

Procurement Department

4 County Complex Court, Woodbridge, Virginia 22195-2266 · Fax (703) 335-7954

Date 01/16/2024

Addendum #01

IFB SA 2408 –	Water Mai	n Replacement	Program:	Package 1	- P7 , 1	P9, P14, 1	P15, & P17

THIS SOLICITATION IS HEREBY AMENDED AS FOLLOWS:

Questions and Responses

All other solicitation terms, conditions and provisions remain unchanged and in full force and effect.

<u>Acknowledgement:</u> Bidders/Offerors submitting a bid response for the above named solicitation shall take note of the following changes, additions, deletions, clarification, etc., in the Contract Documents, which shall become a part of and have precedence over anything shown or described in the Contract Documents, and as such shall be taken into consideration and be included in the Bidder/Offeror's response. All other terms and conditions of the Invitation for Bid (or Request for Proposals) shall remain unchanged.

Bidders/Offerors must acknowledge receipt of this amendment by signing and returning this addendum with the bid/proposal response prior to the bid/proposal deadline.

Authorized Signature	Date		
Name Printed	Title		
Company Name			

Direct all inquiries to SAprocurement@pwcsa.org

Questions and Responses:

1. Question: I just want to check with you if the owner will be responsible for carrying 3rd Party Testing & Inspection services for this subject project. If so, please let me know. We would greatly appreciate the chance to submit our proposal for your consideration.
Response: The Contractor is required to carry a subcontractor for testing services, however, the Owner typically hires a geotechnical firm to provide construction observation and testing services for Quality Assurance purposes

Question: Are there any portions of the project that will need to be Bored?
 Response: Watermain construction is anticipated to be open trench, however, means and methods are left to the selected Bidder.

Question: Are the crossings to be Jack & Bored or Directionally Bored?
 Response: Watermain construction is anticipated to be open trench, however, means and methods are left to the selected Bidder.

4. **Question:** What are the approximate lengths and diameters of the portions to be bored? **Response:** Watermain construction is anticipated to be open trench, however, means and methods are left to the selected Bidder.

5. **Question:** How much is the required bid bond for the project? **Response:** Please refer to the Bond Requirements outlined in the Information to Bidder section of the Project Manual Part 1 in the solicitation.

6. Question: How much is the cost estimate of the project?
Response: Engineer's Opinion of Probable Cost is not available.

7. **Question:** Do you have any further details you wish to provide? **Response:** No.

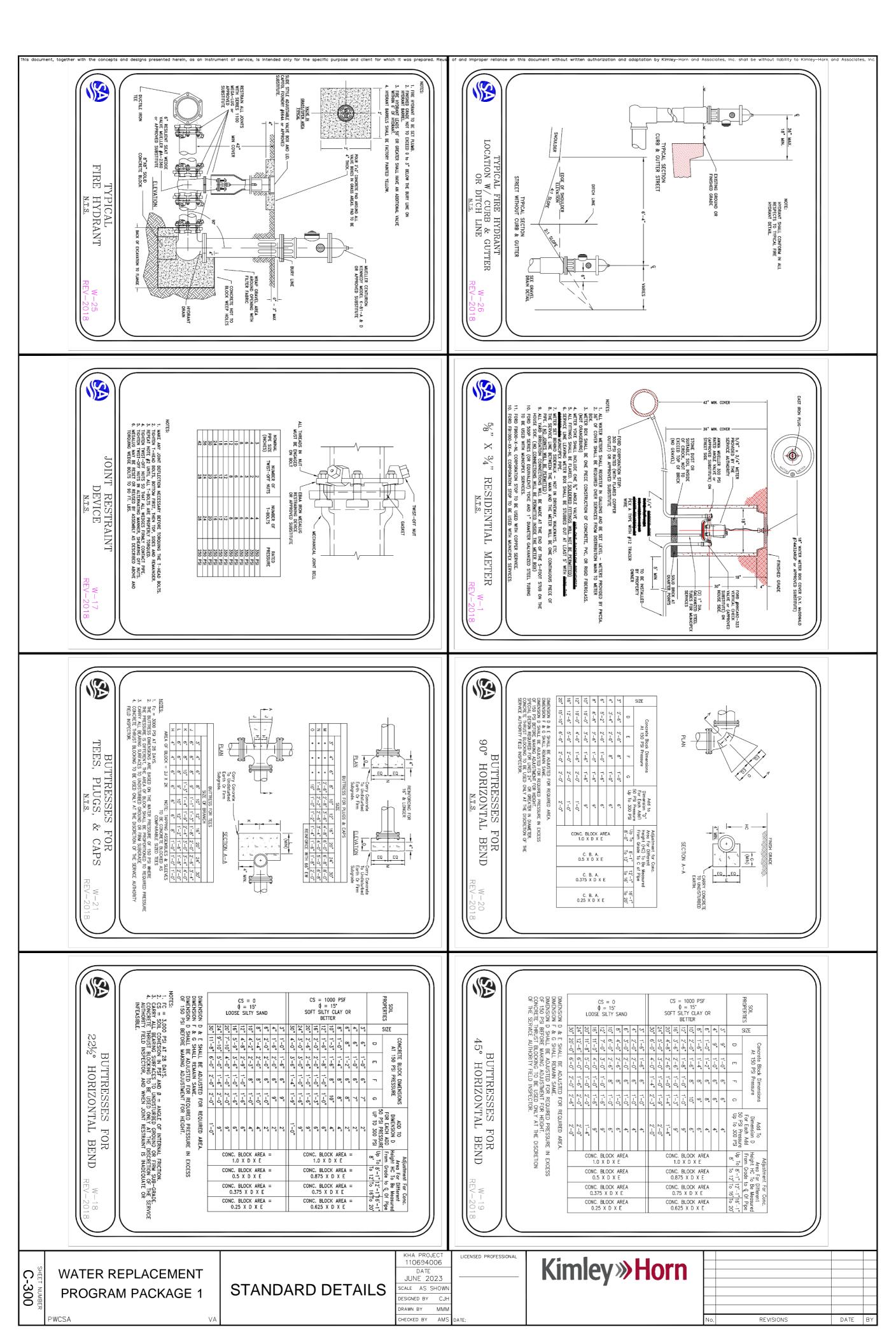
8. **Question:** Are there prevailing wages? **Response:** No.

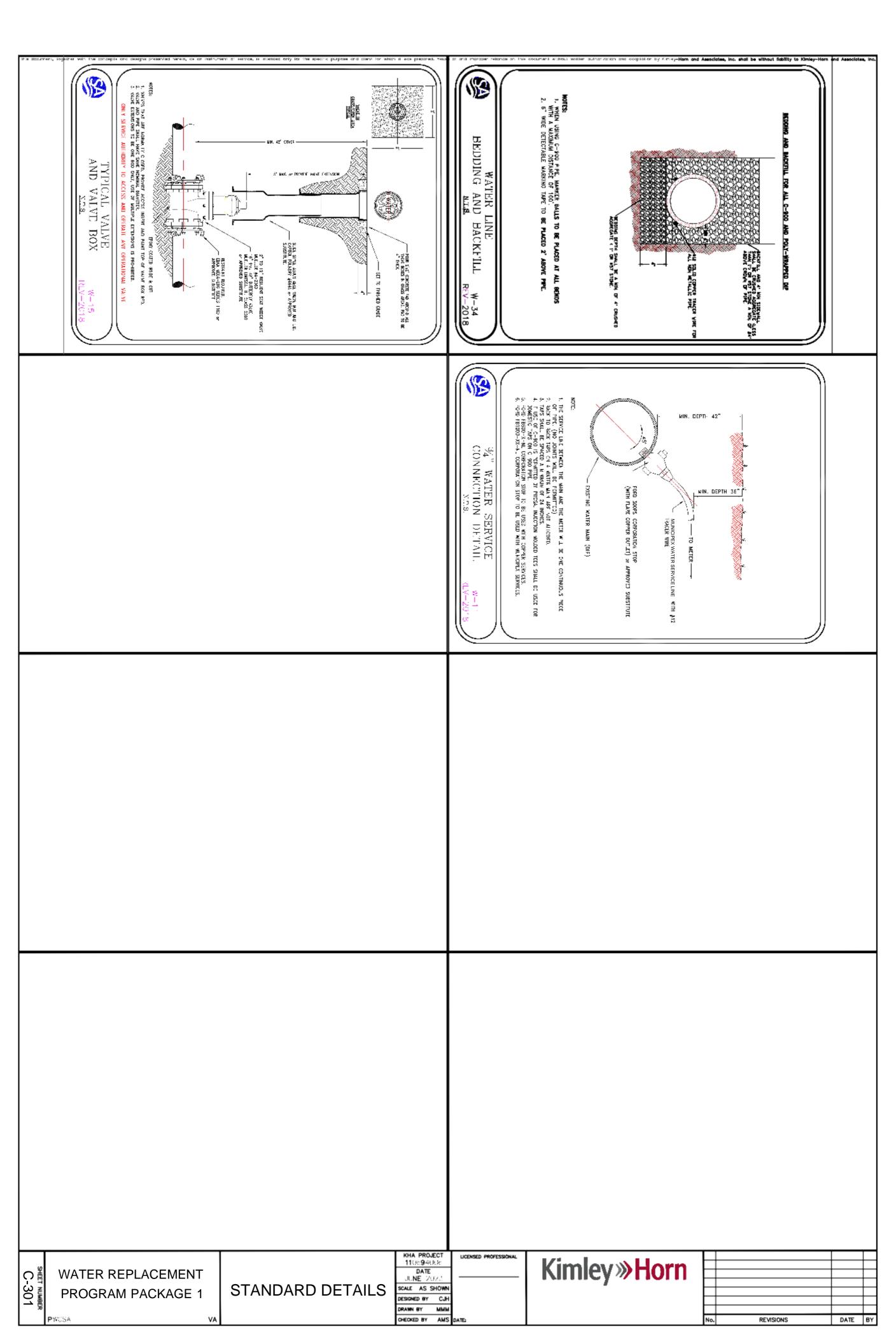
Question: Is there a minority goal?
 Response: Please see Exhibit N, Page 91-92 of SA 2408 – Project Manual Part 1 – Water Main Replacement Program Package 1.

10. **Question:** Based on the Sheet List Table on the Cover Sheet of the Plans there should be sheets C-300, C-301, C-400, and C-500, but they are not part of the plans made available in the download link. Could you please provide the missing Plan Page documents for this bid.

Response: Sheets C-300, C-301, C-400, and C-500 have been incorporated into Attachment A of the solicitation. Please find them attached to this addendum #1.

Attachment A





<u> JSION & SEDIMENT CONTROL STANDARD NOTES</u>

- THE OWNER/DEVELOPER MUST NOTIFY THE DEPARTMENT OF PUBLIC WORKS AT 792-7070 AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE COUNTY ORDINANCES AND POLICIES.
- THE OWNER/DEVELOPER GRANTS THE RIGHT-OF-ENTRY ON TO THIS PROPERTY TO THE DESIGNATED PRINCE WILLIAM COUNTY PERSONNEL FOR THE PURPOSE OF INSPECTING AND MONITORING FOR COMPLIANCE WITH TITLE 10.01, CHAPTER 5, ARTICLE 4 OF THE CODE OF VIRGINIA, EROSION AND SEDIMENT CONTROL LAW AND THE DESIGN AND CONSTRUCTION STANDARDS MANUAL SECTION 750.04 (C)
- ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE AND INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO CLEARING, STRIPPING OF TOPSOIL OR GRADING.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE KEPT ON THE SITE AT ALL TIMES.
- THE DEVELOPER/DEVELOPER'S REPRESENTATIVE IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ALBERTAL STABILIZATION IS ACHIEVED.
- WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS AND TO THE PRINCE WILLIAM COUNTY DESIGN AND CONSTRUCTION STANDARDS MANUAL...

THE DEVELOPER/DEVELOPER'S REPRESENTATIVE WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL

- THE DEVELOPER/DEVELOPER'S REPRESENTATIVE SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:
- a. SEDIMENT BASINS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT ELEVATION INDICATED ON THE RISER PIPE. SEDIMENT SHALL BE DISPOSED IN SUITABLE AREAS AND IN SUCH A MANNER THAT WILL NOT ERODE OR CAUSE SEDIMENTATION PROBLEMS. THE BASIN EMBANKMENT SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION LOUISMENT. EMERGENCY SPILLWAYS SHOULD BE CHECKED REGULARLY TO ENSURE THAT ITS LINING IS WELL ESTABLISHED AND EROSION RESISTANT.
- SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE. SEDIMENT REMOVED FROM THE TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.

 GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT IT SHALL BE DEPOSITED ON BETTAPED OR DEPOSITED.

- BE REMOVED AND CLEANED OR REPLACED.

 SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC, SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

 SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

 STREAM DIVERSION AND STORM CONVEYANCE CHANNELS SHALL BE INSPECTED DAILY AND AFTER EACH RAIN TO ENSURE THEY ARE FUNCTIONING PROPERLY AND THAT THE INTEGRITY OF THE LININGS ARE NOT IMPAIRED. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVISES MUST BE MADE IMMEDIATELY AFTER THE
- SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- 11. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN

UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS. SEEDING AND SELECTION OF THE SEED MIXTURE SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK STANDARD AND

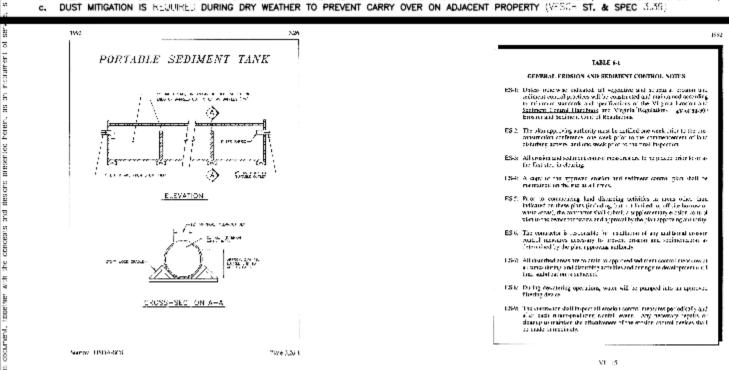
ROADS AND PARKING AREAS SHALL BE STABILIZED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED.

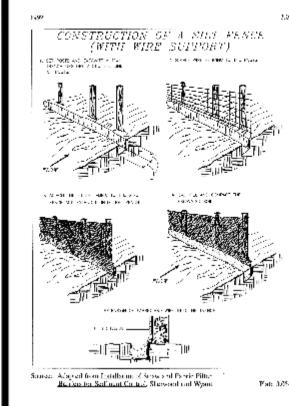
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER ADEQUALE SITE STABILIZATION AND AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AS AUTHORIZED BY THE PRINCE WILLIAM COUNTY INSPECTORS, TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- WHEN SEDIMENT IS TRANSPORTED ONTO A PAVED ROAD SURFACE. THE ROAD WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY, SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
- AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLADS, SIGNS ETC.
- 15. RPA AND FLOOD PLAIN LIMITS SHALL BE CLEARLY MARKED IN THE FIELD BY FLAGS SIGNS ETC.
- TREE SAVE AREAS SHALL BE CLEARLY MARKED IN THE FIELD BY ORANGE SAFETY FENCE.
- 17. ORANGE SAFETY FENCE MUST BE INSTALLED AROUND ALL SILT TRAPS AND SEDIMENT BASINS.
- 18. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN ON-SITE RAIN GAUGE. THE RAIN GAUGE SHALL BE INSTALLED AWAY FROM OBSTRUCTING OBJECTS AND SHALL BE HANDLED BY THE DESIGNATED PWCSA E&S INSPECTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AN ON-SITE STORAGE BOX (MAIL BOX) TO HOUSE THE PROJECT SWPPP AND A COPY OF THE E&S PLANS. THESE SHALL BE MADE ACCESSIBLE TO THE PUBLIC AT ALL TIMES AND SHALL BE KEPT UP-TO DATE BY THE CONTRACTOR.
- 20. CONTRACTOR SHALL COMPLETE AN INSPECTION REPORT WITH EACH INSPECTION PERFORMED AND A SIGNED COPY SHALL BE KEPT WITH THE ON-SITE SWPPP.
- 21. ALL STORAGE UNITS KEPT ON SITE SHALL BE LABELED DESCRIBING THE TYPE OF CONTENTS KEPT IN THE UNITS.
- 22. FUEL TANKS SHALL BE DOUBLE LINED OR PROVIDE SPILL TRAYS FOR EACH FUEL TANK
- 23. THE PROPOSED WORK ONLY TAKES PLACE IN EXISTING ROW AND WITHIN ASPHALT PAVEMENT. DISTURBED AREAS WILL BE BACKFILLED AND ASPHALTED AT THE END OF EACH DAY. THEREFORE BASED ON CHAPTER 6 "STORMWATER / EROSION AND SEDIMENTATION CONTROL PLAN REQUIREMENTS" OF THE DEC SPECIFICATIONS, F&S/ SWM PLANS ARE NOT REQUIRED FOR THIS PROJECT.

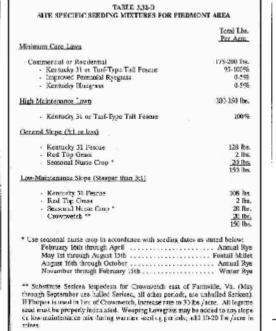
MAINTENANCE PROGRAM:

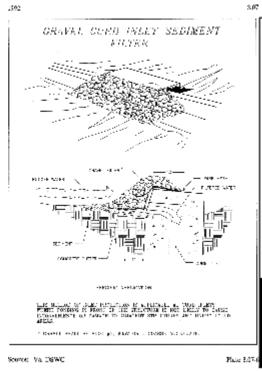
ALL MEASURES ARE TO BE INSPECTED DAILY BY THE SITE SUPERINTENDENT OR THEIR REPRESENTATIVE. ANY DAMAGED STRUCTURES ARE TO BE REPAIRED BY THE CLOSE OF THE DAY. CONTRACTOR IS RESPONSIBLE TO CONDUCT A SITE INSPECTION OF ALL E&S CONTROLS IMMEDIATELY FOLLOWING A SIZEABLE RAIN EVENT (GREATER THAN OR EQUAL TO 0.25-IN MEASURE IN THE ON-SITE RAIN GAUGE), ANY STABILIZED AREA IS TO BE RESEDED AS REQUIRED TO INSURE A FULL UNIFORM GROUND COVER. IN ADDITION, THE SEEDED AREAS ARE TO BE MOWED, LIMED, AND FERTILIZED AS RECOMMENDED FOR THE SPECIFIC TYPE OF COVER PROVIDED. MUD TRACKED ONTO ANY EXISTING ROADWAYS WILL BE REMOVED DAILY. THE CONTRACTOR IS TO SWEEP CLEAN THE ROAD SURFACE AND FOLLOW UP WITH A FLUSH IF THE REMOVAL OF ANY EROSION AND SEDIMENT CONTROL MEASURE WILL ONLY BE DONE AT THE DIRECTION OF THE PRINCE WILLIAM COUNTY FIELD MANAGER AND THE DESIGNATED E&S INSPECTOR.

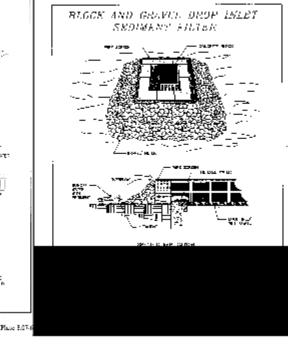
- a. THE CONSTRUCTION ENTRANCE MUST BE REGULARLY MAINTAINED BY SCARIFYING AND ADDING FRESH STONE AS NEEDED, (VESCH STD. & SPEC. 3.02 & VESCH
- b. CLEAN OUT SILT DEPOSITS FROM SUPER SILT FENCE WHEN LEVELS REACH ONE HALF THE HEIGHT OF THE FENCE. (VESCH STD. & SPEC. 3.05)











ID - 41

EROSION AND SEDIMENT CONTROL NARRATIVE:

PROJECT DESCRIPTIONS THE PROJECT INVOLVES REPLACEMENT OF APPROXIMATELY INVOLVES REPLACEMENT OF APPROXIMATELY 20,920 OF 0F 6-INCH CAST INON PPPL (CIP) WITH 8-INCH DECTILE IRON PIPE (CIP). THE PROJECT COVERS DIFFERENT LOCATIONS WITHIN THE PRINCE WILLIAM COUNTY SERVICE AUTHORITY'S WATER DISTRIBUTION SYSTEM. THESE LOCATIONS INCLUDE PAXTON ST., COLBY DR., WILLOW LN., GREENACRE DR., ORCHARD DR., HORNER BOAD., WOODBRIDGE ST., MARKEYSCO DR., ARMSTEAD ST., D ST., CONGRESS STREET., CARTER LN., HILL COURT., AND BOTTS AVE.

EXISTING SITE CONDITIONS: THE WATER MAIN WILL BE INSTALLED UNDER THE EXISTING PAVEMENT SURFACE ALONG THE ABOVE MENTIONED ROADS IN VDOT RIGHT-OF-WAY.

CENT AREAS: ONE PORTION OF THE PROJECT (PAXTON ST. AND COLBY ST.) IS NORTH WEST OF 95 AND THE REMAINING PORTION OF THE PROJECT IS SOUTH OF 95 AND NORTH EAST.

OFF-SITE AREAS: NO OFF-SITE LAND DISTURBANCE IS PLANNED.

SOILS THE SOIL MAP AND SOIL CLASSIFICATION TABLE OVER THE PROJECT IS INCLUDED BELOW

CRITICAL AREAS: THERE ARE NO MAJOR CRITICAL AREAS FOR EROSION PROBLEMS AS THE WORK IS CONDUCTED IN ALREADY ESTABLISHED VIDOT RIGHT-OF-WAY, HOWEVER, THERE IS ONE PORTION OF THE PROJECT NEAR MARUMSCO CREEK WHERE SPECIAL EAS PRECAUTIONS WILL OCCUR. THIS AREA IS NOT A FEMA REGULATED FLOODWAY.

<u>EROSION AND SEDIMENT CONTROL MEASURES:</u> INLET PROTECTION WILL BE UTILIZED AT EACH STORM DRAIN INLET ALONG THE PROJECT AND SILT FENCE WILL BE INSTALLED WHERE APPLICABLE PER THE DETAILS SHOWN ON THIS PAGE.

MANAGEMENT STRATEGIES / SEQUENCE OF CONSTRUCTION: THE PROJET WILL BE DONE IN PHASES FOR EACH ROADWAY, ALL EAS MEASURES WILL BE INSTALL PRIOR TO START OF WORK, SEE THE MAINTENCE PROGRAM SECTION ON THIS SHEET FOR FURTHER DETAIL.

PERMANENT STABILIZATION: ALL GRASSED AREAS THAT ARE DISTURBED BY THE CONTRACTOR WILL BE RESTORED WITH PERMANENT SEEDING, PRIOR TO SEEDING, THE AREAS WILL BE BROUGHT BACK TO EXISTING GRADE. ALL STONES, STUMPS, AND OTHER DEBRIS WILL BE RAKED FROM THE TOPSOIL AND REMOVED. AFTER SPERADING THE TOPSOIL, THE ENTIRE AREA WILL BE FINE GRADED SO THAT NO HUMPS, RIDGES, DEPRESSIONS OR OTHER VARIATIONS EXIST. ALL AREAS PREVIOUSLY STRIPPED OF TOPSOIL AND ALL DISTURBED AREAS WILL BE SCARIFIED OR TILLED TO A DEPTH OF 2—INCHES AFTER HAVING BEEN GRADED AND SHAPED IN CONFORMITY TO THE GRADE AND CROSS SECTIONS OF THE PLANS. TOPSOIL WILL BE SPREAD OVER AREAS DEVOID OF TOPSOIL TO A MINIMUM DEPTH OF 2 INCHES ON 3:1 OR STEEPER SLOPES AND 4 INCHES ELSEWHERE. LIME AND FERTILIZER WILL BE APPLIED PRIOR TO TEMPORARY AND PERMANENT SEEDING AND COMPLETED WITHIN 14—DAYS AFTER THE TOPSOIL HAS BEEN SPREAD. THE TOPSOIL FOR STABILIZATION HAS BEEN SPECIFIED AS CLASS A STOCKPILED TOPSOIL THAT HAS BEEN SALVAGED FROM EXCAVATION AREAS AND OTHER AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. WHERE EXISTING TOPSOIL HAS BEEN PERMANENTLY REMOVED BY THE CONTRACTOR OR RENDERED UNUSABLE, NEW TOPSOIL SHALL BE APPLIED PRIOR TO SEEDING. THIS SOIL WILL BE FRABLE LOAM AND FREE FROM SUBSOIL, CLAY LUMPS, STONES, STUMPS, ROOTS, BRUSH, WHEN LITTER OR OTHER HARMFUL MATERIAL FERTILIZER USED FOR SEEDING WILL BE A MIXTURE OF NITROGEN, PHOSPHORUS AND POTASSIUM (NPK) IN A RATIO OF 10—20—10. UPON COMPLETION OF FINAL GRADING OPERATIONS, THE PROJECT AREA SHALL BE PERMANENTLY SEEDED WITH GRASS SEED MIXTURE COMPOSED OF 70% KENTUCKY 31 TALL FESCUE AND 30% COMMON KENTUCKY BLUE GRASS, THE SEED COMPONENTS WILL BE FREE OF NOXIOUS WEED SEEDS AND WILL NOT HAVE LESS THAN THE FOLLOWING PURITY AND GERMINATION KENTUCKY FESCUE.

STORMWATER RUNOFF CONSIDERATIONS: THE PRE AND POST SITE CONDITIONS WILL REMAIN THE SAME. INLET PROTECTION IS PROVIDED AT ALL STORM WATER NLETS ALONG THE PROJECT.

MAINTENANCE OF ESC MEASURES: CONTRACTOR SHALL INSPECT ALL ESS VEASURES DALY AND REPAIR IMMEDIATELY IF ANY DAMAGE HAS OCCURED PRIOR TO IN START OF THE WORK DAY, UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ESS MEASURES ACCORDING TO STATE AND LOCAL LAWS, CONTRACTOR IS RESPONSIBLE FOR FOLLOWING STATE AND LOCAL PROCEDURES FOR REMOVING ACCUMILATED SEDIMENT.

STORMATER MANAGEMENT CONSIDERATIONS: THE DEVELOPMENT OF THE STIE WILL NOT CAUSE AN INCREASE IN PEAK. THE PROJECT ONLY INVOLVES INSTALLATION OF A NEW WATER MAIN LOCATED UNDER AN EXISTING ROAD. THERE WILL BE NO INCREASE IN IMPERVIOUS AREA.



10	ADEN SILT LUAM	0-2%	I ₹
A8	BAILE LOAM	0-4%	Įš
78	BELTSVILLE SILT LOAM	2-7%	ä
108	BUCKHALL LOAM	2-7%	UCENSED PROFESSION
10C	BUCKHALL LOAM	7-15%	lã
15A	COMUS LOAM	0-2%	18
16A	DELANCO FINE SANDY LOAM	0-4%	3
18C	DUMFRIES SANDY LOAM	7-15%	╙
18D	DUMFRIES SANDY LOAM	15-25%	I۳.
18E	DUMFRIES SANDY LOAM	25-50%	PROJECT
19C	ELIOAK LOAM	7-15%	ĺ₫:
208	ELSINBORO SANDY LOAM	2-7%	
218	FAIRFAX LOAM	2-7%	¥.
21C	FAIRFAX LOAM	7-15%	ľ
22A	FEATHERSTONE MUCKY SILT LOAM	0-1%	\blacksquare
24B	GLENELG-BUCKHALL COMPLEX	2-7%	ı
24C	GLENELG-BUCKHALL COMPLEX	7-15%	ı
24D	GLENELG-BUCKHALL COMPLEX	15-25%	ı
25A	GLENVILLE LOAM	0-4%	ı
27A	HATBORO-CODORUS COMPLEX	0-2%	ı
29A	CODORUS SILT LOAM	0-2%	ı
29B	HOADLY LOAM	2-7%	ı
30A	CODORUS AND HATBORO SOILS	0-2%	ı
34C	LUNT LOAM	7-15%	ı
36A	ELKTON SILT LOAM	0-2%	ı
36D	MARR VERY FINE SAND LOAM	7-25%	ı
37A	MARUMSCO LOAM	0-4%	ı
378	ELSINBORO LOAM	2-7%	ı
388	MEADOWYLLE LOAM	0-5%	ı
40	GRIST MILL SANDY LOAM	0-25%	ı
41B	NEABSCO LOAM	0-25%	ı
41C	NEABSCO LOAM	7-15%	ı
428	NEABSCO-QUANTICO COMPLEX	2-7%	ı
44D	OCCOQUAN SANDY LOAM	7-25%	ட
44E	OCCOQUAN SANDY LOAM	25-50%	Г
478	GRIST MILL-WOODSTOWN COMPLEX	25-30%	ı
478	QUANTICAO SANDY LOAM	2-7%	ı
47C	QUANTICAO SANDY LOAM	7-15%	ı
47D	QUANTICAO SANDY LOAM	15-25%	ı
48A	GUNSTON SILT LOAM	0-2%	ı
49A	HATBORO SILT LOAM	0-2%	ı
548	URBAN LAND-UDORTHENTS COMPLEX	0-2%	1
55D	WATT CHANNERY SILT LOAM	15-25%	1
			ı
55E 60A	WATT CHANNERY SILT LOAM HONGA PEAT	25-50% 0-1%	1
678	KINGSTOWN-BELTSVILLE COMPLEX	2-7%	ı
698	KINGSTOWN-BELTSVILLE COMPLEX KINGSTOWNE-ELSINBORO COMPLEX	2-7%	ı
			ı
71C	KINGSTOWNE-SASSAFRAS-MARUMSCO COMPLEX	7-15%	ı
76 8	MATAPEAKE SILT LOAM	2-7%	ı
88D	RHODHISS-ROCK OUTCROP COMPLEX	15-25%	ı
88E	RHODHISS-ROCK OUTCROP	25-45%	1
91C	SASSAFRAS-MARUMSCO COMPLEX	7-15%	1
91D	SASSAFRAS-MARUMSCO COMPLEX	15-25%	
91E	SASSAFRAS-MARUMSCO COMPLEX	25-45%	1
95	URBAN LAND		ı

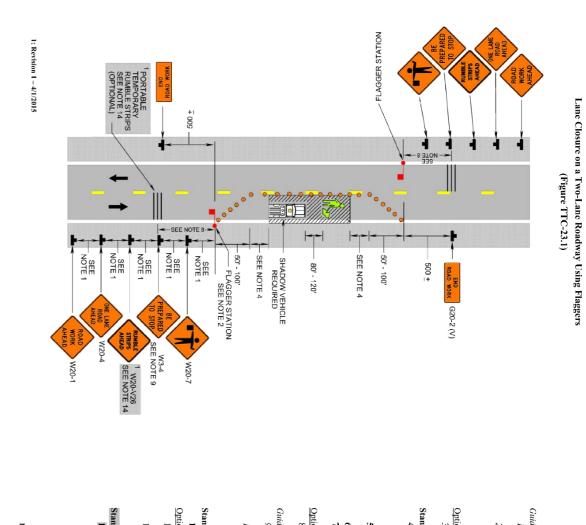
	SOIL CLASSIFICATION TABLE		ı
MAP SYMBOL	MAP UNIT NAME	% SLOPE	⊢
1A	ADEN SILT LOAM	0-2%	l۶
6A	BAILE LOAM	0-4%	UCENSED PROFESSIONAL
78	BELTSVILLE SILT LOAM	2-7%	Įβ
108	BUCKHALL LOAM	2-7%	I₽
10C	BUCKHALL LOAM	7-15%	۱å
15A	COMUS LOAM	0-2%	18
16A	DELANCO FINE SANDY LOAM	0-4%	13
18C	DUMFRIES SANDY LOAM	7-15%	ᆫ
18D	DUMFRIES SANDY LOAM	15-25%	I∟
18E	DUMFRIES SANDY LOAM	25-50%	PROJECT
19C	ELIOAK LOAM	7-15%	ő
208	ELSINBORO SANDY LOAM	2-7%	
218	FAIRFAX LOAM	2-7%	Ϋ́
21C	FAIRFAX LOAM	7-15%	ľ
22A	FEATHERSTONE MUCKY SILT LOAM	0-1%	г
248	GLENELG-BUCKHALL COMPLEX	2-7%	ı
24C	GLENELG-BUCKHALL COMPLEX	7-15%	ı
24D	GLENELG-BUCKHALL COMPLEX	15-25%	ı
25A	GLENVILLE LOAM	0-4%	ı
27A	HATBORO-CODORUS COMPLEX	0-2%	ı
29A	CODORUS SILT LOAM	0-2%	ı
298	HOADLY LOAM	2-7%	ı
30A	CODORUS AND HATBORD SOILS	0-2%	ı
34C	LUNT LOAM	7-15%	ı
36A	ELKTON SILT LOAM	0-2%	ı
36D	MARR VERY FINE SAND LOAM	7-25%	ı
37A	MARUMSCO LOAM	0-4%	ı
378	ELSINBORO LOAM	2-7%	ı
388	MEADOWVILLE LOAM	0-5%	ı
40	GRIST MILL SANDY LOAM	0-25%	ı
41B	NEABSCO LOAM	0-7%	ı
41C	NEABSCO LOAM	7-15%	ı
42B	NEABSCO-QUANTICO COMPLEX	2-7%	ı
44D	OCCOQUAN SANDY LOAM	7-25%	⊢
44E	OCCOQUAN SANDY LOAM	25-50%	ı
47B	GRIST MILL-WOODSTOWN COMPLEX	2-7%	ı
478	QUANTICAO SANDY LOAM	2-7%	ı
47C	QUANTICAO SANDY LOAM	7-15%	ı
47D	QUANTICAO SANDY LOAM	15-25%	ı
48A	GUNSTON SILT LOAM	0-2%	ı
49A	HATBORO SILT LOAM	0-2%	ı
54B	URBAN LAND-UDORTHENTS COMPLEX	0-7%	ı
55D	WATT CHANNERY SILT LOAM	15-25%	ı
55E	WATT CHANNERY SILT LOAM	25-50%	ı
60A	HONGA PEAT	0-1%	ı
67B	KINGSTOWN-BELTSVILLE COMPLEX	2-7%	ı
69B	KINGSTOWNE-ELSINBORO COMPLEX	2-7%	ı
71C	KINGSTOWNE-SASSAFRAS-MARUMSCO	7-15%	ı
768	COMPLEX MATAPEAKE SILT LOAM		ı
		2-7%	ı
88D	RHODHISS-ROCK OUTCROP COMPLEX	15-25%	ı
88E	RHODHISS-ROCK OUTCROP	25-45%	ı
910	SASSAFRAS-MARUMSCO COMPLEX	7-15%	ı
91D	SASSAFRAS-MARUMSCO COMPLEX	15-25%	Н
OIF	SASSAFRAS-MARIJMSCO COMPLEX	25_45%	

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S OTE Z S

> **EMENT** CKA Q REP **PROGRAM** WATER

SHEET NUMBER C-400



Typical Traffic Control

Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.1)

April 2015

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.

Option:

Where Right-of-Way or geometric conditions prevent the use of 48" x 48" signs, 36" x 36" signs may be used.

4. 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. A shadow vehicle with at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew.

A supplemental flagger 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.

9. If the queue of traffic reaches the BE PREPARED TO STOP (W3-4) sign then the signs, and if used the portable temporary ramble strips (PTRS), should be readjusted at greater distances.
10. 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:
11. At night, flagger stations shall be illuminated, except in emergencies (see Section 6E.08)

Option:

12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or less.

14. When approved for use, 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. PTRS Spacing (Center to Center) 6 – 55 mph 8 Feet

Typical Traffic Control

Lane Closure Operation in an Intersection

(Figure TTC-28.0)

Page 6H-63

August 2011

Lane Closure Operation in an Intersection

G20-2 (V)

intersection in order of preference should be:

a. Obtain the services of law enforcement personnel.
 b. Detour the effective routes to other roads and streets as approved and directed Traffic Engineer.

should be 350'-500' where the posted speed limit is 45 mph or less, 500'-800' limit is greater than 45 mph.

3. Channelizing device spacing shall be on 20' centers or less.

(JANOIT90)

50' - 100'

If the posted speed limit is 45 mph or greater, the shadow vehicle shall have a truck-mounted attenuator.

For emergency situations (any non-planned operation) of 30 minutes or less duration, two rotating amber lights or high intensity amber strobe lights mounted on the vehicle and visible for 360° shall be required in addition to the channelizing devices shown around the vehicle. Also, vehicle hazard warning signals or amber oscillating lights shall be used.

TOOYAL VOUT

SEE BOTTOM RIGHT

AND NOTE 2

PLAGGER NOITATS

SEE NOTE 2

1001 - 109

BUFFER

50' - 100'

7,009

Turns can be prohibited as required by vehicular traffic conditions. Unless be physically impossible to make certain turns, especially for large vehicles

If room permits, a shadow vehicle with at least one rotating amber light should be parked 80°-120' in advance of the first work crew. c. Place a state certified flagger on each leg of the intersection controlling a single lane of Appropriate signing as shown should be used for law enforcement and flagging operations.

volume situations with short work zones on straight roadways where the flagger is visible to read users approaching from both directions, a single flagger, positioned to be visible to road users ing from both directions, may be used (see Chapter 6E).

14. A one-year resto

The district admir inspector to monit inistrator's designee may request and review the backfill compaction test itor the trench backfill and compaction operations.

 Traffic shall be ma Maintenance of Tr The use of steel pli of steel plates bety tes to provide a temporary riding surface will not be allowed between November 1 and April 1. The use tes to provide a temporary riding surface with VDOT standards and specifications.

The permittee shall notify the district adn open cutting operations.

The trench to be other approved d



*** 12 inches minimum beyon on longitudinal open cuts, or 25 the trench centerline on perpen determined by the district admir ** Trench width and pipe bedding shall be in accordance with VDOT Std. PB-1 Date: August 27, 2014 he district administrator's designee shall determine the estoration requirements for other pavement types. Asphalt Concrete Surface SM-9.5A for ADT < 10, egate Base Material, Type Size No. 21A or 21B Class I backfill material in accordance with Section 302 of the Road and Bridge Specifications No. 26 or 27 aggregate pipe bedding in accordance with Sections 205 & 302 of the Road and Bridge Specifications Material Type I with minimum CBR = 30

LAND USE PERMIT
LUP-OC
LUP-OT Requirements VDOT of Trans

that may apply, shall apply:

The permittee shall be responsible for the restoration of pavement on state maintained highways in accordance with all applicable sections of the VDOT Road and Bridge Specifications, VDOT Road and Bridge Standards and this document.

Whenever existing pand the first open chalf of the roadway pavement is permitted to be cut, not over one-half of the roadway width shall be disturbed at one time cut trench section shall be satisfactionly restored to allow for the passage of traffic prior to the second r surface can be disturbed.

REVISIONS

DATE

terial shall be Select Material Type I having a minimum CBR of 30 and free from crete, ice, frost, large clods, stone or debris.

Trench backfill mat content, as determ in 6-inch lifts to en

For roadways with inches (10") of Typ moisture content or as determined by in a bituminous concrete asphalt pavement section the compacted trench backfill shall be capped with ype I, Size 21-A or 21-B aggregate compacted to 100% of the theoretical maximum density at optimus covering the entire trench width and a minimum six inch (6") bench on each side of the excavated trench by the district administrator's designee. terial shall be compacted to a minimum of 95% of the theoretical maximum density at optimum moistunine by VDOT testing procedures (VTM1), using mechanical tamping throughout the depth of the trensure that the adequate support is provided for the aggregate sub-base layer is adequately supported.

A bituminous conc base course thickn concrete surface co crete asphalt base course (BM-25) having a minimum thickness of six inches (6"), or matching the existing ress, shall be placed over the benched aggregate sub-base to the bottom elevation of the existing asphalt

All sides of the excavated trench shall be saw-cut trimmed to neat straight lines and a tack coat applied at a rate of 0.1 gallon per square yard (or as determined by the district administrator's d the bituminous concrete asphalt base course (BM-25.0) and/or replacement of the bituminous course (SM-9.5A or SM-9.5D).

The existing paver concrete asphalt (S entire trench widtl beyond the trench ement surface course adjacent to the excavated trench shall be milled and repaved with bituminous (SM-9.5A or SM-9.5D) having of a minimum thickness of 1-1/2 inches (1.5"). This operation shall cover the ith and extend 12 inches (12") beyond the edge of the trench on longitudinal open cuts and 25 feet (25') h centerline on perpendicular open cuts, or as determined by the district administrator's designee.

Kimley » Horn

Open cuts in surface treated roadway sections with an aggregate base course shall be replaced with the same layer(s) as roadway sections with a bituminous concrete asphalt pavement structure except the sub-base layer (Type I, Size 21-A or 21-B) may be reduced to six inches (6") and the bituminous concrete asphalt base layer (BM-25.0) may be reduced to four inches (4") while maintaining the required six inch (6") bench on both sides of the excavated trench. The surface course restoration material and thickness shall match the existing surface.

e asphalt and surface treated courses shall be rolled with equipment having until the aggregate is keyed into the bitumen. Where rolling is not possible,

 Full depth aggregate stone may be placed in the trench daily up to maximum length of 500 feet, at which time either temporary or permanent pavement restoration procedures must be implemented.
 Should the application of the bituminous concrete asphalt surface course be delayed due to adverse weather conditions, the contractor shall provide and maintain a temporary pavement section that is acceptable to the district administrator's designee until such time as the appropriate permanent pavement restoration can be achieved. 13. The permittee shall be responsible for any settlement in the backfill or pavement for a period of two (2) years after the completion date of permit and for the continuing maintenance of the facilities placed within the highway right-of-way.

The permittee retains the services of a professional engineer (or certified technician under the direction of the professional engineer) to observe the placement of all fill embankments, pavement, and storm sewer and utility trench backfill. The professional engineer (or certified technician under the direction of the professional engineer) performs any required inspection and testing in accordance with all applicable sections of VDOT's <u>Road and Bridge Specifications</u>. The professional engineer submits all testing reports for review and approval, and provides written certification that all restoration procedures have been completed in accordance with all applicable sections of VDOT's <u>Road and Bridge Specifications</u> prior to completion of the work authorized by the permit.

backfilled shall be made as dry as practicable ewatering method.

phalt Pavement Restoration Detail for Open Cut Utility Installations

WATER REPLACEMENT **PROGRAM PACKAGE 1**

C-500

MOT & PAVEMENT RESTORATION

KHA PROJECT 110694006 DESIGNED BY HECKED BY

date June 2023 SCALE AS SHOWN

LICENSED PROFESSIONAL

AMS

End of Addendum Number One