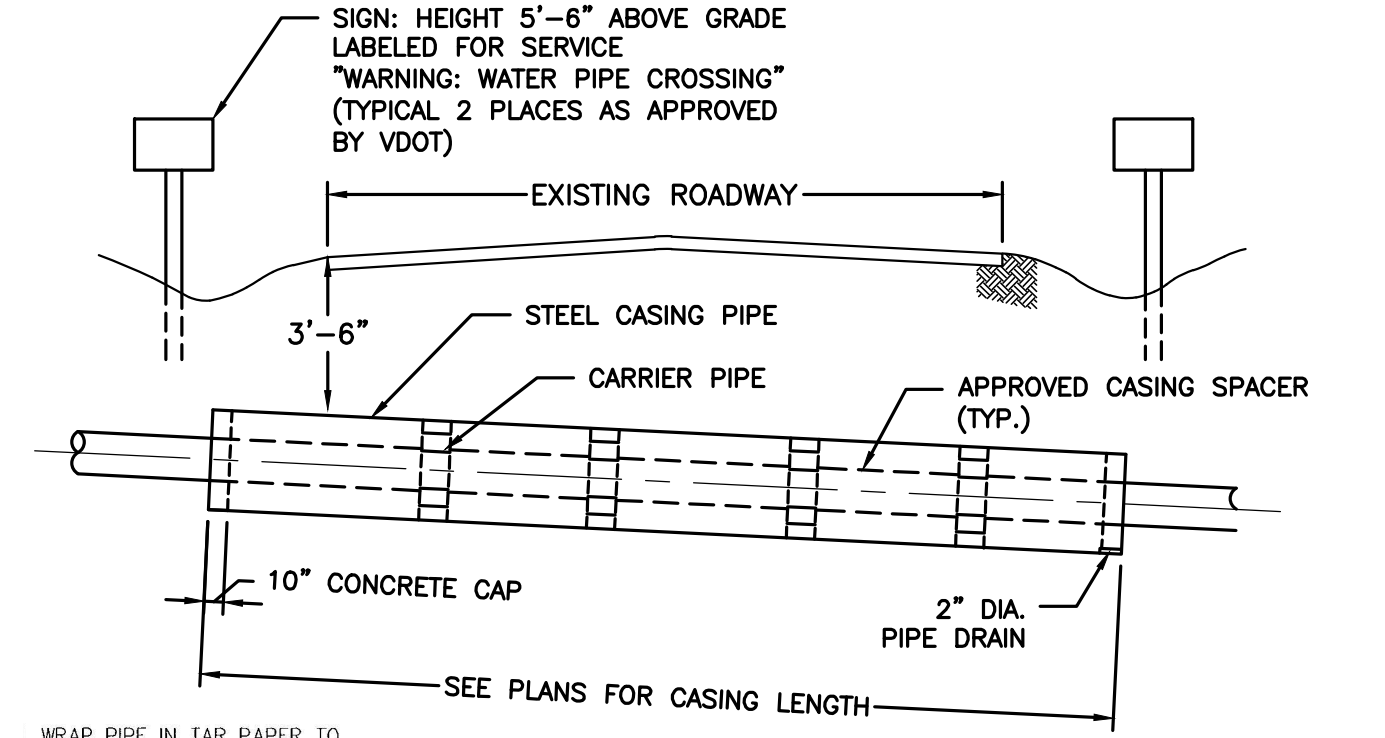
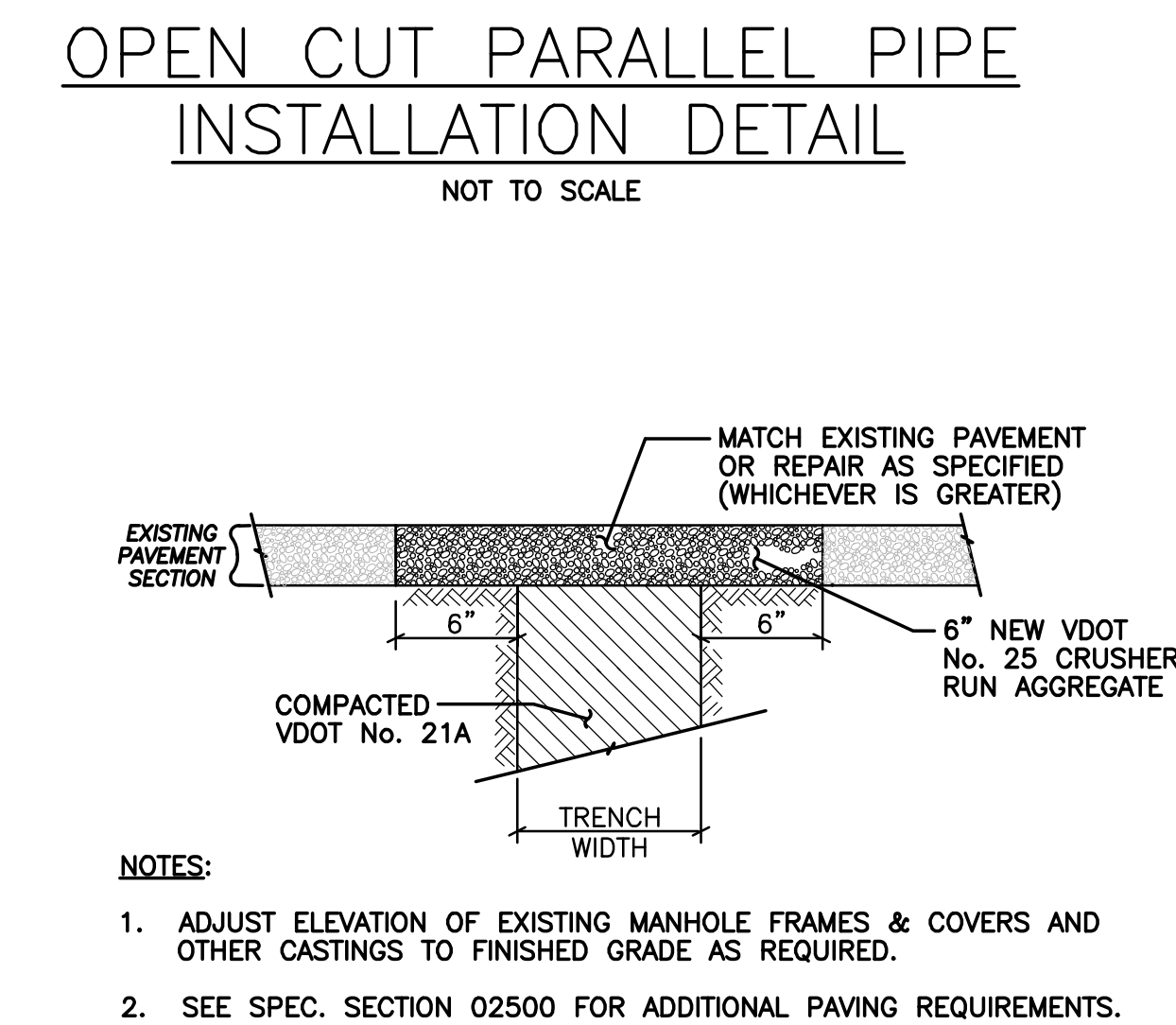
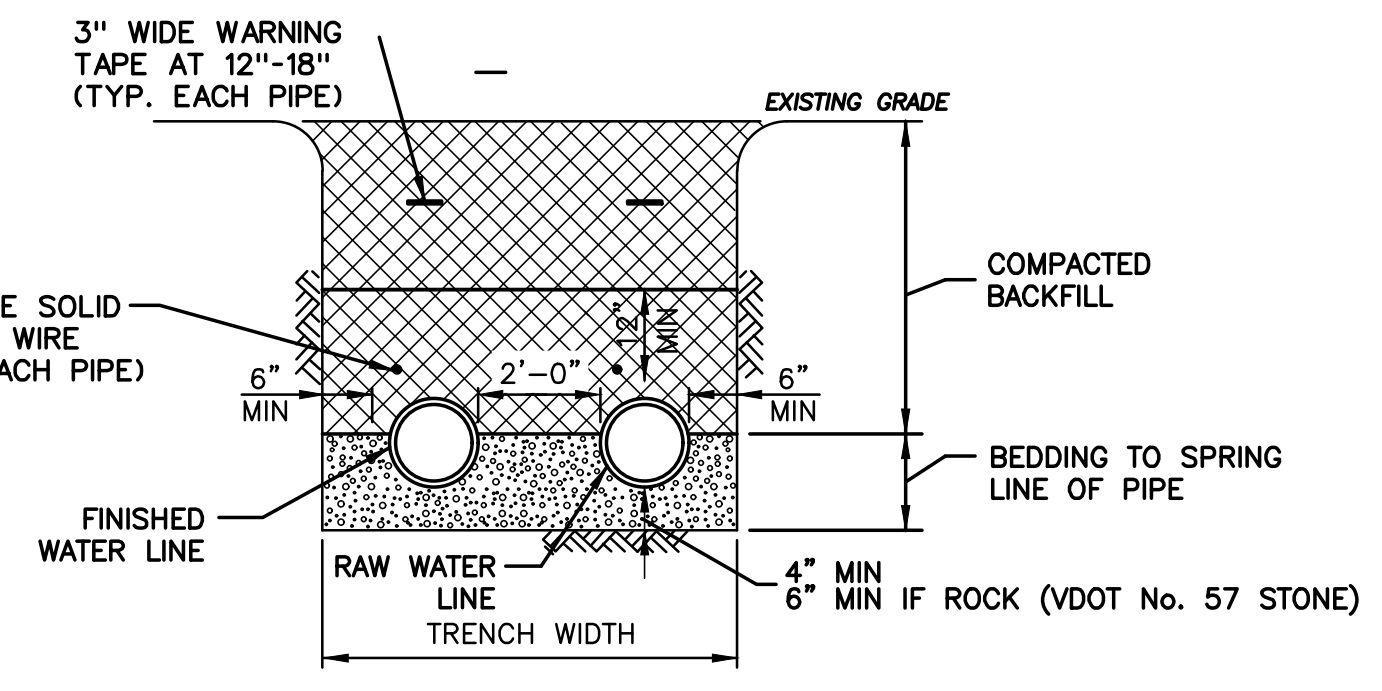
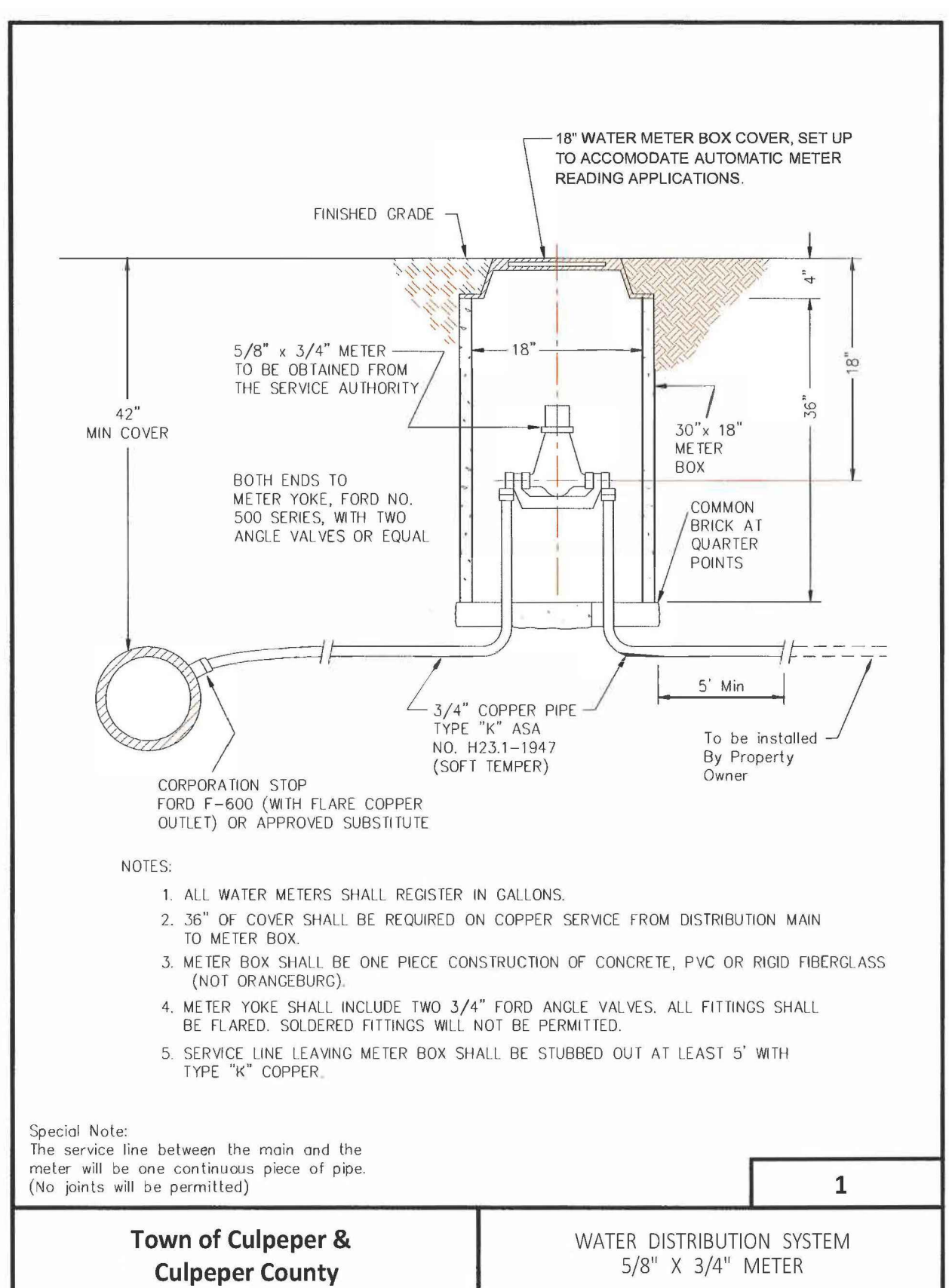
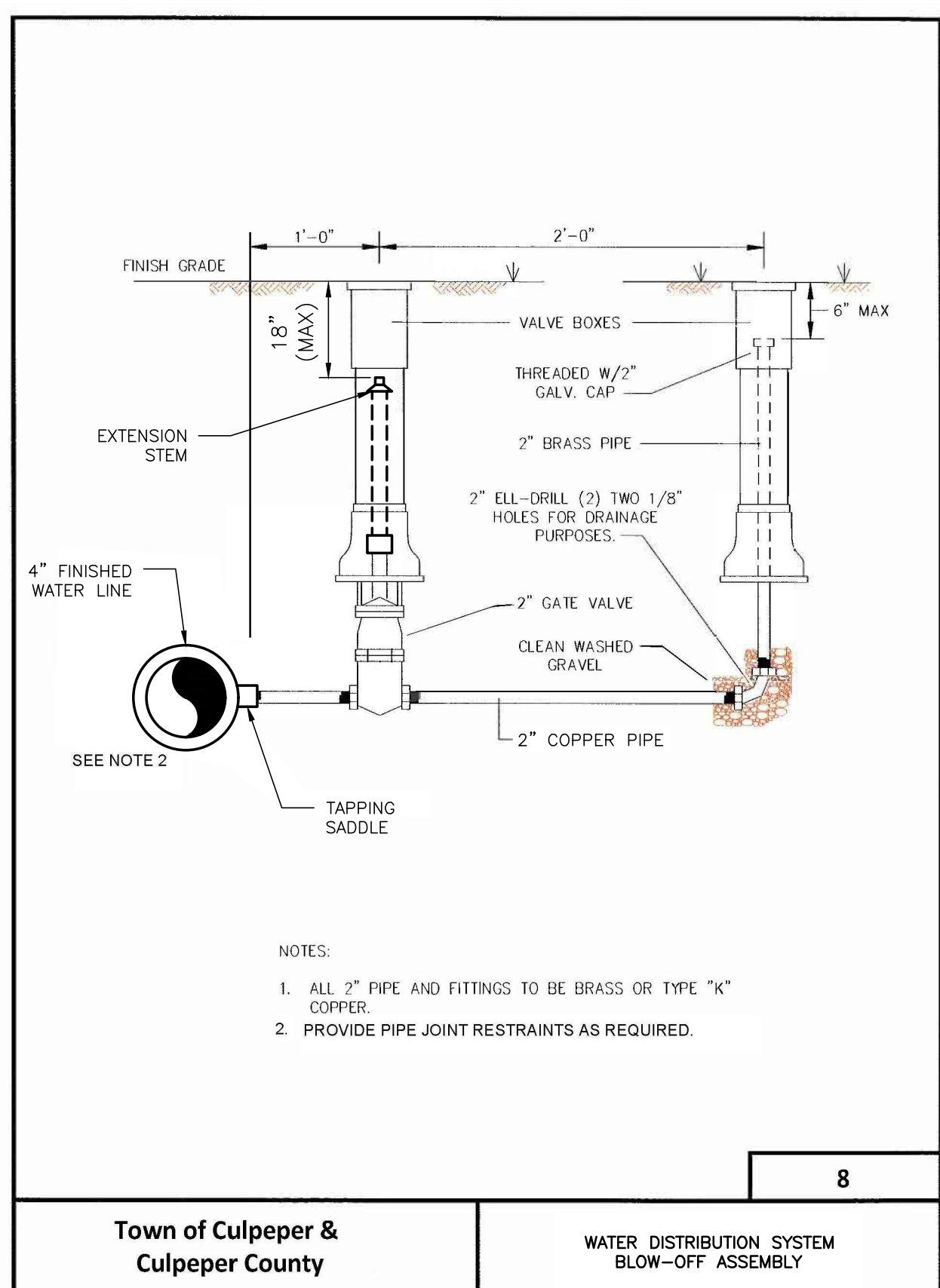
DESIGNED BY:	JAC
DRAWN BY:	WSW/DJC
DIHR BY:	HFV
WWA NUMBER:	216038.02

PROJECT:	CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA		
TITLE:	NEW FINISHED WATER LINE - PLAN & PROFILE (CHERRY HILL ROAD)		
FILE NAME:	216038.02L_PP12.dwg	DISCIPLINE:	CIVIL
SCALE:	H: AS NOTED V: N/A	DATE:	1/30/23

SET REV. NO.	-
DRAWING NUMBER:	C-14
SHEET NUMBER:	14 of 22



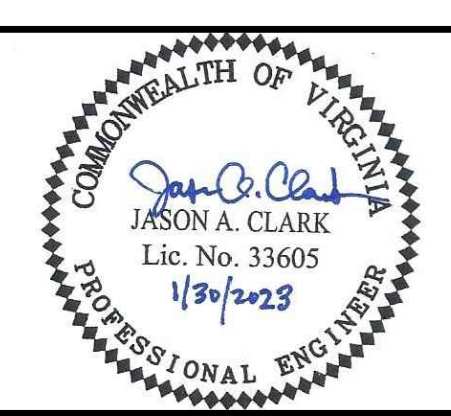
- NOTES:
1. VALVE AND PIPE SHALL HAVE SAME NOMINAL DIAMETER.
2. PROVIDE PIPE JOINT RESTRAINTS AS REQUIRED.



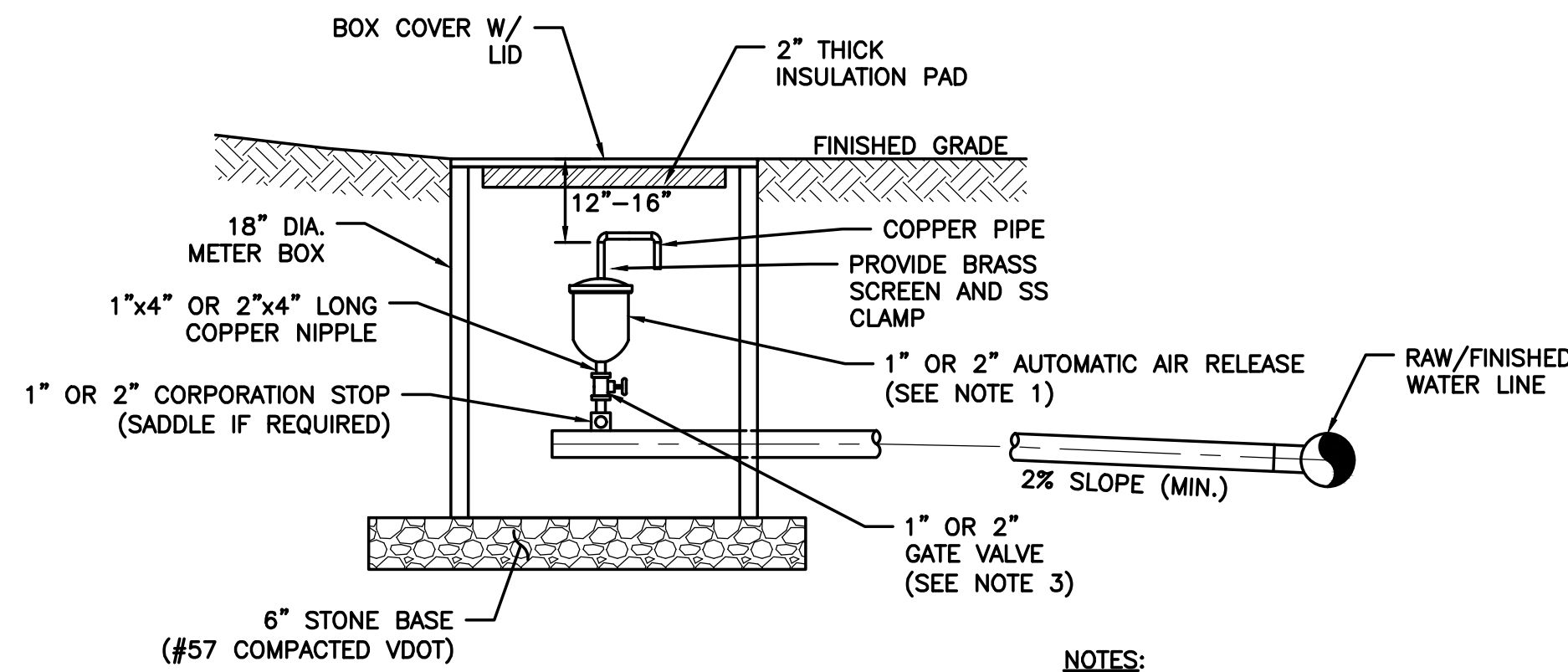
CARRIER PIPE	CASING PIPE	
	MINIMUM CASING PIPE O.D.	MINIMUM CASING THICKNESS OVER TO 15" OVER IS & OVER
4	8	1/4" 5/16"

M:\216038.02 Cherry Hill Water System\Water Lines (7.17.19)\216038.02L_DET1.dwg

NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



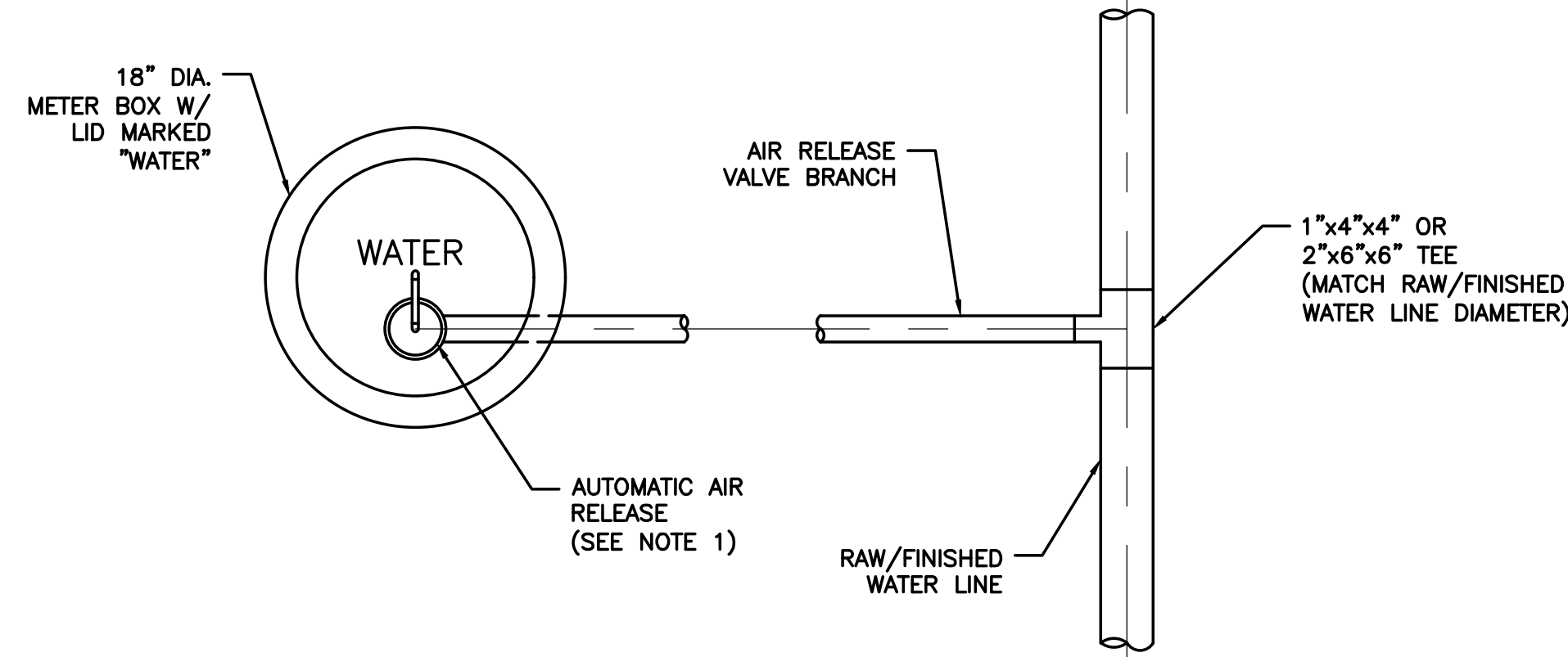
DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: PROJECT DETAILS	DRAWING NUMBER: C-16
DIHR BY: HFV	FILE NAME: 216038.02L_DET1.dwg	SHEET NUMBER: 16 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
	DATE: 1/30/23	



AUTOMATIC AIR RELEASE VALVE ASSEMBLY
NOT TO SCALE

NOTES:

1. COMBINATION AIR RELEASE VALVES SHALL BE PROVIDED AS SPECIFIED IN PROJECT MANUAL SECTION 02660 FOR VALVES LOCATED ON FINISHED WATER LINE AND SECTION 02665 FOR VALVES LOCATED ON RAW WATER LINE. VALVES SHALL BE OF THE COMBINATION TYPE TO RELIEVE LARGE VOLUMES OF AIR AS THE LINES ARE FILLED, RELIEVE VACUUM AS THE LINES ARE EMPTIED, AND ALSO RELEASE SMALL QUANTITIES OF ENTRAINED AIR UNDER PRESSURE.
2. ALL AIR RELEASE VALVES SHALL BE PLACED OUTSIDE OF DITCH LINES.
3. 1" APPURTENANCES SHALL BE PROVIDED & INSTALLED FOR ALL AIR RELEASE VALVES LOCATED ON 4" RAW/FINISHED WATER LINES. 2" APPURTENANCES SHALL BE PROVIDED & INSTALLED ON ALL AIR RELEASE VALVES LOCATED ON 6" FINISHED WATER LINE.



PLAN
NOT TO SCALE

TABLE 3.31-B
(Revised June 2003)
TEMPORARY SEEDING SPECIFICATIONS
QUICK REFERENCE FOR ALL REGIONS

APPLICATION DATES	SEED	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (dolum multi-Rorum) & Cereal (Winter) Rye (Secale cereale)	50 - 100 (lb/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (dolum multi-Rorum)	60 - 100 (lb/acre)
May 1 - Aug. 31	German Millet	50 (lb/acre)

FERTILISER & LIME

- Apply 10-10-10 fertilizer at a rate of 400 lbs./acre (or 10 lbs./1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs./1,000 sq. ft.)

NOTE:

- 1 - A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- 2 - Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- 3 - When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4-2003 Nutrient Management for Development Sites at <http://www.dor.state.va.us/watersheds/techbullet>

(TS)

1992

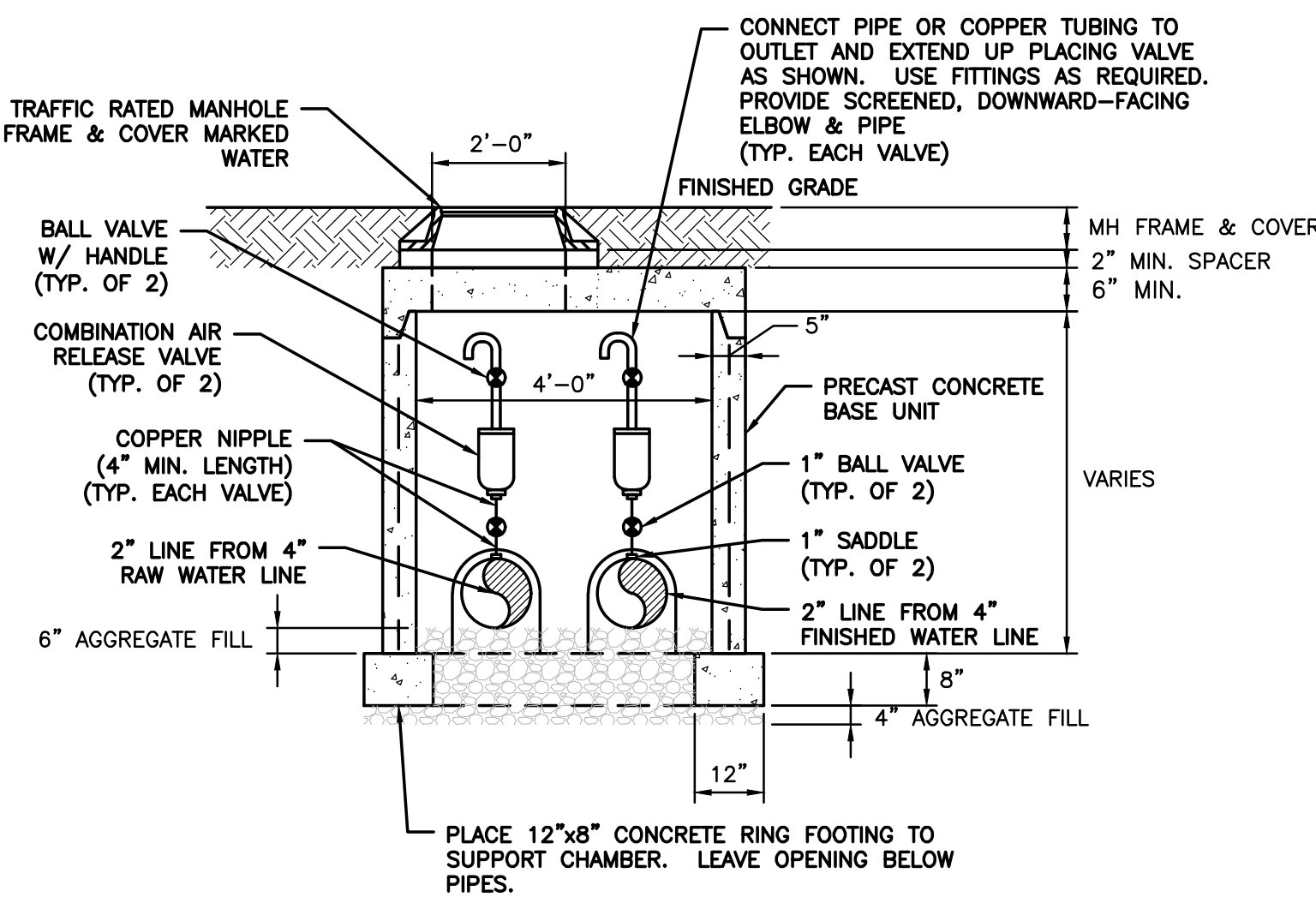
TABLE 3.32-D
SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

Minimum Care Lawn	Total Lbs. Per Acre
Commercial or Residential	175-200 lbs.
Improved Recreational Ryegrass	9-5% 0-5%
Kentucky Bluegrass	0-5%
High-Maintenance Lawn	200-250 lbs.
Kentucky 31 or Turf-Type Tall Fescue	100%
General Slope (3:1 or less)	
Kentucky 31 Fescue	128 lbs.
Red Top Grass	2 lbs.
Seasonal Nurse Crop *	20 lbs.
150 lbs.	
Low-Maintenance Slope (Steeper than 3:1)	
Kentucky 31 Fescue	108 lbs.
Red Top Grass	2 lbs.
Seasonal Nurse Crop *	20 lbs.
Crownvetch **	20 lbs.
150 lbs.	

* Use seasonal nurse crop in accordance with seeding dates as stated below:
 February 16th through April Annual Rye
 May 1st through August 15th Fennel Millet
 August 16th through October Annual Rye
 November through February 15th Winter Rye

** Substitute Sericea lespedeza for Crownvetch east of Farmville, Va. (May through September use hulled Sericea, all other periods, use unhulled Sericea). If Fescue is used in lieu of Crownvetch, increase rate to 30 lbs./acre. All legume seed must be properly inoculated. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

(PS)



NOTES:

1. COMBINATION AIR RELEASE VALVES SHALL BE PROVIDED AS SPECIFIED IN PROJECT MANUAL SECTION 02660 FOR VALVES LOCATED ON FINISHED WATER LINE AND SECTION 02665 FOR VALVES LOCATED ON RAW WATER LINE. VALVES SHALL BE OF THE COMBINATION TYPE TO RELIEVE LARGE VOLUMES OF AIR AS THE LINES ARE FILLED, RELIEVE VACUUM AS THE LINES ARE EMPTIED, AND ALSO RELEASE SMALL QUANTITIES OF ENTRAINED AIR UNDER PRESSURE.
2. MANHOLE MATERIALS AND FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C478. SIZE OF AIR RELEASE VALVE, GATE VALVE, FITTINGS AND WORKING PRESSURES SHALL BE AS SHOWN ON THE DRAWINGS.

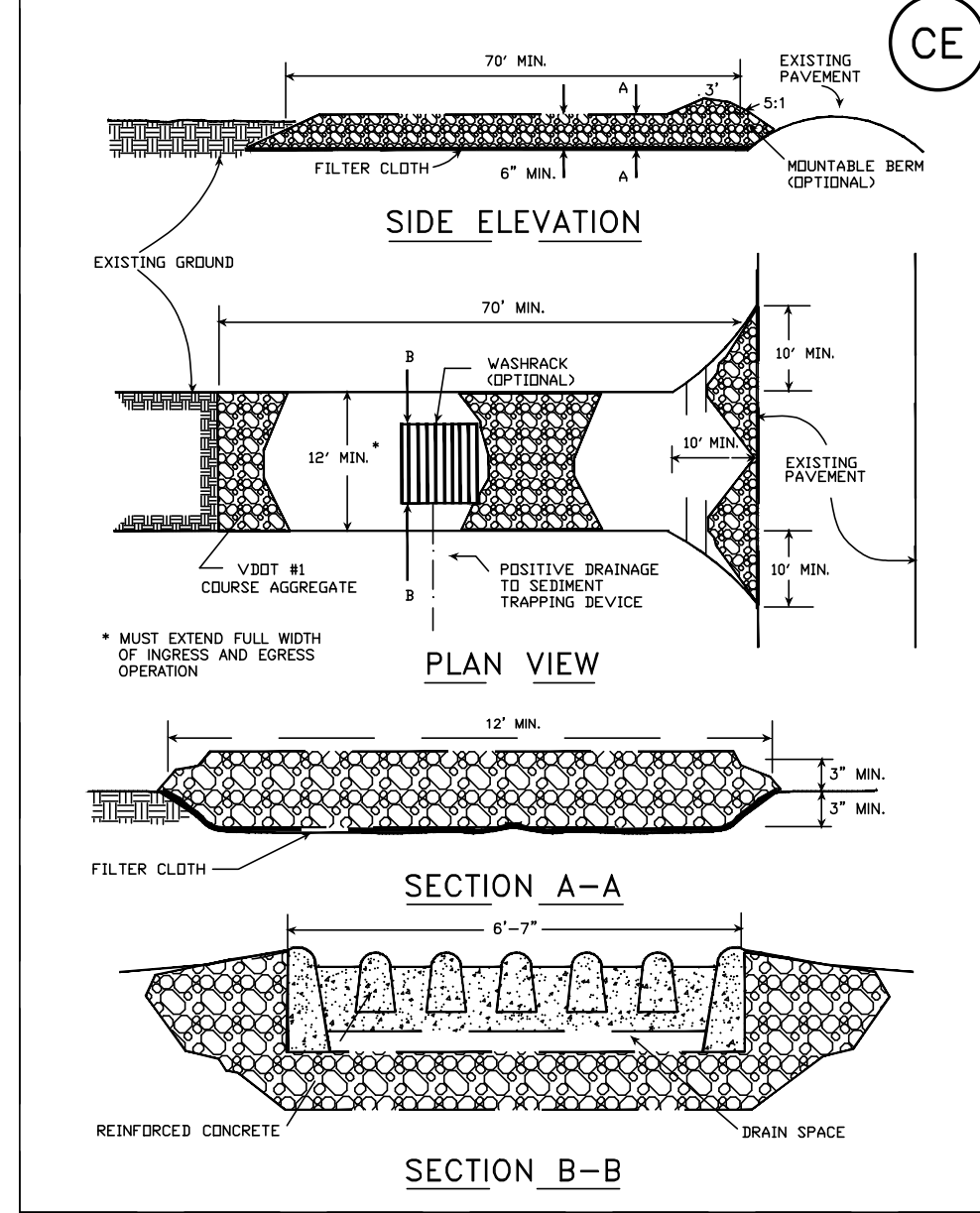
TRAFFIC RATED AIR RELEASE VALVE ASSEMBLY
NOT TO SCALE

EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE		3.31	TEMPORARY SEEDING	TS	
3.05	SILT FENCE	SF		3.32	PERMANENT SEEDING	PS	
3.07	STORM DRAIN INLET PROTECTION	IP		3.35	MULCHING	MU	
3.08	CULVERT INLET PROTECTION	CIP		3.36	SOIL STABILIZATION BLANKETS & MATTING	B/M	

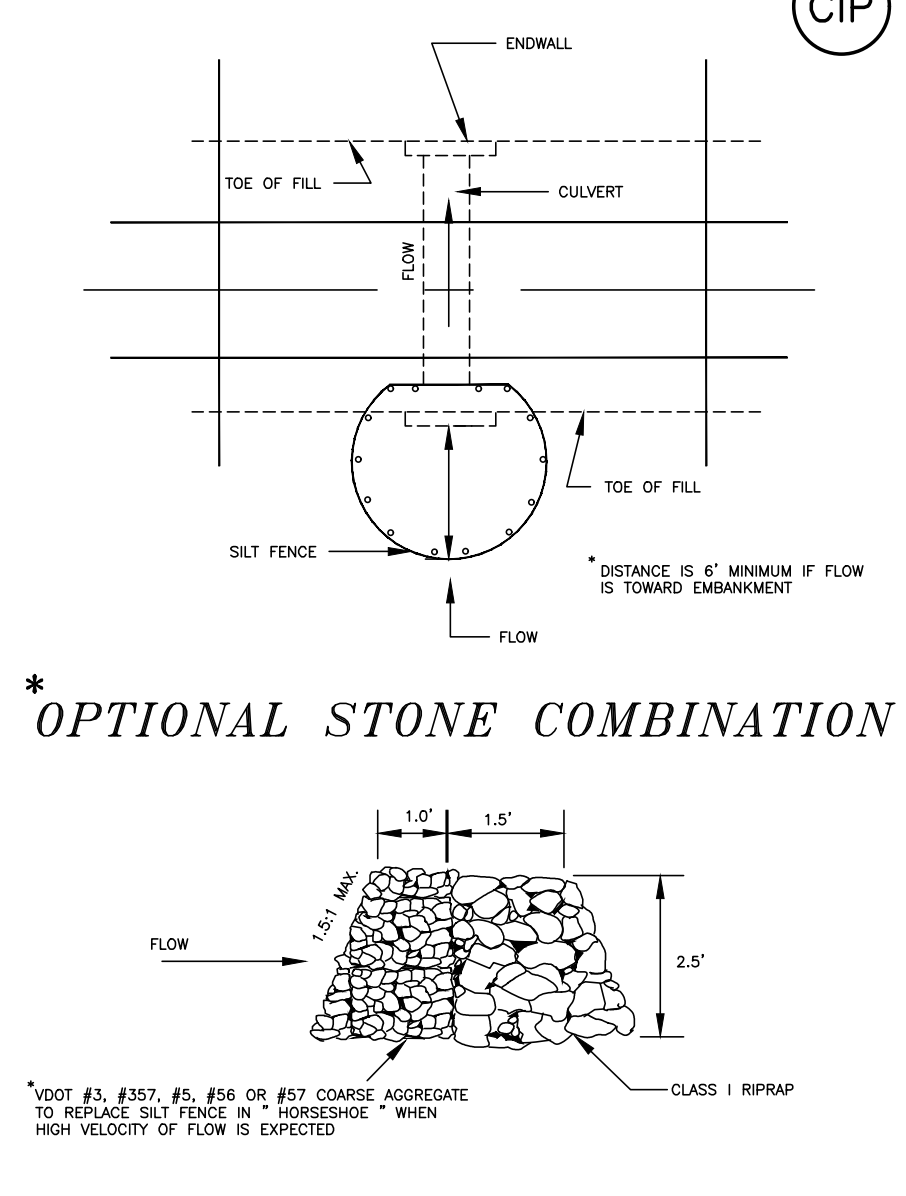
LIMITS OF CONSTRUCTION

STONE CONSTRUCTION ENTRANCE



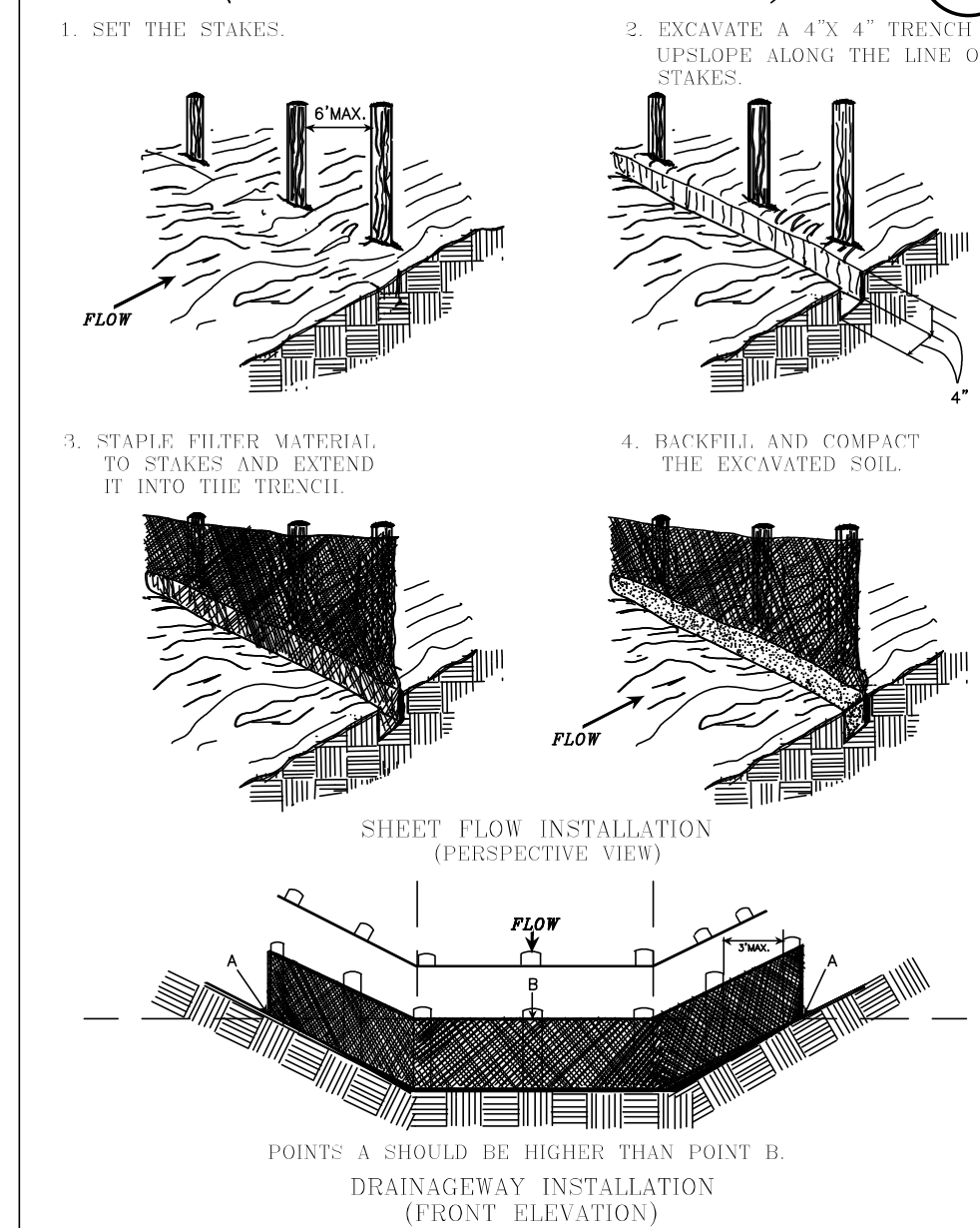
SOURCE: ADAPTED FROM 1983 National Standards for Soil Erosion and Sediment Control, and Va. DSWC Plate 3.02-1

SILT FENCE CULVERT INLET PROTECTION



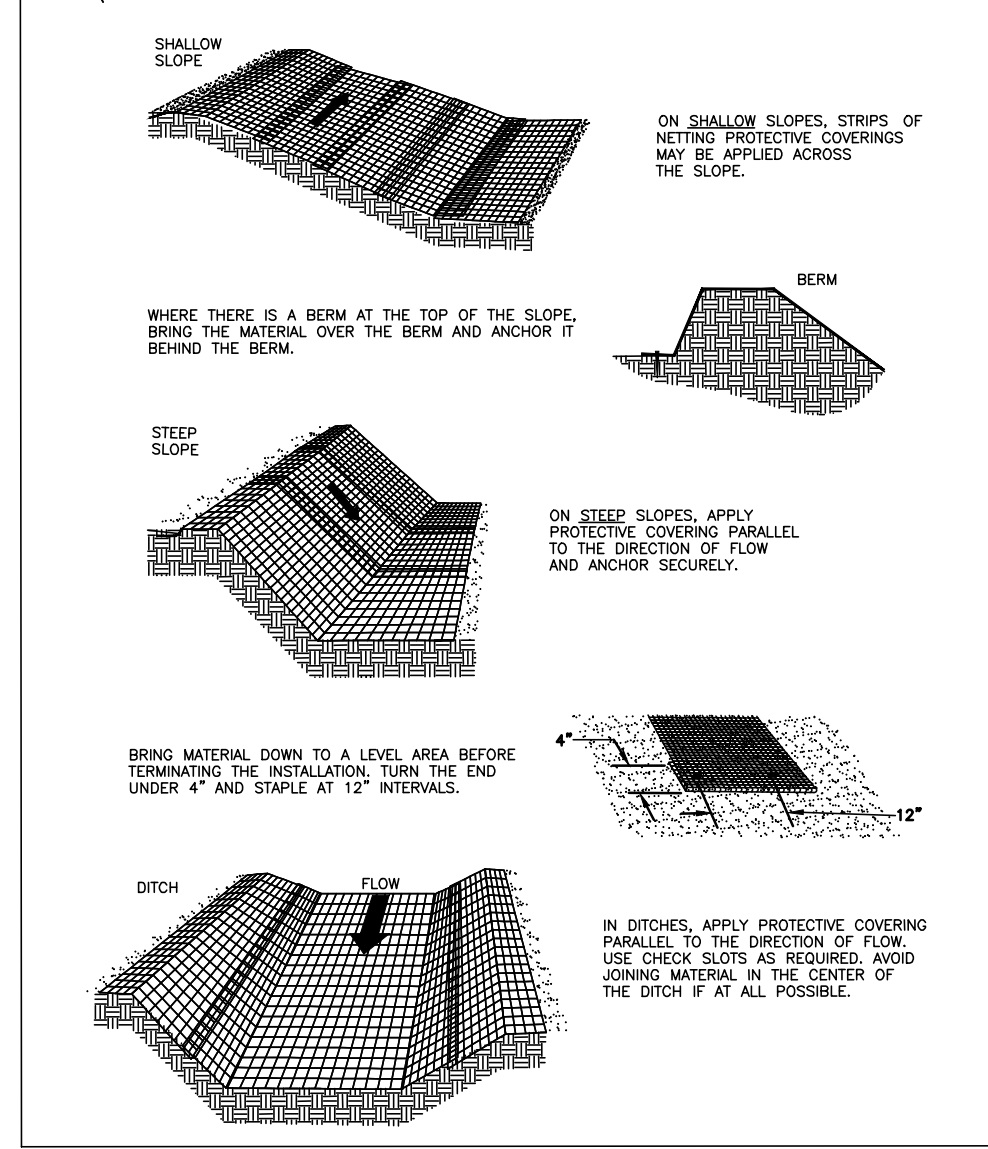
SOURCE: ADAPTED FROM VDOT Standard Sheets and Va. DSWC PLATE: 3.08-1

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)



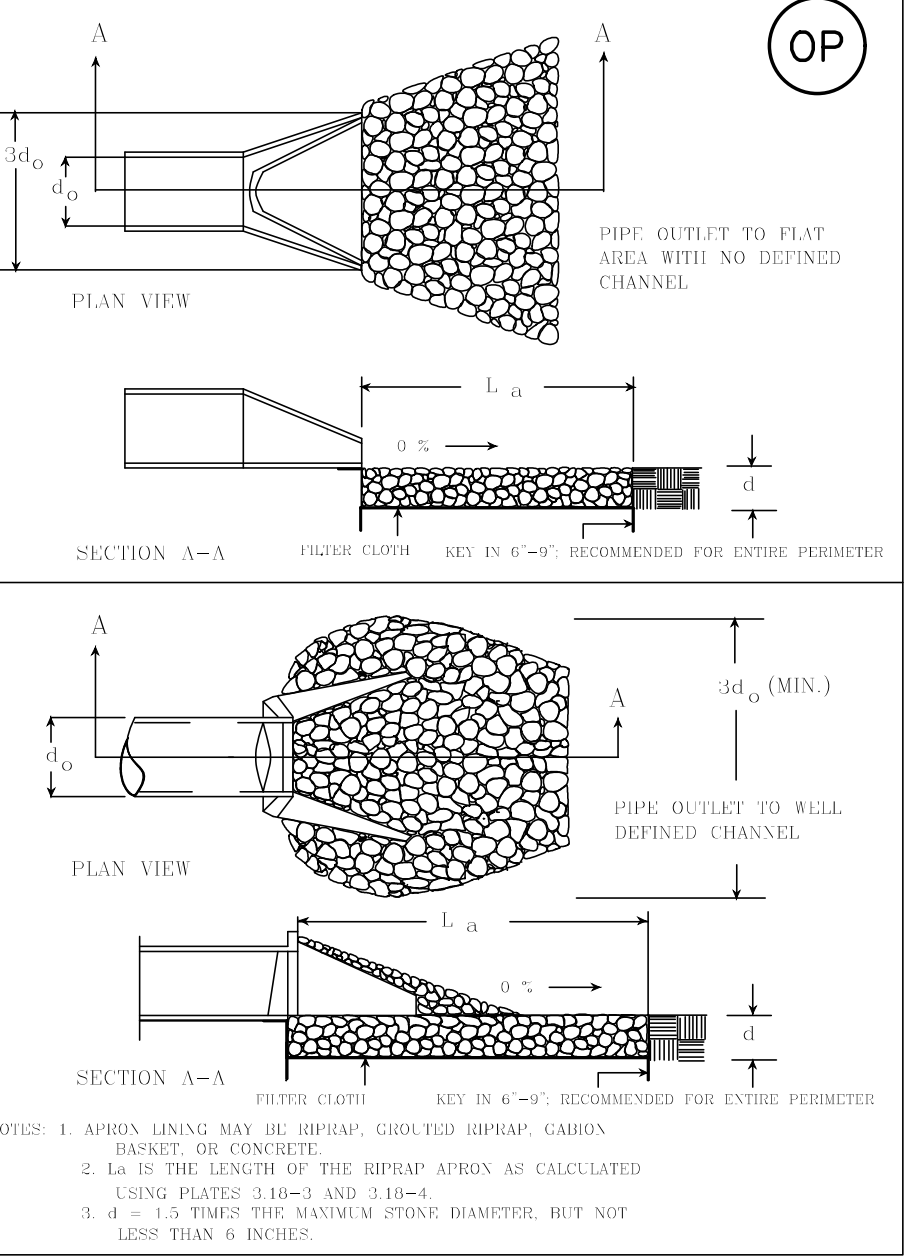
SOURCE: Adapted from Installation of Stone and Fabric Filter Barriers for Sediment Control, DSWC Sherwood and Ryant Plate: 3.05-2

TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)



SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE PLATE: 3.36-1

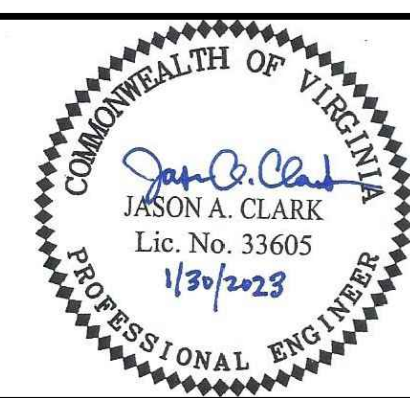
PIPE OUTLET CONDITIONS



Source: Va. DSWC Plate: 3.18-1

M:\216038.02 Cherry Hill Water System\Water Lines (7.17.19)\216038.02L_DET2.dwg

NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW	TITLE: PROJECT DETAILS	DRAWING NUMBER: C-17
DIHR BY: HFW	FILE NAME: 216038.02L_DET2.dwg	SHEET NUMBER: 17 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: AS NOTED V: N/A
	DATE: 1/30/23	

TMP LEGEND AND ABBREVIATIONS



AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ATSSA	AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION
EPA	ENVIRONMENTAL PROTECTION AGENCY
FHWA	FEDERAL HIGHWAY ADMINISTRATION
IIM-LD	LOCATION AND DESIGN DIVISION INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM
MASH	MANUAL FOR ACCESSING SAFETY HARDWARE
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NCHRP	NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM
SHSM	STANDARD HIGHWAY SIGNS AND MARKINGS BOOK
TCF	TRAFFIC CONTROL PLAN
TMP	TRANSPORTATION MANAGEMENT PLAN
TOC	TRANSPORTATION OPERATIONS CENTER
TTC	TEMPORARY TRAFFIC CONTROL
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
VSHS	VIRGINIA STANDARD HIGHWAY SIGNS BOOK
VSP	VIRGINIA STATE POLICE
WVAPM	VIRGINIA WORK AREA PROTECTION MANUAL
WZTC	WORK ZONE TRAFFIC CONTROL

TEMPORARY TRAFFIC CONTROL GENERAL NOTES

- THE WORK ZONE OF THE CONTRACT WORK IS GENERALLY ALONG CHERRY HILL ROAD FROM STATION 31+60.00 TO 77+62.24 IN CULPEPER COUNTY, VIRGINIA. THIS IS A TYPE "A" TRAFFIC MANAGEMENT PLAN. OFF-SITE DETOURS ARE NOT NEEDED.
- UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PLAN AND PERFORM THE WORK IN ACCORDANCE WITH THE FOLLOWING:
 - GENERALLY, CONSTRUCTION ACTIVITIES WILL BE CONDUCTED WHILE ROADWAY TRAVEL IS TEMPORARILY LIMITED. NOTIFICATION SHALL BE IN ACCORDANCE WITH THE VDOT PERMIT AND THE PUBLIC COMMUNICATIONS PLAN.
 - IT IS ANTICIPATED THAT THE FOLLOWING VIRGINIA WORK AREA PROTECTION MANUAL TYPICAL TRAFFIC CONTROL APPLICATIONS WILL BE USED TO PERFORM THE CONTRACT WORK:
 - SHOULDER OPERATION WITH MINOR ENCROACHMENT TTC-5.2
 - LANE CLOSURE ON A TWO-LANE ROADWAY USING FLAGGERS TTC-23.2
 - CONTINGENCY PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE EC-1
 DURING PERIODS THAT OPERATIONS ARE PERFORMED UNDER TRAFFIC, THE SPEED LIMIT SHALL BE, AS POSTED. IN ADDITION, "ROAD WORK AHEAD" SIGNS SHALL BE PLACED IN ADVANCE OF THE WORK ZONE. UPDATE TTCs IN ACCORDANCE WITH THE LATEST REVISION.
 - THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN, INCLUDING ALL PROPOSED LANE AND SHOULDER CLOSURES AT LEAST TWO WEEKS IN ADVANCE OF THE ACTUAL CLOSURES TO FACILITATE REVIEW AND APPROVAL.
 - THE CONTRACTOR SHALL SUBMIT THE FINAL PLAN OF ALL PROPOSED LANE AND SHOULDER CLOSURES BY CLOSE OF BUSINESS WEDNESDAY FOR WORK IN THE FOLLOWING WEEK REQUIRING THE LANE OR SHOULDER CLOSURES IN ORDER FOR THE DEPARTMENT TO NOTIFY THE GENERAL PUBLIC, APPROPRIATE PUBLIC ENTITIES, TRAFFIC MANAGEMENT CENTER, AND THE REGIONAL TRAFFIC ENGINEER.
 - AN ON-SITE REVIEW OF THE PROJECT'S WORK ZONE TRAFFIC CONTROL BY THE PROJECT MANAGEMENT TEAM, REGIONAL TRAFFIC ENGINEER AND CONTRACTOR SHALL BE CONDUCTED WITHIN 24 HOURS OF ANY FATAL INCIDENT/CRASH WITHIN THE WORK ZONE.
 - PERIODIC WORK ZONE REVIEWS SHALL BE CONDUCTED JOINTLY BY THE PROJECT MANAGEMENT TEAM, DISTRICT TRAFFIC ENGINEER AND CONTRACTOR.
 - ALL TRAFFIC CONTROL DEVICES AND SIGNS NECESSARY FOR THE MAINTENANCE OF TRAFFIC ARE TO BE SUPPLIED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR.
 - ALL TRAFFIC CONTROL DEVICE LOCATIONS SHALL BE MARKED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.
 - CONSTRUCTION SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION OF THE STANDARD HIGHWAY SIGNS AND MARKINGS MANUAL, VIRGINIA WORK AREA PROTECTION MANUAL, 2011 (REVISION 2) EDITION, 2016 VDOT ROAD AND BRIDGE STANDARDS AND 2016 VDOT ROAD AND BRIDGE SPECIFICATIONS.
 - ALL SIGNS WILL BE EITHER REMOVED FROM THE ROADWAY WHEN NOT NEEDED OR COVERED PER SECTION 6F.03 OF THE VIRGINIA WORK AREA PROTECTION MANUAL, 2011 (REVISION 2) EDITION, EXCEPT FOR WHEN LANE CLOSURE SET UP IS PERMITTED BY VDOT TO REMAIN OVERNIGHT.
 - SOME SKETCHES AND DRAWINGS ARE NOT TO SCALE AND SHALL BE USED FOR REFERENCE ONLY.
 - TRAFFIC CONSISTS OF COMMUTERS, RESIDENTS AND TRUCKS.
 - DEVICES THAT HAVE LOST SIGNIFICANT LEGIBILITY SHALL BE PROMPTLY REPLACED IN ACCORDANCE WITH THE AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION'S (ATSSA) "QUALITY STANDARDS FOR WORK ZONE TRAFFIC CONTROL DEVICES" PUBLICATION.
 - TEMPORARY TRAFFIC CONTROL DEVICES AND HARDWARE SHALL COMPLY WITH SECTION 6F.01 OF THE VIRGINIA WAPM, 2011 (REVISION 2) EDITION. SIGN SIZE SHALL COMPLY WITH TABLE 6F-1 OF THE VIRGINIA WAPM, 2011 (REVISION 2) EDITION FOR NON-RESTRICTED RIGHT-OF-WAY ROAD.
- GROUP 2 CHANNELIZING DEVICES ARE TO BE PLACED AS DIRECTED BY THE ENGINEER, PER VIRGINIA WAPM, 2011 (REVISION 2) EDITION, APPENDIX A.
- WORK HOURS SHALL GENERALLY BE BETWEEN THE HOURS OF 9:00 A.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY. IF ALTERNATE WORK HOURS ARE NEEDED, THEY WILL BE EVALUATED ON A CASE-BY-CASE BASIS. SOME NIGHT WORK MAY BE REQUIRED IN AREAS WITH SIGNIFICANT TRAFFIC IMPACTS. HOLIDAY RESTRICTIONS ARE OUTLINED IN THE 2016 ROAD AND BRIDGE SPECIFICATIONS SECTION 108.02. VDOT MAY ALLOW FLEXIBLE WORK HOURS TO THE PREVIOUSLY RECOMMENDED ALLOWABLE WORK HOURS AT THE DISCRETION OF THE RESIDENCY ADMINISTRATOR, AREA LAND USE ENGINEER OR PERMIT INSPECTOR PROVIDING THERE IS NO ADVERSE IMPACT ON TRAVEL FLOW. LANE CLOSURES WILL NOT BE PERMITTED ON A SUNDAY, HOLIDAY OR SPECIAL EVENT WITHOUT WRITTEN PERMISSION FROM VDOT.
- LANE CLOSURES ARE RESTRICTED TO WORK HOURS AS LISTED IN ITEM 4 ABOVE OR AS STATED IN THE VDOT LAND USE PERMIT.
- TEMPORARY LANE WIDTHS NOT TO BE LESS THAN EXISTING LANE WIDTH WITH DESIRABLE BEING 11' MINIMUM, WITHOUT CONCURRENCE OF THE REGIONAL TRAFFIC ENGINEER.
- NO OBSTACLE WILL INTERFERE WITH SIGHT DISTANCES OF ENTRANCES AND INTERSECTIONS. MATERIALS AND EQUIPMENT SHALL BE STORED OUTSIDE OF THE DESIGNATED CLEAR ZONE WITHIN STATE R/W AND BEYOND THE DYNAMIC DEFLECTION AREA OF ANY PHYSICAL BARRIERS.
- PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED PER THE VIRGINIA WORK AREA PROTECTION MANUAL 2011 (REVISION 2) EDITION, OR AS DIRECTED BY THE ENGINEER.
- VDOT WILL NOT ASSIST CONTRACTOR IN SECURING STAGING AREA FOR EQUIPMENT AND MATERIALS WITHIN THE STATE R/W.
- CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE ENTRANCES DURING OPERATIONS.
- ALL AREAS EXCAVATED BELOW EXISTING PAVEMENT SURFACES AT THE CONCLUSION OF EACH WORKDAY SHALL BE BACKFILLED TO FORM AN APPROXIMATE 6:1 ASPHALT WEDGE AGAINST THE EXISTING PAVEMENT SURFACE FOR THE SAFETY AND PROTECTION OF VEHICULAR TRAFFIC. IF 6:1 ASPHALT WEDGE IS NOT PERMITTED BY VDOT, BASE ASPHALT PATCH SHALL BE IN PLACE PRIOR TO OPENING LANE TO TRAFFIC AND SHALL BE FLUSH WITH TOP OF ADJACENT ASPHALT SURFACE. ALL COSTS FOR PLACING, MAINTAINING AND REMOVING THE 6:1 ASPHALT WEDGE OR BASE ASPHALT SHALL BE INCLUDED IN THE PRICE BID AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE AS REQUIRED TO PREVENT PONDING OF WATER ON THE ROADWAY AND ADJACENT PROPERTIES AT NO ADDITIONAL COST.
- CONTRACTOR SHALL PROTECT ANY EXISTING GUARDRAIL AND SUPPORTS WITHIN CONSTRUCTION AREA FROM DAMAGE. ANY GUARDRAIL OR SUPPORTS DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR.
- TRENCH EXCAVATIONS LOCATED WITHIN THE CLEAR ZONE THAT ARE NOT PROTECTED SHALL BE BACKFILLED AT THE CONCLUSION OF EACH WORK DAY.
- MAINTENANCE OF TRAFFIC SHALL BE DONE IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL, 2011 (REVISION 2) EDITION AND ANY REVISIONS AND WITH CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- ALL COORDINATION FOR MAINTENANCE OF TRAFFIC SHALL BE PERFORMED BY THE CULPEPER DISTRICT LAND USE PERMITS OFFICE. THE CONTACT NUMBERS ARE: CULPEPER DISTRICT TRANSPORTATION AND LAND USE - 540-829-7500
- MODIFICATIONS OF PLAN MAY BE REQUIRED BY VDOT PERSONNEL BASED ON CHANGED CONDITIONS OR CONCERN FOR SAFETY AND HANDLING OF TRAFFIC. LOCATIONS OF TEMPORARY TRAFFIC CONTROLS SHOWN ARE BASED ON CURRENT DESIGN PLANS. ACTUAL LIMITS OF TEMPORARY TRAFFIC CONTROLS MAY BE ADJUSTED BASED ON FIELD REVISIONS, IF NECESSARY.

WVAPM SECTION 6F.78 DRUMS

STANDARD:
 DRUMS (SEE FIGURE 6F-9) USED FOR ROAD USER WARNING OR CHANNELIZATION SHALL BE CONSTRUCTED OF LIGHTWEIGHT, DEFORMABLE MATERIALS. THEY SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT AND HAVE AT LEAST AN 18 INCH MINIMUM WIDTH REGARDLESS OF ORIENTATION. METAL DRUMS SHALL NOT BE USED. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. ALL DRUMS SHALL MEET THE RETROREFLECTIVE SHEETING REQUIREMENTS OF SECTION 247. ANY NON-RETRO-REFLECTORIZED SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 3 INCHES WIDE. DRUMS SHALL HAVE CLOSED TOPS THAT WILL NOT ALLOW COLLECTION OF CONSTRUCTION DEBRIS OR OTHER DEBRIS.

SUPPORT:
 DRUMS ARE HIGHLY VISIBLE, HAVE GOOD TARGET VALUE, GIVE THE APPEARANCE OF BEING FORMIDABLE OBSTACLES AND, THEREFORE, COMMAND THE RESPECT OF ROAD USERS. THEY ARE PORTABLE ENOUGH TO BE SHIFTED FROM PLACE TO PLACE WITHIN A TTC ZONE IN ORDER TO ACCOMMODATE CHANGING CONDITIONS, BUT ARE GENERALLY USED IN SITUATIONS WHERE THEY WILL REMAIN IN PLACE FOR A PROLONGED PERIOD OF TIME.

OPTION:
 ALTHOUGH DRUMS ARE MOST COMMONLY USED TO CHANNELIZE OR DELINEATE ROAD USER FLOW, THEY MAY ALSO BE USED ALONE OR IN GROUPS TO MARK SPECIFIC LOCATIONS.

GUIDANCE:
 DRUMS SHALL NOT BE WEIGHTED WITH SAND, WATER, OR ANY MATERIAL TO THE EXTENT THAT WOULD MAKE THEM HAZARDOUS TO ROAD USERS OR WORKERS WHEN STRUCK. DRUMS USED IN REGIONS SUSCEPTIBLE TO FREEZING SHALL HAVE DRAIN HOLES IN THE BOTTOM SO THAT WATER WILL NOT ACCUMULATE AND FREEZE CAUSING A HAZARD IF STRUCK BY A ROAD USER.

STANDARD:
 BALLAST SHALL NOT BE PLACED ON THE TOP OF A DRUM. DRUMS SHALL BE ADEQUATELY BALLASTED TO PREVENT MOVEMENT BY PASSING VEHICLES. WEIGHTED COLLARS SHALL LAY FLAT ON THE GROUND OR ROADWAY AROUND THE BOTTOM OF DRUMS, AND SHALL BE THE APPROVED TYPE AND SIZE FOR THAT PARTICULAR DEVICE.

GUIDANCE:
 DRUMS THAT USE WEIGHTED COLLARS FOR BALLAST SHALL USE A MINIMUM OF 2 DRUM COLLARS WHEN PLACED WITHIN 12 FEET OF ACTIVE TRAVEL LANES ON LIMITED ACCESS HIGHWAYS TO ENSURE STABILITY.

STANDARD:
 DRUMS SHALL BE USED IN ALL UNMANNED WORK ZONE LOCATIONS, IN ALL MERGING AND SHIFTING TAPERS INCLUDING TAPERS FOR OFF RAMP GORE AREAS ON LIMITED ACCESS HIGHWAYS DURING NIGHTTIME OPERATIONS, AND IN TAPERS PROVIDING DELINEATION FOR NON-CRASHWORTHY TRAILER MOUNTED DEVICES SUCH AS BUT NOT LIMITED TO INTELLIGENT TRANSPORTATION SYSTEMS (ITS), PCMS, HIGHWAY ADVISORY RADIO, SPEED TRAILERS, CB WIZARDS, ITS CAMERAS, PORTABLE TRAFFIC CONTROL SIGNALS, AFAD UNITS, LIGHT TOWERS, ETC. ON LONG-TERM STATIONARY TTC ZONES, DRUMS SHALL BE USED IN TAPERS PROVIDING DELINEATION OF THE ARROW BOARD.

OPTION:
 DRUMS MAY BE LEFT ON THE SHOULDER BETWEEN WORK OPERATIONS BUT MUST NOT INTERFERE WITH THE ROAD USER'S USE OF THE SHOULDER OR TRAVEL WAY.

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TEMPORARY TRAFFIC CONTROL/MAINTENANCE OF TRAFFIC PLAN NARRATIVE

THE CHERRY HILL WATER SYSTEM PROJECT IN CULPEPER COUNTY, VIRGINIA CONSISTS OF CONSTRUCTION OF APPROXIMATELY 4,600 LINEAR FEET OF DIRECTIONALLY DRILLED NEW 4-INCH DIAMETER RAW WATER LINE ALONG THE NORTH SHOULDER OF THE WEST BOUND LANE OF CHERRY HILL ROAD. THE NEW RAW WATER LINE WILL BE LOCATED APPROXIMATELY 5 TO 9 FEET OFF THE EXISTING PAVED ROAD SURFACE. THERE WILL BE ONE JACKED & BORED CROSSING OF CHERRY HILL ROAD TO CONSTRUCT THE NEW RAW WATER SUPPLY LINE.

WORK ON SCANTLIN MOUNTAIN ROAD CONSISTS OF APPROXIMATELY 970 LINEAR FEET OF NEW 4" RAW WATER AND 1,800 LINEAR FEET OF NEW 4" FINISHED WATER LINE. SECTIONS OF THE WATER LINE WORK WILL BE CONSTRUCTED BY EITHER DIRECTIONAL DRILLING OR OPEN CUT EXCAVATION ALONG SCANTLIN MOUNTAIN ROAD AS INDICATED ON THE DRAWINGS.

CHERRY HILL ROAD IS TWO LANES BETWEEN WATER LINE STATION 31+60.00 AND APPROXIMATE WATER LINE STATION 77+62.24. SCANTLIN MOUNTAIN ROAD IS ONE LANE BETWEEN WATER LINE STATION 43+01 TO STATION 158+43. THE CONTRACTOR'S MEANS AND METHODS SHALL PROVIDE SAFE AND CONVENIENT VEHICULAR AND PEDESTRIAN ACCESS IN THE WORK AREAS AND AT ALL TIMES TO PERMIT ACCESS TO ADJACENT PROPERTIES AND INTERSECTING STREETS.

APPROXIMATE DURATION OF THE PROJECT IS ESTIMATED TO BE 240 CALENDAR DAYS. ESTIMATED START DATE FOR THE PROJECT SHALL BE SEPTEMBER 2020.

THE PROJECT CONSISTS OF 6 WORK AREAS ALONG CHERRY HILL ROAD AND 2 WORK AREAS ALONG SCANTLIN MOUNTAIN ROAD. THE CONTRACTOR IS TO START IN WORK AREA #6 AND THEN PROGRESS IN CONSECUTIVE NUMBERED WORK AREAS TO AND THROUGH WORK AREA #1. ONCE WORK IS COMPLETED IN WORK AREA #1, CONTRACTOR SHALL START IN WORK AREA #7 AND PROGRESS TO AND THROUGH WORK AREA #8 ON SCANTLIN MOUNTAIN ROAD. WORK SHALL BE COMPLETED IN EACH WORK AREA BEFORE PROGRESSING TO THE NEXT WORK AREA. LANE CLOSURES ARE RESTRICTED TO ONE WORK AREA AND ARE TO BE MINIMIZED TO THE EXTENT FEASIBLE. TAPER LANES ARE TO BE IN THE SAME WORK AREA AS CLOSURE UNLESS WITHIN 100 FEET OF A STREET INTERSECTION, THE CONTRACTOR MAY WORK IN TWO DIFFERENT WORK AREAS PROVIDED THAT THE SEPARATION OF WORK AREAS IS 2,500 FEET OR GREATER.

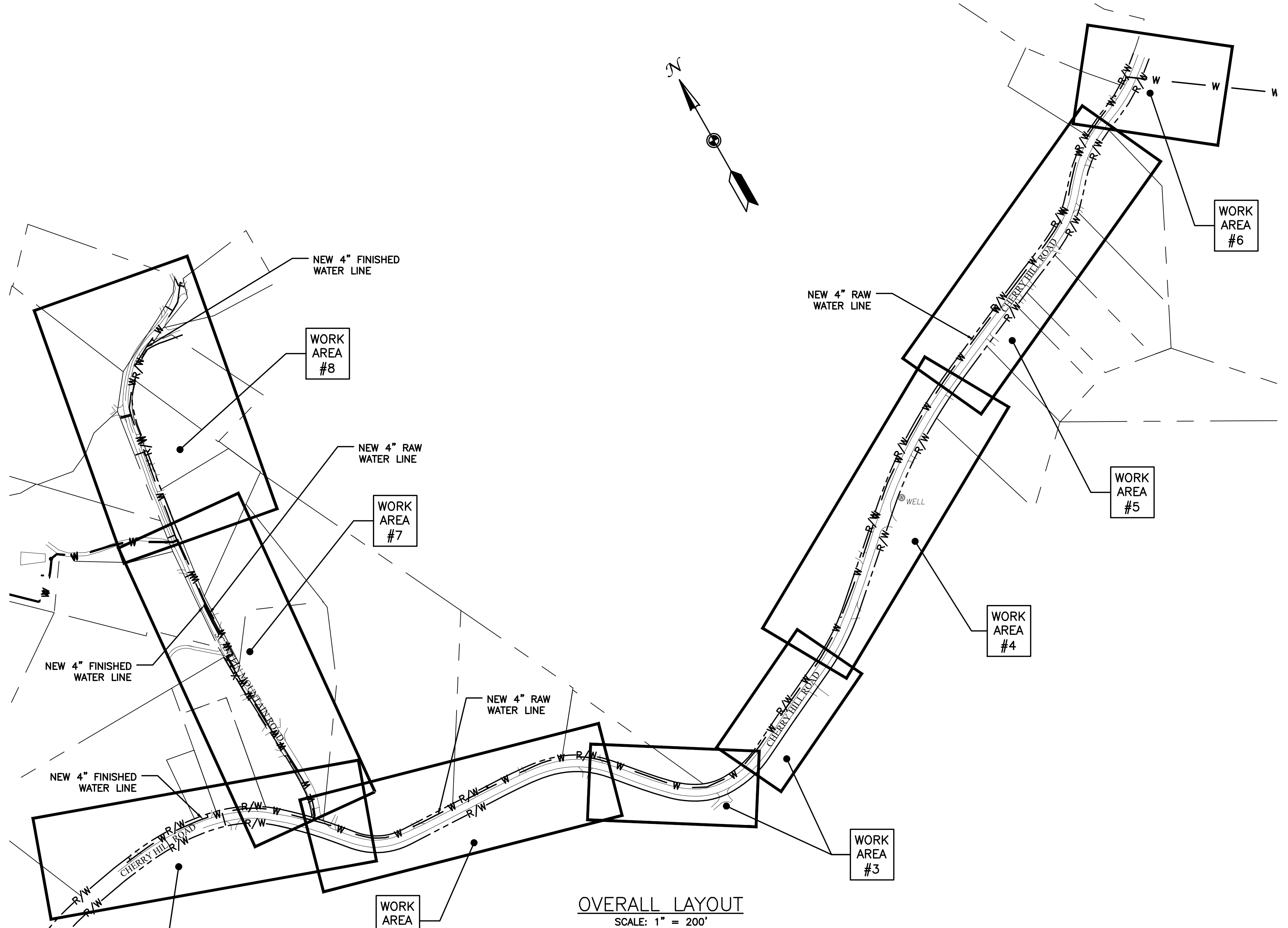
THIS NARRATIVE, TEMPORARY TRAFFIC CONTROL PLAN-WORK AREAS, TEMPORARY TRAFFIC CONTROL GENERAL NOTES AND DETAILS AND THE PROJECT MANUAL, ESTABLISHES THE BASIC CONCEPTS THAT THE CONTRACTOR'S TEMPORARY TRAFFIC CONTROL PLAN MUST ADDRESS. THE CONTRACTOR WILL BE REQUIRED TO PREPARE AND SUBMIT A TEMPORARY TRAFFIC CONTROL PLAN TO VDOT CULPEPER DISTRICT AND CONFORM TO THE LAND USE PERMIT REQUIREMENTS.

PUBLIC COMMUNICATIONS PLAN

NOTIFICATION OF CONSTRUCTION START/END DATES AND WORK ZONE INFORMATION WILL BE ENTERED INTO THE VA TRAFFIC SYSTEM.

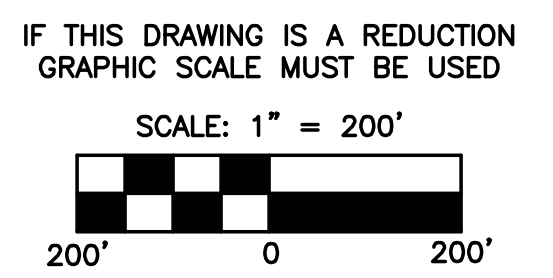
TRANSPORTATION OPERATIONS PLAN

- CONTRACTOR SHALL PROVIDE PROJECT INFORMATION, INCLUDING A 2-WEEK LOOK AHEAD SCHEDULE (WLA) TO THE VDOT INSPECTOR AT LEAST 1 WEEK IN ADVANCE OF THE START OF CONSTRUCTION.
- THE PROCESS TO NOTIFY THE REGIONAL TRAFFIC OPERATION CENTER (TOC) TO PLACE LANE CLOSURE INFORMATION ON THE 511 SYSTEM AND VA TRAFFIC WILL BE:
 - CONTRACTOR IS TO ADVISE THE VDOT'S CULPEPER DISTRICT PERMITS OFFICE 48 HOURS IN ADVANCE OF PROPOSED ROAD/LANE CLOSURES.
 - CULPEPER DISTRICT PERMITS OFFICE IS TO ADVISE TOC TO HAVE THE INFORMATION ENTERED INTO THE VIRGINIA TRAFFIC AND 511 SYSTEMS.
 - CONTRACTOR IS TO CALL THE TOC WHEN LAND/ROAD CLOSURES ARE INSTALLED AND WHEN THEY ARE REMOVED FROM THE ROADWAYS.
- THE FOLLOWING IS A LIST OF LOCAL EMERGENCY CONTACT AGENCIES: VIRGINIA STATE POLICE - (540) 829-7541 (AREA 20 OFFICE) OR 1-800-572-2260 OR *77, CELLULAR HAZ-MAT CENTER (IF SPILLED) - 911.
- PROCEDURES TO RESPOND TO TRAFFIC INCIDENTS THAT MAY OCCUR IN THE WORK ZONE:
 - CONTRACTOR TO NOTIFY VIRGINIA STATE POLICE AND VDOT'S CULPEPER DISTRICT PERMITS OFFICE AND THE REGIONAL TRAFFIC OPERATIONS CENTER.
 - DEPENDENT UPON THE SEVERITY OF THE INCIDENT, THE CONTRACTOR MAY HAVE TO SHUT DOWN WORK.
 - UPON ARRIVAL AT THE SCENE, VIRGINIA STATE POLICE WILL DETERMINE THE RESPONSE NECESSARY TO ALLOW TRAVELING PUBLIC AROUND INCIDENT.
 - CONTRACTOR SHOULD TAKE PICTURES AS NECESSARY, ESPECIALLY PICTURES OF WORK ZONE TO VERIFY THE PROPER SETUP.
- PROCESS OF NOTIFICATION OF INCIDENT TO BE FOLLOWED IS: CONTRACTOR TO CALL:
 - CULPEPER DISTRICT TRANSPORTATION AND LAND USE - 540-829-7500
 - VDOT PERMIT INSPECTOR: JIMMY TERRELL - 540-717-1397
 - CULPEPER DISTRICT TRAFFIC ENGINEER: TROY AUSTIN - 540-727-7012
 - VDOT WORK ZONE INSPECTOR: ADRIAN BLACKSTONE - 540-718-0957
- THE VIRGINIA STATE POLICE WILL TAKE CONTROL OF THE INCIDENT AND DIRECT ITS CLEARING AND RESTORATION OF NORMAL TRAFFIC CONDITIONS.
- THE VIRGINIA STATE POLICE REPORT OF THE INCIDENT WILL BE REVIEWED BY THE AREA CONSTRUCTION ENGINEER TO DETERMINE IF ANY MODIFICATION OF THE TEMPORARY TRAFFIC CONTROL PLAN IS NECESSARY. IF IT IS DETERMINED THAT IT IS NECESSARY TO ALTER THE PLAN, THEN A MEETING WILL BE CALLED WITH CONTRACTOR, VDOT, PROJECT PERSONNEL, VDOT TRAFFIC SAFETY REPRESENTATIVES AND THE VIRGINIA STATE POLICE (IF NECESSARY) TO DISCUSS MODIFICATION AND IMPLEMENTATION OF AN IMPROVED TRAFFIC CONTROL PLAN.
- CULPEPER COUNTY SHERIFF DEPARTMENT: PHONE (540) 727-7520 NON EMERGENCY
 CULPEPER COUNTY PUBLIC SAFETY: PHONE (540) 727-7900 NON EMERGENCY



OVERALL LAYOUT
 SCALE: 1" = 200'

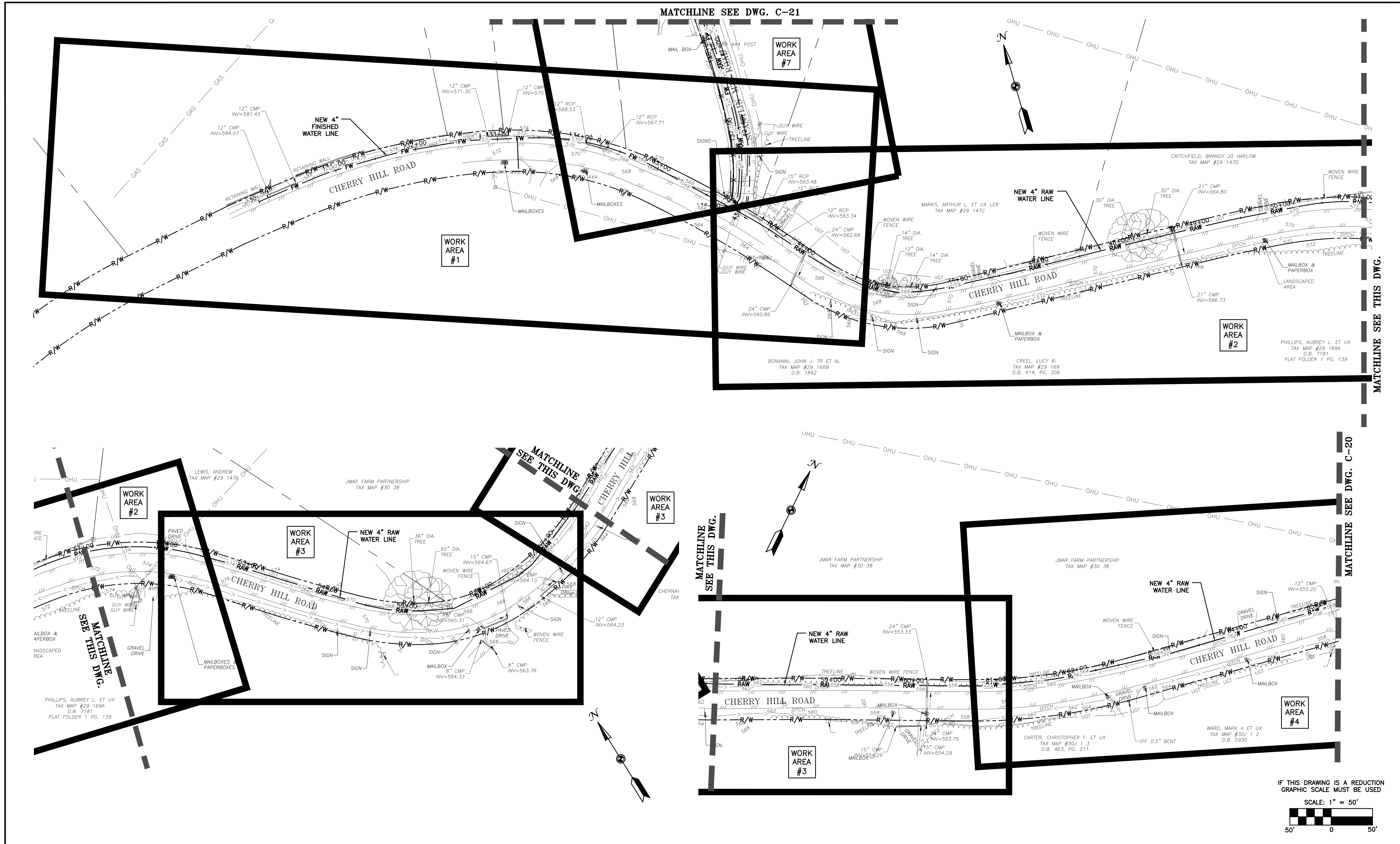
NOTES:
 CHERRY HILL AND SCANTLIN MOUNTAIN ROADS ARE CLASSIFIED AS RURAL LOCAL ROADS ACCORDING TO THE VDOT 2014 APPROVED FUNCTIONAL CLASSIFICATION MAP; CHERRY HILL ROAD IS LOCATED BETWEEN INTERSECTIONS WITH SPERRYVILLE PIKE ROAD (MINOR ARTERIAL ROAD TYPE) TO THE SOUTHWEST AND EGGBORNSVILLE ROAD (MAJOR COLLECTOR ROAD TYPE) TO THE NORTHEAST.



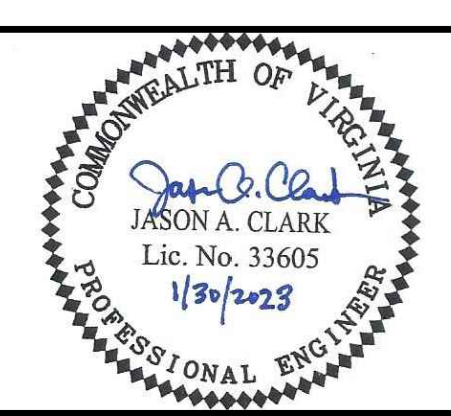
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NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE			DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
										DRAWN BY: WSW/DJC	TITLE: OVERALL TRAFFIC CONTROL PLAN AND NOTES	DRAWING NUMBER: C-18
										DIHR BY: HFW	FILE NAME: 216038.02L_TCP1.dwg	SHEET NUMBER: 18 of 22
										WVA NUMBER: 216038.02	DISCIPLINE: GENERAL	SCALE: H: 1"=300' V: N/A
											DATE: 1/30/23	

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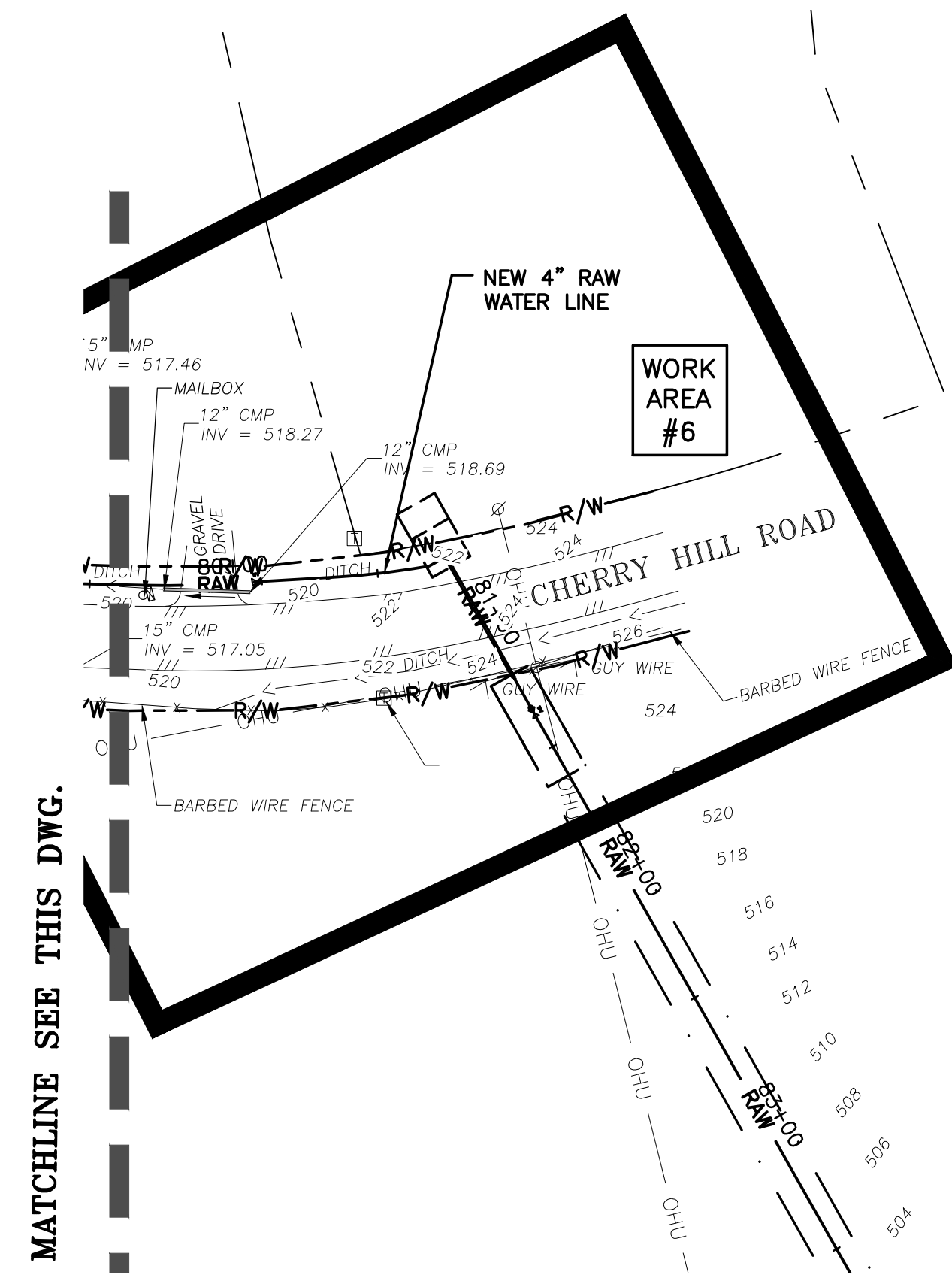
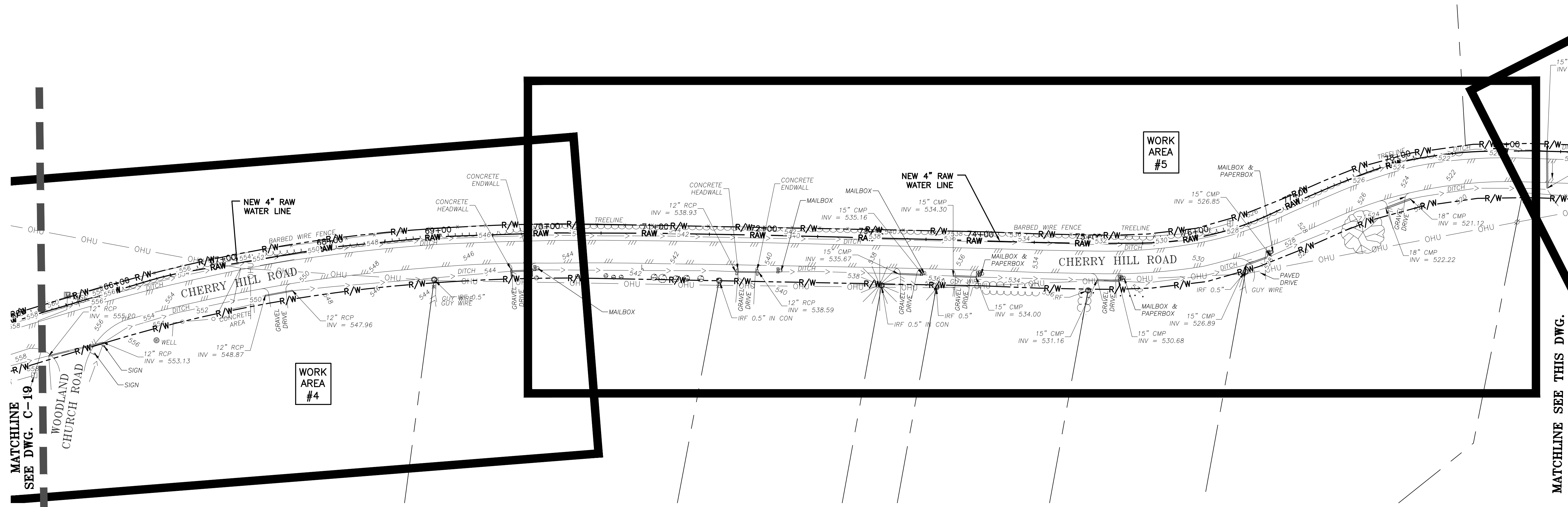


NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW	TITLE: TRAFFIC CONTROL PLAN WORK AREAS	DRAWING NUMBER: C-19
DIHR BY: HFW	FILE NAME: 216038.02L_TCP2.dwg	SHEET NUMBER: 19 of 22
WWA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: 1"=50' V: N/A
	DATE: 1/30/23	

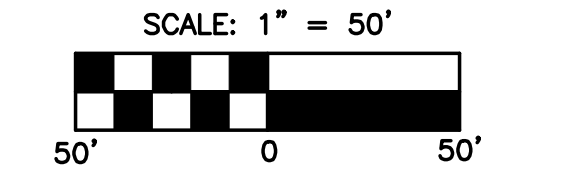
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NOTES:

1. ALL WORK ZONES SHALL BE IN COMPLIANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL 2011 (REVISION 2) EDITION.
2. THIS PROJECT WILL REQUIRE A PRECONSTRUCTION MEETING WITH VDOT.
3. ADVANCED WARNING SIGNS FOR A LANE CLOSURE SHALL BE PROVIDED IN EACH DIRECTION AFFECTING TRAFFIC FLOW. SIGNS SHALL BE MOUNTED ON VDOT APPROVED FLEXIBLE, WIND RESISTANT STANDS. AT A MINIMUM, THESE SIGNS SHALL INCLUDE THOSE SIGNS PRESCRIBED IN THE TEMPORARY TRAFFIC CONTROL (TTC) LAYOUTS FROM THE VIRGINIA WORK AREA PROTECTION MANUAL 2011 (REVISION 2) EDITION.
4. THE COUNTY AND THE CONTRACTOR MUST ADHERE TO THE REQUIREMENTS OF VDOT'S CURRENT ROAD AND BRIDGE SPECIFICATIONS; SPECIFICALLY, SECTIONS 105.07 (COOPERATION OF CONTRACTOR), AND 105.09 (COOPERATION AMONG CONTRACTORS).
5. CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING AND REINSTALLING ALL HIGHWAY SIGNS THAT ARE IN CONFLICT WITH THE PROPOSED WATERLINE.
6. GROUP 2 CHANNELIZING DEVICES SHALL DELINEATE ALL WORK AREAS LOCATED INSIDE THE CLEAR ZONE. CONTRACTOR SHALL INSTALL WEDGE (6:1 DESIRABLE); 4:1 MINIMUM) TO ELIMINATE DROP-OFFS RESULTING FROM EXCAVATION WITHIN THE CLEAR ZONE.
7. ALL AREAS EXCAVATED BELOW THE PAVEMENT SURFACE AND LOCATED WITHIN THE CLEAR ZONE AND NOT PROTECTED BY A POSITIVE BARRIER SHALL BE BACKFILLED AT THE CONCLUSION OF EACH WORK DAY.
8. ALL CONSTRUCTION EQUIPMENT MUST BE REMOVED FROM THE CLEAR ZONE OR PROTECTED DURING NON WORK HOURS IN ACCORDANCE WITH THE WORK AREA PROTECTION MANUAL 2011 (REVISION 2) EDITION.
9. 24VAC30-151-90. HOURS AND DAYS WORK AUTHORIZED: HOLIDAY SCHEDULE
VDOT HAS CLASSIFIED CHERRY HILL ROAD AND SCANTLIN MOUNTAIN ROAD AS RURAL LOCAL ROADS. NORMAL HOURS FOR WORK UNDER THE AUTHORITY OF A VDOT LAND USE PERMIT, SINGLE USE OR DISTRICTWIDE, ARE FROM 9:00 A.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY.
PERMITTED NONEMERGENCY WORK WILL NOT BE ALLOWED ON ARTERIAL AND COLLECTOR HIGHWAY CLASSIFICATIONS FROM NOON ON THE PRECEDING WEEKDAY THROUGH THE FOLLOWING STATE OBSERVED HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING DAY, AND CHRISTMAS DAY.
IF THE OBSERVED HOLIDAY FALLS ON A MONDAY, THE PERMIT WILL NOT BE VALID FROM NOON ON THE PRECEDING FRIDAY THROUGH NOON ON TUESDAY. THE DISTRICT ADMINISTRATOR'S DESIGNEE MAY ESTABLISH ALTERNATE TIME RESTRICTIONS IN NORMAL WORKING HOURS AND DAYS FOR SINGLE USE PERMITS. THE CENTRAL OFFICE PERMIT MANAGER MAY ESTABLISH ALTERNATE TIME RESTRICTIONS IN NORMAL WORKING HOURS AND DAYS FOR DISTRICTWIDE PERMITS.
10. ANY EXPOSED END OF CONCRETE BARRIER WITHIN CLEAR ZONE SHALL BE PROTECTED BY VDOT APPROVED DEVICE, SUCH AS AN IMPACT ATTENUATOR.
11. ALL TRAFFIC DEVICES SHALL BE NCHRP 350 APPROVED.
12. ROAD WORK AND END ROAD WORK SIGNS SHALL BE INSTALLED AND MAINTAINED PER TTC-53.0 IN THE VWAPM 2011 (REVISION 2) EDITION.
13. TTC 26.2, 27.2, 28.2, AND 29.2 SHALL BE USED AS NEEDED AND APPROPRIATE FOR WORK AT OR NEAR UN-SIGNALIZED INTERSECTIONS.
14. ALL FLAGGERS SHALL BE CERTIFIED WITH CURRENT CARD. CONTRACTOR SHALL HAVE WORKERS TRAINED IN INTERMEDIATE AND BASIC WORK ZONE SAFETY PER THE VWAPM AND THE 2016 VDOT'S ROAD AND BRIDGE SPECIFICATIONS.

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

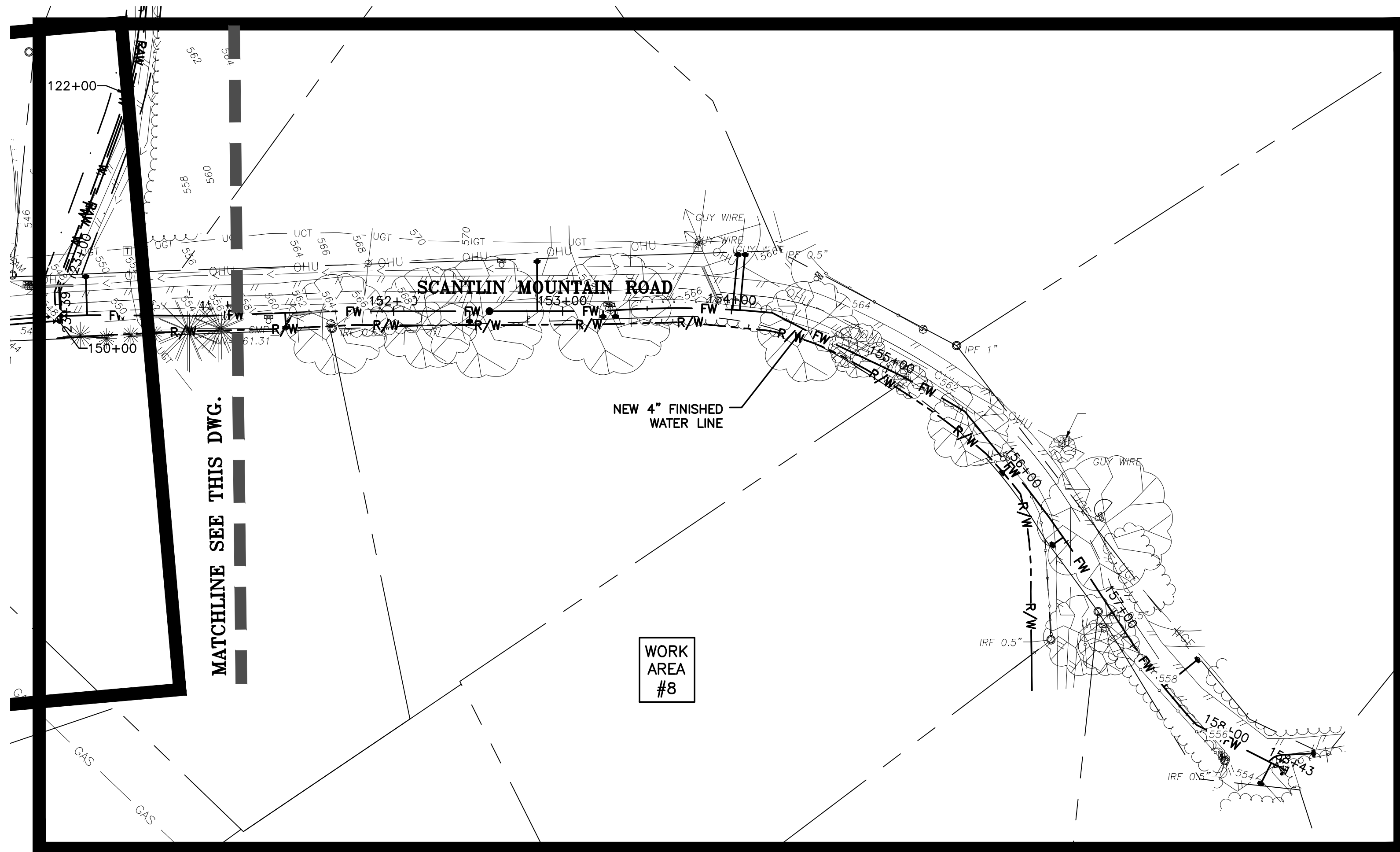
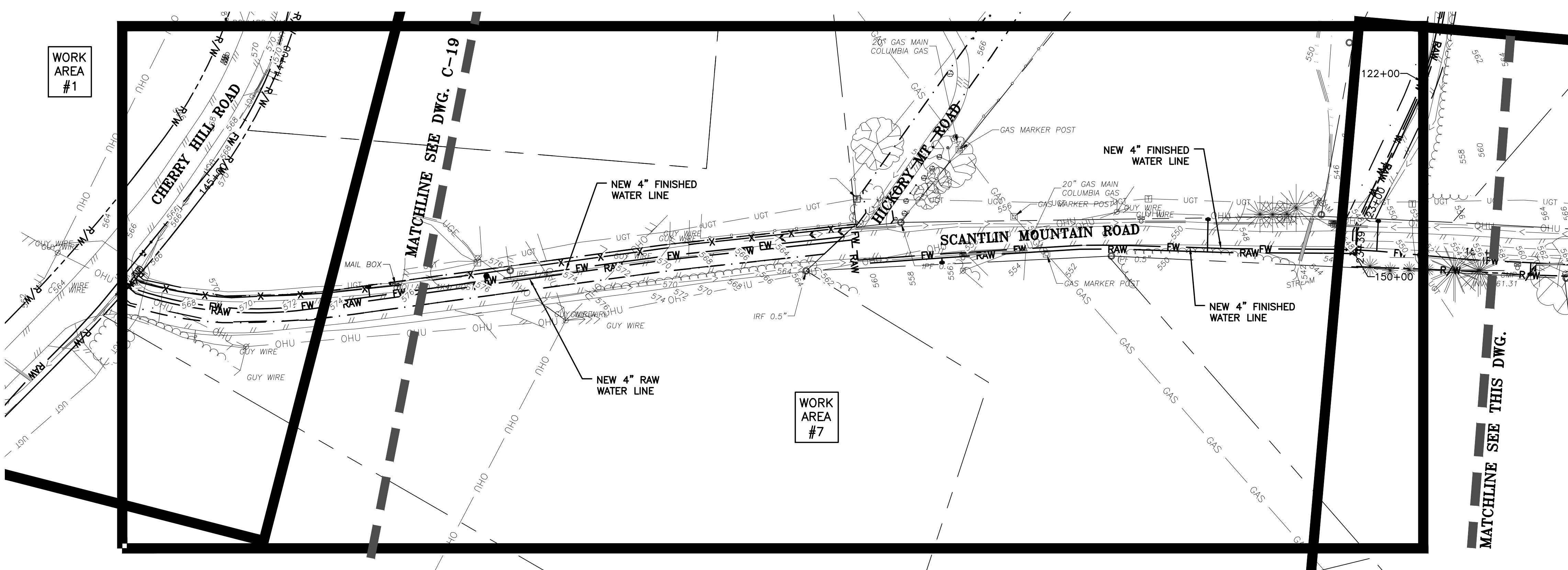


NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: JAC	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW/DJC	TITLE: TRAFFIC CONTROL PLAN WORK AREAS AND NOTES	DRAWING NUMBER: C-20
DIHR BY: HFV	FILE NAME: 216038.02L_TCP3.dwg	SHEET NUMBER: 20 of 22
WVA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: 1"=50'
	DATE: 1/30/23	

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GENERAL TRAFFIC CONTROL NOTES:

1. AT THE CONCLUSION OF EACH WORK DAY, THE CONTRACTOR SHALL REMOVE ALL CHANNELIZING DEVICES FROM THE TRAVEL LANES. DEVICES SHALL BE PLACED TO PROTECT WORK-IN-PROGRESS WHEN WORKERS ARE NOT PRESENT.
2. 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. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAYS ADMINISTRATION, THE 2011 VIRGINIA SUPPLEMENT TO MUTCD, THE VIRGINIA STANDARD HIGHWAY SIGNS, 2011 EDITION (REVISION 1) AND THE VIRGINIA WORK AREA PROTECTION MANUAL, 2011 (REVISION 2) EDITION.
3. WORK SHALL BE SCHEDULED SO AS TO NOT BLOCK ACCESS TO ADJACENT PROPERTIES LOCATED ALONG THESE ROADS AND SIDE STREETS. ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE PLACED AS NEEDED TO ALLOW FOR INGRESS AND EGRESS AT THE ENTRANCES.
4. LANE CLOSURES OVER HOLIDAYS AND WEEKENDS WILL NOT BE PERMITTED AND ALL REQUIREMENTS FOR HOLIDAYS AND WEEKENDS STATED IN THE VDOT ROAD AND BRIDGE SPECIFICATIONS (2016 EDITION) WILL BE NECESSARY.

WORK AREA RESTRICTIONS:

1. CONTRACTOR SHALL ADHERE TO ALL DAYTIME TRAFFIC WORK HOUR LIMITATIONS AS REQUIRED BY CULPEPER COUNTY AND THE VDOT LAND USE PERMIT.

TYPICAL TRAFFIC CONTROL

1. SIGN SPACING DISTANCE SHALL BE 350'-500' WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.
2. ALL VEHICLES, EQUIPMENT, WORKERS, AND THEIR ACTIVITIES SHALL BE RESTRICTED TO ONE SIDE OF THE PAVEMENT.
3. GROUP 2 DEVICE SPACING SHALL BE AT THE FOLLOWING DISTANCES:

LOCATION	SPEED (MPH)
TRANSITION SPACING	0-35
TRAVELWAY SPACING	20'
TRAVELWAY SPACING	40'
4. MERGING TAPER LENGTHS (L) SHALL BE AS FOLLOWS:

Table 6H-2, Taper Length Criteria and Taper Length Chart

Type of Taper	Taper Length (L)
Merging	L= Minimum
Shifting	See table below ¹
Shoulder	1/2 L Minimum
Two-Way Traffic	50 Feet Minimum, 100 Feet Maximum
Downstream	50 Feet Minimum, 100 Feet Maximum

L= Taper Length, W= Width of Offset, S= Posted Speed Limit

Posted Speed Limit (mph)	Width of Offset (Feet)				Remarks
	9	10	11	12	
≤ 25	95	105	115	125	L= S*W/60
30	135	150	165	180	-
35	185	205	225	245	-
40	240	270	295	320	-
45	405	450	495	540	L=SW
50	450	500	550	600	-
55	495	550	605	660	-
60	540	600	660	720	-
65	585	650	715	780	-
70	630	700	770	840	-

¹ Limited Access highways shall use a 1000' merging taper regardless of the posted speed.
Shifting Tapers - full lane width shifts on Limited Access Highways shall use a 750' shifting taper for posted speeds less than 65 mph and a 1000' shifting taper for posted speeds equal to or greater than 65 mph. For all other roadways 1/2 L should be used.

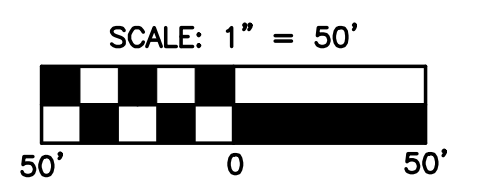
5. THE BUFFER SPACE LENGTH SHALL BE AS FOLLOWS:

Table 6H-3, Length of the Longitudinal Buffer Space¹

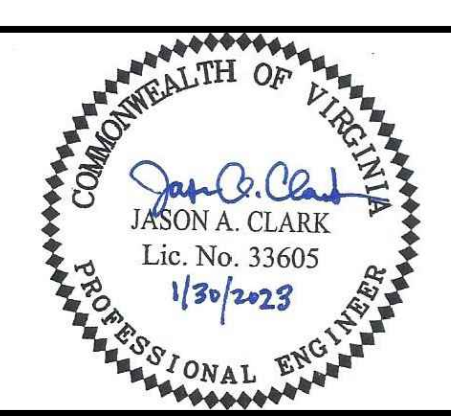
Posted Speed Limit (mph)	Distance (Feet)
≤ 20	115 - 120
25	155 - 165 ¹
30	200 - 210
35	250 - 260
40	305 - 325 ¹
45	360 - 380
50	425 - 445
55	500 - 530 ¹
60	570 - 600 ¹
65	645 - 675
70	730 - 760

6. WHEN A SIDE ROAD OR ENTRANCE INTERSECTS THE ROADWAY WITHIN THE TEMPORARY TRAFFIC CONTROL ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE PLACED AS NEEDED TO ALLOW FOR INGRESS AND EGRESS AT THE ENTRANCE.

IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED



NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW	TITLE: TRAFFIC CONTROL PLAN WORK AREAS AND NOTES	DRAWING NUMBER: C-21
DIHR BY: HFV	DISCIPLINE: CIVIL	SHEET NUMBER: 21 of 22
WWA NUMBER: 216038.02	FILE NAME: 216038.02L_TCP4.dwg	SCALE: H: 1"=50' V: N/A
	DATE: 1/30/23	

Typical Traffic Control
Shoulder Operation with Minor Encroachment
(Figure TTC-5.2)

NOTES

- Standard**
- For required sign assemblies for multi-lane roadways see Note 1, TTC-4.¹
- Guidance:**
- Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
 - When work takes up part of a lane on a high volume roadway; vehicular traffic volumes, vehicle mix, speed and capacity should be analyzed to determine whether the affected lane should be closed. Unless the lane encroachment analysis permits a remaining lane width of 10 feet, the lane should be closed. If the closure operation is on a Limited Access highway, the minimum lane width is 11 feet.
- Option:**
- The ROAD WORK AHEAD (W20-1) sign on an intersecting roadway may be omitted where drivers emerging from that roadway will encounter another advance warning sign prior to this activity area.
- Standard:**
- A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, flashing, or³ oscillating light shall be parked 80' - 120' in advance of the first work crew.
 - Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or³ oscillating lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, or³ oscillating lights.
 - Taper length (L) and channelizing device spacing shall be at the following:

Speed Limit (mph)	Lane Width (Feet)					Remarks	Speed Limit (mph)	Lane Width (Feet)					Remarks
	9	10	11	12	12			9	10	11	12		
25	95	105	115	125	125	L=SW/80	50	450	500	550	600	L=SW	
30	135	150	165	180	180	L=SW/80	55	495	550	605	660	L=SW	
35	185	205	225	245	245	L=SW/80	60	540	600	660	720	L=SW	
40	240	270	295	320	320	L=SW/80	65	585	650	715	780	L=SW	
45	405	450	495	540	540	L=SW	70	630	700	770	840	L=SW	

Limited Access highways shall use a 1000' merging taper regardless of the posted speed, a 750' shifting taper for posted speeds < 65 mph and a 1000' shifting taper for posted speeds ≥ 65 mph.²
Shoulder Taper = 1/2 L Minimum

8. Channelizing device spacing shall be at the following:

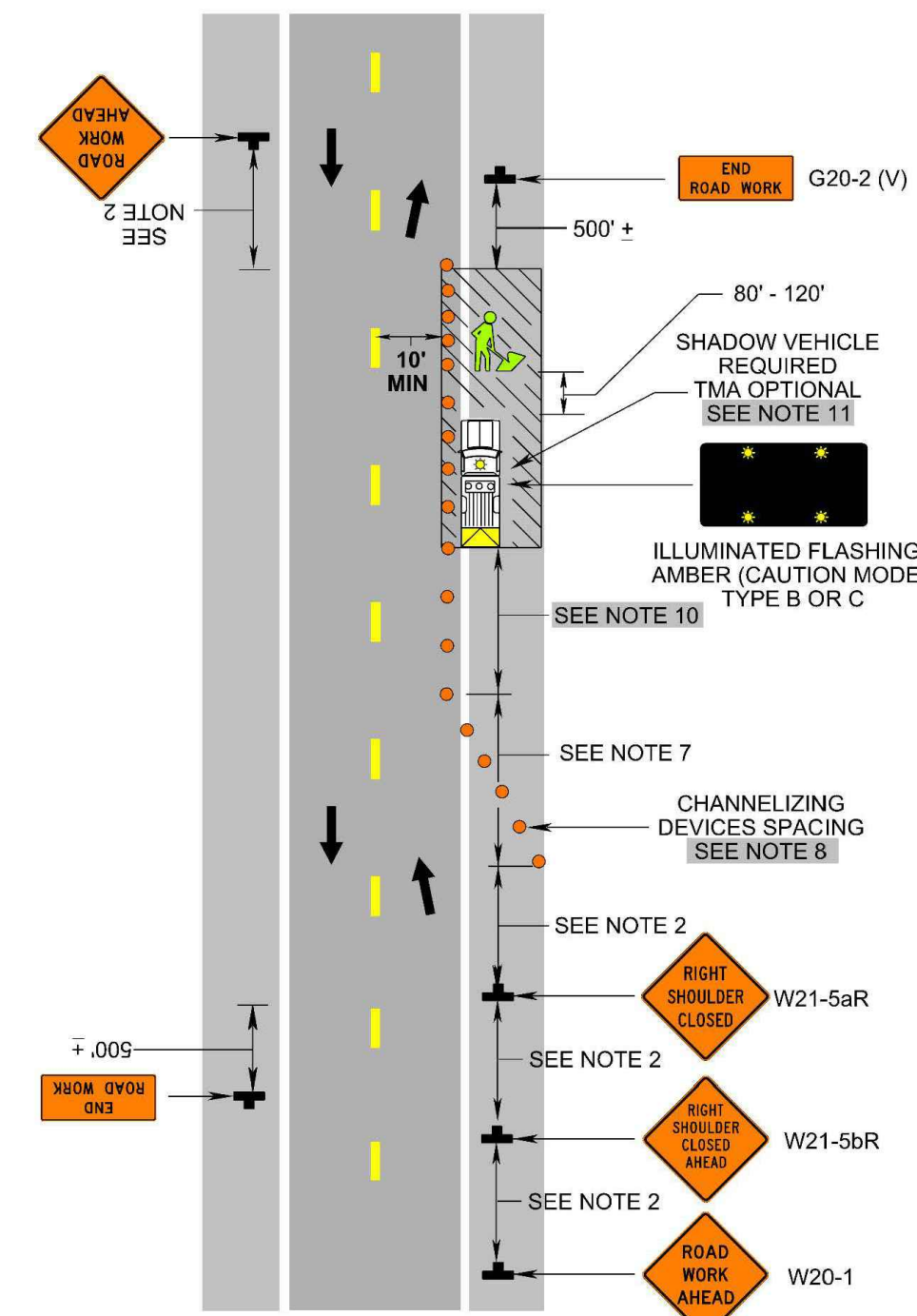
Channelizing Device Spacing			
Location Spacing	Speed Limit (mph)	Location Spacing	Speed Limit (mph)
Transition	20'	Travelway	40'
	36'		80'
	36'		120'

*Construction access spacing may be increased to this distance, but shall not exceed one access per 1/4 mile.

- On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.²
- The buffer space length. The buffer space length shall be as shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
- A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.
- When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

Shoulder Operation with Minor Encroachment
(Figure TTC-5.2)



1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

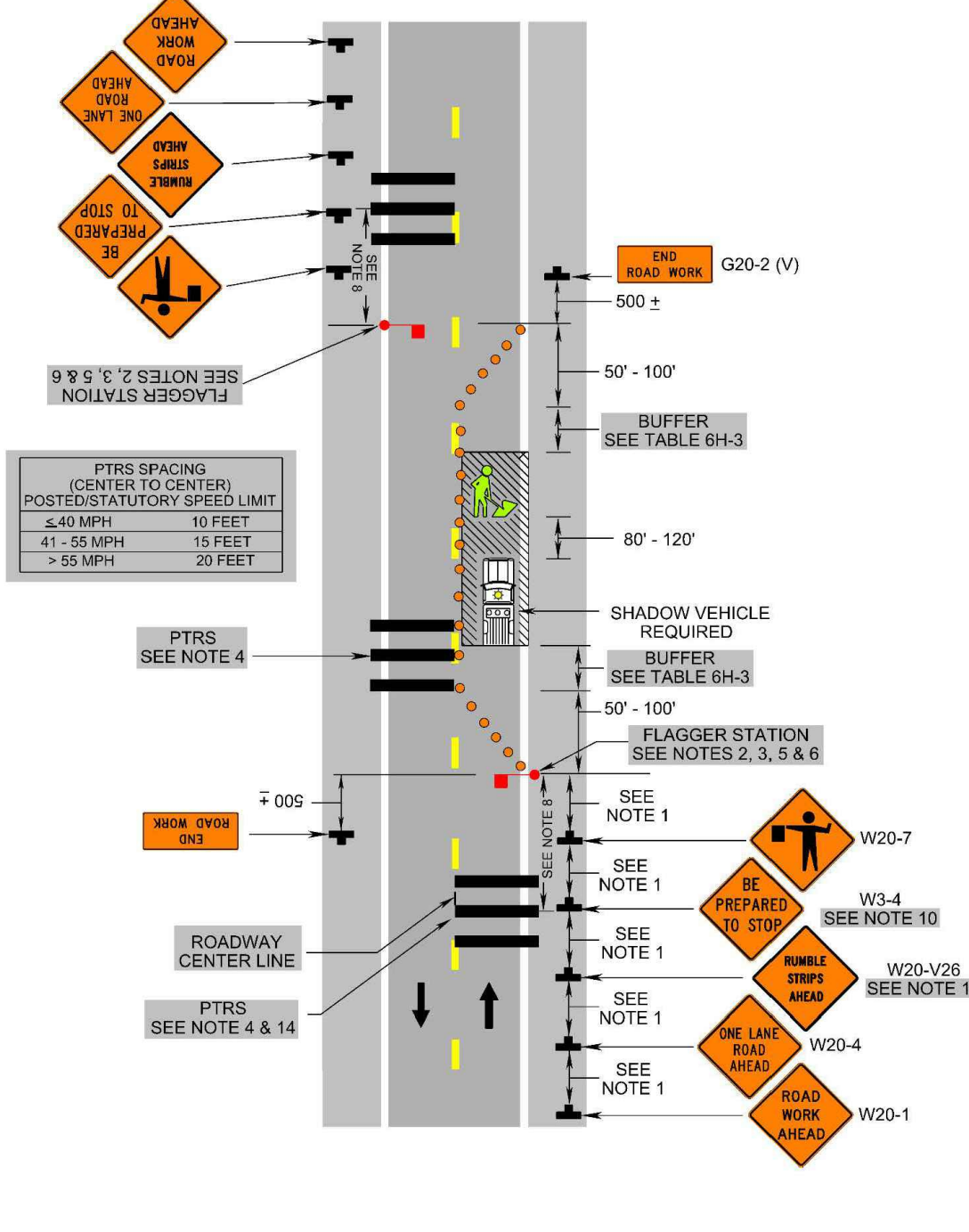
Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)

NOTES

- Guidance:**
- Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.
 - Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.
 - To maintain efficient traffic flow in a flagging operation on a two-lane roadway, the maximum time motorists should be stopped at a flagger station is 8 minutes for high volume roadways (average daily traffic of 500 or more vehicles per day) to a maximum of 12 minutes for low volume roadways (less than 500 vehicles per day). For additional information see Section 6E.07.²
- Standard:**
- Portable Temporary Rumble Strips (PTRS) shall be used as noted in Section 6E.99.²
 - Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 6H-3 on Page 6H-5).
 - All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 6E.01, Qualifications for Flaggers).
 - Cone spacing shall be based on the posted speed and the values in Table 6H-4 on Page 6H-6.¹
 - A shadow vehicle with at least one high intensity amber rotating, flashing, or³ oscillating light shall be parked 80'-120' in advance of the first work crew.
- Option:**
- A SLOW (W21-V10) sign may be required in this area to give advance warning of the operation ahead by slowing approaching traffic prior to reaching the flagger station or queued traffic.
- Guidance:**
- If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the PTRS should be readjusted at greater distances.
 - When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-56 for additional information on highway-rail crossings).

- Standard:**
- At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08).
- Option:**
- Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.
 - For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).
- Standard:**
- When used, three portable temporary rumble (PTRS) strips shall be installed across the entire travel lane adjacent to the BE PREPARED TO STOP (W3-4) sign. The portable temporary rumble strips shall be monitored and adjusted as necessary during the work shift to ensure proper placement on the roadway. When the PTRS are installed, the RUMBLE STRIPS AHEAD (W20-V26) sign shall also be utilized.
- 1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

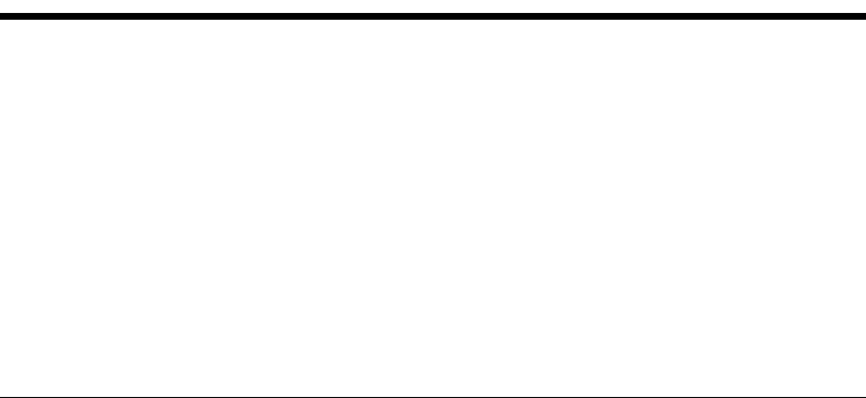
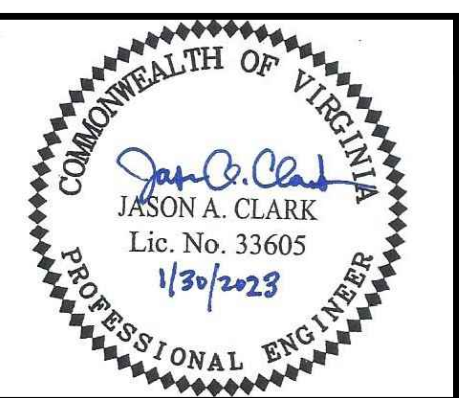
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.2)



1: Revision 1 - 4/1/2015
2: Revision 2 - 9/1/2019

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NO.	SHEET REVISION	BY	DATE	NO.	SHEET REVISION	BY	DATE



DESIGNED BY: SVS	PROJECT: CHERRY HILL WATER SYSTEM PHASE I WATER LINE IMPROVEMENTS-REBID CULPEPER COUNTY, VIRGINIA	SET REV. NO. -
DRAWN BY: WSW	TITLE: TRAFFIC CONTROL PLAN DETAILS	DRAWING NUMBER: C-22
DIHR BY: HFV	FILE NAME: 216038.02L_TCP5.dwg	SHEET NUMBER: 22 of 22
WVA NUMBER: 216038.02	DISCIPLINE: CIVIL	SCALE: H: N/A V: N/A
	DATE: 1/30/23	