Chain RTE677 contains:
DW5050 CUR DWSCUR05 DWS054

Beginning chain RTE677 description
===============================================================================
Point DWS050  N 51,769.65 E 101,496.27 Sta 100+00.00
Course from DWS050 to PC DWSCUR05 N 12°45' 10.26" E Dist 10.41

Curve Data
*---------*
Curve DWSCUR05
P.I. Station 100+50.00 N  51,818.42 E 101,507.31
Degree =  8°49' 44.29" (LT)
Tangent =  39.59
Length =  79.03
Radius =  512.85
External =  1.53
Long Chord =  78.95
Mid. Ord. =  1.52
P.C. Station 100+10.41 N  51,779.80 E 101,498.57

P.T. Station 100+89.44 N  51,857.92 E 101,510.02
C.C. = N 51,893.01 E 100,998.37
Back = N 12°45' 10.26" E
Ahead = N 3°55' 25.97" E
Chord Bear = N 8°20' 18.11" E

Course from PT DWSCUR05 to PC DW5050 N 3°55' 25.97" E Dist 100.21
Point DW5054  N 51,957.89 E 101,516.88 Sta 101+89.65

===============================================================================

Ending chain RTE677 description
NOTES:

- Drawing Not To Scale
- All signs shall be installed on STP-1 posts and foundations.
- All sign locations will be field marked by Traffic Engineering staff upon request of the Residency.
- M1 Series signs shall be white and black. Unless otherwise noted, all other M-series and W-series signs shall be orange and black.
- Signs mounted on Type III barricades shall not cover more than 50% of the top barricade rail. The remaining two rails shall not be covered by a sign at all.

POST INFORMATION

- Install assemblies "A", "J", and "K" on a 2½" 12ga. steel post with a Type "A" foundation.
- Install all other sign assemblies on a 2½" 10ga. steel post with a Type"B" foundation and a 6" 2½" Inner sleeve.
GENERAL NOTES

INCIDENTALS

DRAINAGE

0-1 The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific elevations, special design bridges and storm sewer systems.

0-2 The horizontal location and invert elevations shown for proposed culverts and storm sewer outfall pipes are based on existing survey data and required design criteria. During construction, if it is found that the horizontal location or invert elevations shown in the plans differ significantly from the actual location or invert elevations of the structure, the Engineer shall confer with, and get approval from, the applicable District Drainage Engineer before installing the culvert or storm sewer outfall pipe.

EROSION AND SEDIMENT CONTROL (ESC)

10 The "underground utilities" survey data on this project has been provided by consultants and copies are available from the Department.

11 If questions or problems arise during construction please contact the Area Construction Engineer. DO NOT CONTACT THE OUTSIDE SOURCES.
STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET

ACRONYMS

CPRA - Chesapeake Bay Preservation Act
BMP - Best Management Practice
DEQ - Department of Environmental Quality
VOCV - Virginia Department of Transportation
VPPES - Virginia Pollutant Discharge Elimination System
VDOT - Virginia Department of Transportation
VSM - Virginia Stormwater Management Program
VA - Virginia DEQ Notice
VDOT RLD (as defined in the latest IIM 242) will ensure that the information associated ditches and shoulders).

DENOTES INFORMATION THAT IS TO BE ASSOCIATED DITCHES AND SHOULDERS.

Carolyn Oster, P.E.
Dist. Hyd.

Identify the inlets of the project, the kinds of activities that will use the inlets, the nature of the activities, the risk of hydrologic or sediment impacts, and the potential for erosion and sedimentation. Specific information shall be noted in the log book and shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.

If there is a need to collect additional rainfall data, an inspection shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.

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SECTION II EROSION AND SEDIMENT CONTROL

XX.1 The intended sequence and timing of activities that disturb soil at the site (e.g., grading, excavation, grading, utilities and infrastructure installation, etc.) shall be provided in the contract documents in accordance with the current edition of Section 108.03 of the VDOT Roadway Specifications and included with the other SWMP documents for this land disturbance (construction) activity.

XX.2 Directions of stormwater flow and approximate slopes anticipated after major grading activities are identified in the construction plan set or on other such documents for this land disturbance (construction) activity.

XX.3 Areas of stream inlets and areas of the site which will be disturbed are identified in the construction plan set or on other such documents for this land disturbance (construction) activity.

XX.4 Locations of pre-existing prepare divided by color. Any exceptions to this land disturbance (construction) activity.

XX.5. A description of interim and permanent sediment stabilization practices for the site are identified in the applicable sections of the documents identified in Note 5 (construction) activity.

XX.6. A record of the date when major grading activities occur, when construction activities temporarily or permanently cease on a part of the site, and when sediment measures are effective will be provided by the contractor and maintained with the record set for this land disturbance (construction) activity.

ACRONYMS

VSM - Stormwater Management Plan
SWM - Stormwater Management
SWM - Stormwater Management
ESC - Erosion and Sediment Control
TMDL - Total Maximum Daily Load
ACRONYMS

SECTION II POST-CONSTRUCTION STORMWATER MANAGEMENT

1. This land disturbance activity utilizes the Part IIB technical criteria (i.e., Runoff Reduction Method, Energy Balance Equation, etc.) in Section 108.03 of the VDOT R&B Specifications and shall be included with the other

2. All channel relocations are to be constructed during the earliest stage of construction and include a brief description of the exception, the date approved and the approving DEQ Office and shall be provided by the contractor in accordance with the current edition of Section

3. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation shall be included with the SWMP documents for this land disturbance (construction) activity.

4. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation shall be included with the SWMP documents for this land disturbance (construction) activity.

5. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation shall be included with the SWMP documents for this land disturbance (construction) activity.

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19. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation shall be included with the SWMP documents for this land disturbance (construction) activity.

20. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation shall be included with the SWMP documents for this land disturbance (construction) activity.
The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the VDOT General Permit for Discharges of Stormwater. From Construction Activities (the VDOT Construction Permit) issued July 1, 2003 and VDOTs approved Annual SW and Stormwater Standards and Specifications.

The SWPPP General Information sheets are to be completed and included in the construction phase plan for each site with such documents as the ESC Plans, the Pollution Prevention Plan, the post-construction SW Plan (if applicable), the VDOT IRP and Specialized Waste, Supplemental Specifications, Special Provision and Specialist Plan. Documents related to stormwater pollution prevention which are not part of these documents referenced above, such as copies of the VDOT Construction Permit coverage letter (if applicable) and the VDOT General Permit. For Discharges of Stormwater. These documents or summary are to be maintained at the site with the other SWPPP General Information sheets (construction activity) where no facilities are available at the activity site to maintain the SWPPP documents. They are to be kept by or with the designated RLD at a location convenient to the activity site where they would be made available for review upon request during normal business hours.

1. Adequately related to the SWPPP for this land disturbing (construction) activity should maintain the activity site and should readily available for review upon request during normal business hours. Such documents include, but are not limited to; an identification plan for other construction activities, the ESC Plan, the Pollution Prevention Plan, the post-construction SW Plan (if applicable), the VDOT IRP and Specialized Waste, Supplemental Specifications, Special Provision and Specialist Plan. Documents related to stormwater pollution prevention which are not part of these documents referenced above, such as copies of the VDOT Construction Permit coverage letter (if applicable) and the VDOT General Permit. For Discharges of Stormwater. These documents or summary are to be maintained at the site with the other SWPPP General Information sheets (construction activity) where no facilities are available at the activity site to maintain the SWPPP documents. They are to be kept by or with the designated RLD at a location convenient to the activity site where they would be made available for review upon request during normal business hours.

2. The SWPPP and any subsequent amendments, modifications and updates shall be implemented from commencement of land disturbing and termination of VDOT Construction Permit or completion of land disturbing (construction) activities where no VDOT Construction Permit coverage is required.

3. For each land disturbing (construction) activity, the contractor shall develop a SWPPP cover sheet. SWPPP cover sheet for this land disturbing (construction) activity shall be included in the VDOT General Permit and the VDOT Road and Bridge Specifications. The SWPPP for the stormwater pollution prevention for this land disturbing activity shall comply with the following requirements:

4. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and industrial waste disposal areas, stormwater basins (including any wash water), to appropriate personnel.

5. Uncontaminated excavation dewatering, including dewatering trenches and excavations that have been filtered, settled or similarly treated prior to discharge.

6. Discharges from firefighting activities.

7. Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including procedures for the clean-up of construction wash waters and disposal of construction products, materials, and wastes including building products (such as ceramic materials, copper flashing, roofing materials, masonry products, brick, stone, and concrete cuttings,.generated either from existing or new construction), for which exposure to precipitation will not result in a discharge of pollutants.

8. The following non-stormwater discharges from construction activities shall be included in the SWPPP General Information sheet:

9. The contractor shall develop a Pollution Prevention Plan to address any of the following:

10. Minimize the discharge of pollutants from construction activities, both indoor and outdoor, including swirling, spattering, or splash from construction equipment.
STORMWATER POLLUTION PREVENTION PLAN (SWPPP) 
GENERAL INFORMATION SHEET

The VDOT (R&D) and/or Virginia Department of Conservation and Recreation shall ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets will be maintained with the designated record set of plans for other such documentation for the land disturbing (construction) activity.

SECTION VI - PERMANENT BMP INFORMATION

Table A: Permanent BMP Types (1999 Va. SWM Handbook)

Table B: Alternative BMP Types

Table C: Permanent BMP Types (BMP Clearing House)

NOTES:
10. (degrees) to the nearest one hundredth of a degree.
11. For streams with no names, be "impaired Tributary to downstream name".
12. Snow areas treated to the nearest one hundredth zero.
13. All agreements with private BMP owners.
14. Information Pertains to the Alternative BMP Option Location, where applicable. Exception- Not required for Nutrient Credit Purchase option.
15. Applies to the purchase of nutrient credits only.
17. Endapprovals of proposed BMPs per the approved SMS Plan and BMPs per the approved SWPPP General Information sheet.
18. (Construction, Maintenance, and Inspection) Manual is required to complete the SWPPP General Information sheet.
19. The name of any impaired water to which the BMP is connected.
20. BMPs as listed in the DEQ, 2020 305(b)/303(d) Water Quality Assessment/Regional Report and meeting the first listed requirements to which the BMP is connected. The impaired waters are those impaired by sediment, total suspended solids, turbidity, nitrogen or phosphorus.
21. BMP Maintenance E Number is to be designated by the District Maintenance Division of the Department of Conservation and Recreation. This number is assigned to the project to reflect the BMPs designed and installed by the Virginia Department of Conservation and Recreation. The BMPs shall be maintained with the designated record set of plans for other such documentation for the land disturbing (construction) activity.

Any changes to the proposed BMPs or BMPs necessitated during the construction phase of the project shall be reflected on the proposed construction details or potentially altered if the BMPs are to be constructed. The BMPs shall be constructed in accordance with the BMPs as designed and not to exceed the limitations as designed in the proposed SWPPP General Information sheet.

Table A: Permanent BMP Types (1999 Va. SWM Handbook)

Table B: Alternative BMP Types

Table C: Permanent BMP Types (BMP Clearing House)
Backfill shall comprise granular material with an internal friction angle of at least 40 degrees. Compaction of the backfill material shall be sufficient to ensure that the backfill is essentially level and will not settle more than 2.0 inches in any 16-inch wide area.

Two Type 1 & two Type 1 Wings are to be used for skews from 25 to 45. For skews above 45, special design wings are required. Two Type 1 Wings are to be used for straight crossings and skews (Top) (when required).

The wingwall to be used for each culvert is shown on the BC series plans. Four Type I Wings are to be used for straight crossings and skews (Top) (when required).

The concrete cover to the outermost reinforcement bars shall be as follows: 3" minimum cover for Concrete. Costs of scour wall under box culvert shall be incidental to the box culvert. Basis of footing elevation to match with bottom of box culvert elevation.
The following construction sequence shall be followed to ensure that the voids in the inlet and outlet riprap protection are choked in order to promote low flow conditions:

1. Excavate streambed for EC-1 riprap outlet protection from the outlet of the new culvert to the end of the proposed riprap limits. Use the following construction sequence:

   a. Place stockpiled native streambed material (2-3" thick) on filter fabric/aggregate filter to help fill the voids at the bottom of the first course of riprap.
   b. Place the first course of EC-1 riprap.
   c. Place filter fabric or aggregate filter as specified for typical EC-1 installation.
   d. Place the second course of EC-1 riprap.
   e. Place second course of EC-1 riprap on filter fabric/aggregate filter.

2. Leave 2-3" of loose riprap exposed to establish a low flow channel.

3. Streambed material on the first course of riprap to fill voids of the second course of riprap.

4. Promote surface flow within 15 days of installing the countersunk culvert.

5. Note: Grades shown in Parentheses are calculated from measurements taken on top of the culverts.

6. "To match with existing profile"

7. "Profile proposed grade Rte 677 CL"

8. "Denotes Limits of Disturbance"


10. "See Additional Notes on Placement of Riprap"

11. "As per Materials Report"

12. "1' Minimum Cover"

13. "2 Lines - 56' Each"

14. "12+53 Rte 677 Const. Baseline"

15. "27.100 2" Pokn"

16. "59 Tons Dry Riprap Class I (D = 26") Req. Lt."

17. "188 Tons Std. EC-1 Class I Req. Rt. Type B Installation"

18. "(757) 482-1055, SR00 0765 S Battlefield Blvd, Chesapeake, Va 23322"

19. "00/00/14380 Fredericksburg Turnpike, Fredericksburg, Virginia"

20. "Michael L. Bell, L.S. 204-313-2243, 2/2017"


22. "Associated Electric Coop, Inc. 204-313-2243 4000 Lander Street, Lumberton, NC 28360"

23. "State Route 677 Driveway/Utility Section Mapl. 40' X 60" Concrete Pipe"

24. "Invert In 89.51' ~ Invert Out 89.24'"

25. "Verizon No Number"

26. "In Pl. 40' X 60" Concrete Pipe"

27. "Invert In 88.46' ~ Invert Out 88.94'"

28. "269 1+95 Rte 10 E C - Non Municipal Water Line Requested"
Known GPS Coordinates: 
(37.838336, -77.327555)

Drawing Not To Scale

All signs shall be installed on STP-I posts and foundations.
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.

CROSS SECTIONS

SCALE 1 IN. = 10 FT

HORIZONTAL SCALE: 1" = 10'

VERTICAL SCALE: 1" = 5'

EL 92.49

U/S OHW

Existing Pipe

Ground

Existing

(6" Countersunk)

Inv. (In) = 88.50'

EC-1 Class I Dry Riprap

Culvert Inlet Protection

Special Design Endwalls

(6" Countersunk)

Inv. (Out) = 88.02'

EC-1 Class I Dry Riprap

Culvert Outlet Protection

EL 93.16

D/S OHW

EXIST

R/W

2 0

2 0

L

R

EXIST

R/W

E X I S T.

E X I S T.

P V M T.

P V M T.

Match With Existing

Proposed Shoulder

Culvert at 1.33%

36'-8'(W)x6'(H) Reinforced Concrete Box

Gopi Sripathy, P.E. 540-899-4701

Michael L. Bell, L.S. 204-313-2243, 2/2017

Minwoo Ha, P.E. 540-899-4044

JMT

SURVEYED BY, DATE

DESIGN BY

SUBSURFACE UTILITY BY, DATE

7/2/2019

2:09:48 PM

CROSS SECTIONS

REVISED STATE

STATE

ROUTE

PROJECT

SHEET NO.

PROJECT MANAGER

0677-016-6110, SR00

XS

0677-016-6110