

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

PROJECT MANAGER Ludwik\_Kulczycki - Prince William County - (703) 792-6347  
SURVEYED BY DATE Tamir\_Leroux, L.S. - ATCS, P.L.C. - 06/12/19 - (703) 430-7500  
DESIGN BY Thomas\_Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
SUBSURFACE UTILITY BY DATE Accumar, Inc. - 04/08/20 - (804) 550-7740

PRINCE WILLIAM COUNTY



ATCS°  
ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

FOR INDEX OF SHEETS SEE SHEET 1A

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING DESIGN PACKAGE (GEOPAK).  
GEOPAK Computer Identification No. 113607



COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

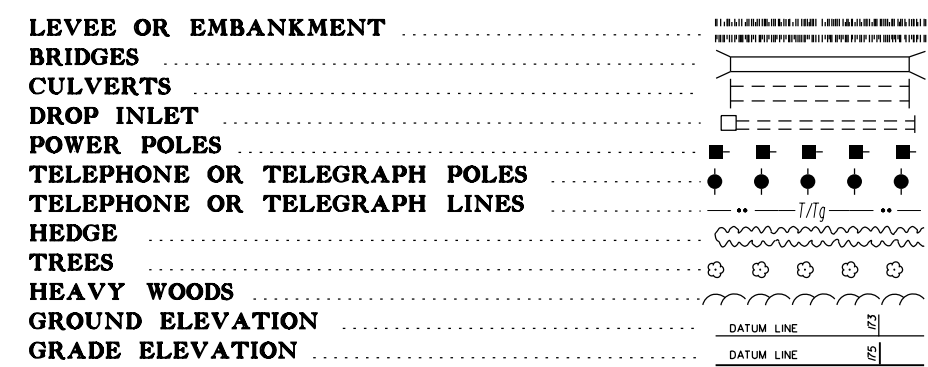
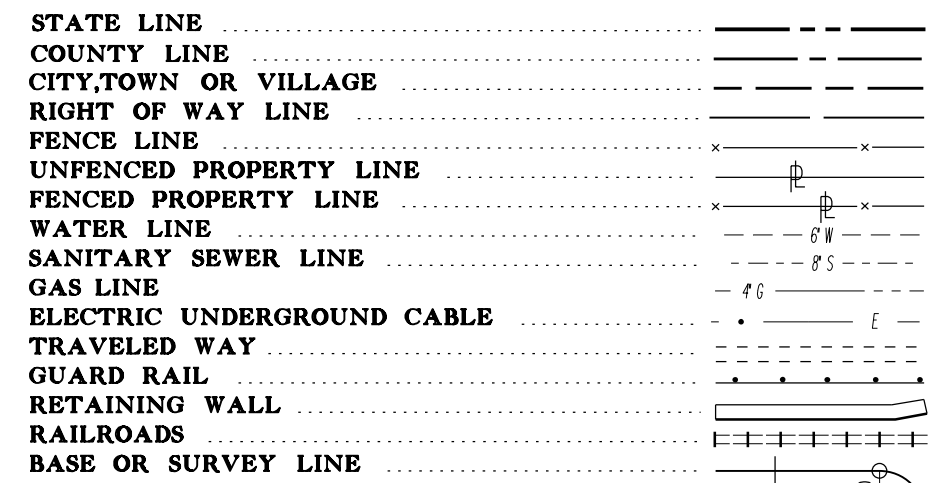
OLD CAROLINA ROAD (RTE. 703)  
SIDEWALK IMPROVEMENT

FROM: ASPHALT TRAIL N. OF SOMERSET CROSSING DR  
TO: ASPHALT TRAIL IN SOMERSET CROSSING SUBDIVISION

**MAINTENANCE LEGEND**

|                                 |
|---------------------------------|
| 100% - VDOT                     |
| 550 LF - SIDEWALK               |
| 550 LF - CURB AND GUTTER (CG-7) |
| 0 SY - CURB RAMPS (CG-12)       |
| 100% - PRINCE WILLIAM COUNTY    |
| 323 LF - SIDEWALK               |
| 0 LF - CURB AND GUTTER (CG-7)   |
| 0 SY - CURB RAMPS (CG-12)       |

CONVENTIONAL SIGNS



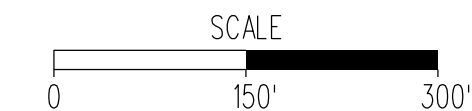
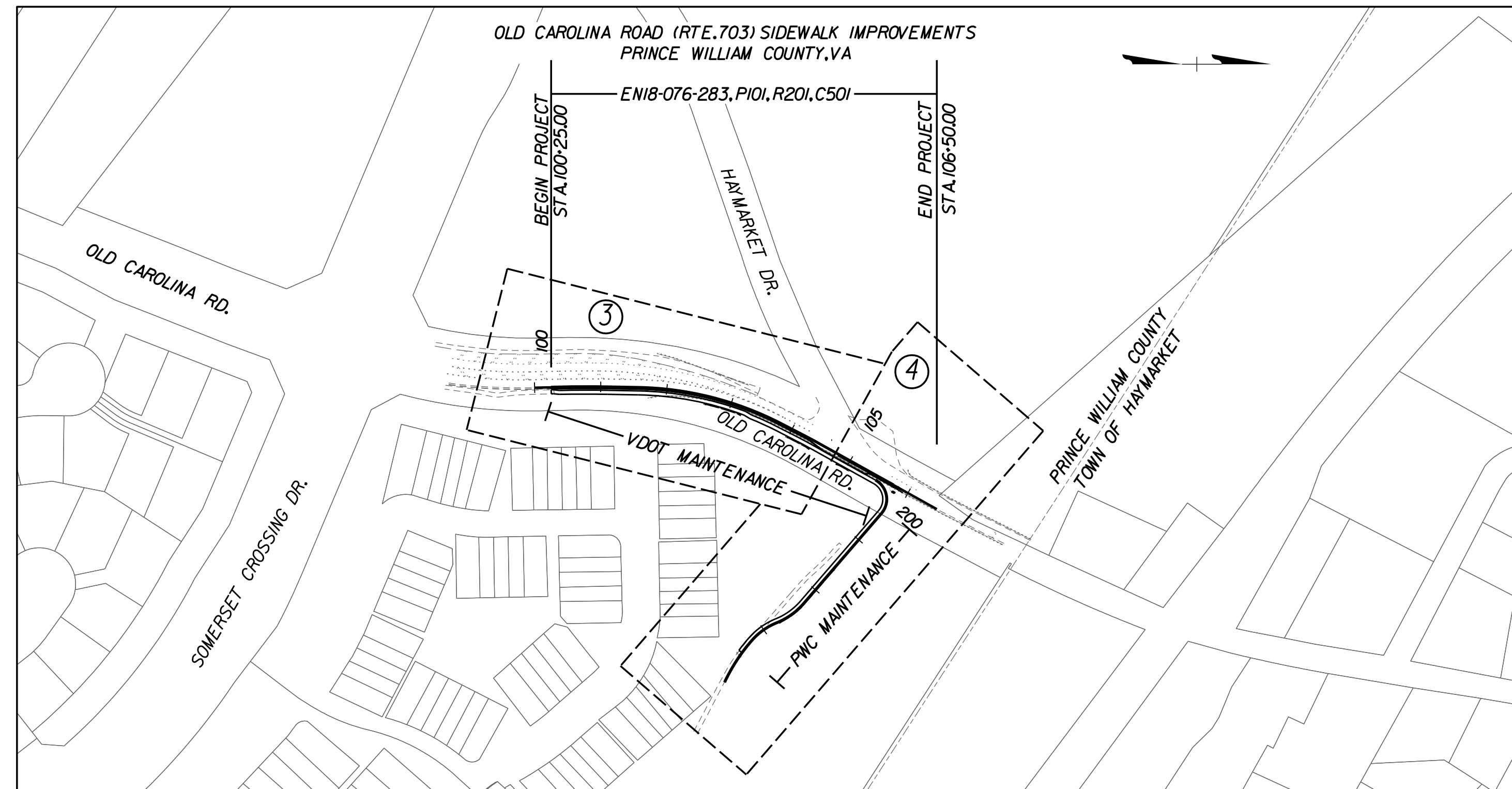
THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY AS AWARDED, HAS BEEN SEALED AND SIGNED USING DIGITAL SIGNATURES AND THE OFFICIAL PLAN ASSEMBLY IN ELECTRONIC FORMAT IS STORED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE THE GENERAL NOTES.

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2020 ROAD AND BRIDGE SPECIFICATIONS, 2016 ROAD AND BRIDGE STANDARDS, 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2019 VIRGINIA WORK AREA PROTECTION MANUAL, REV. 2 AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY.

ALL CURVES ARE TO BE SUPERELEVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD IC-5.11U, EXCEPT WHERE OTHERWISE NOTED.

THE ORIGINAL APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, ARE FILED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.



FHWA 534 DATA 45028

| STATE | FEDERAL AID PROJECT | ROUTE | STATE PROJECT  |         | SHEET NO. |
|-------|---------------------|-------|--|---------|-----------|
|       |                     |       | PROJECT  | SECTION |           |
| VA.   | TAP-5B01( )         | 703   | EN18-076-283<br>(SEE TABULATION BELOW FOR SECTION NUMBERS) |         | 1         |

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA

|  |                          |
|--|--------------------------|
| URBAN COLLECTOR GS-7   |                          |
| Fr: ASPHALT TRAIL N. OF SOMERSET CROSSING DR<br>To: ASPHALT TRAIL IN SOMERSET CROSSING SUBDIVISION |                          |
| ADT (2019)   | 3,400                    |
| ADT (2040)   | 5,153                    |
| DHV  | 296                      |
| D (Z) (design hour)  | 79.7%                    |
| T (Z) (design hour)  | 1%                       |
| V (MPH)  | 25 (POSTED), 40 (DESIGN) |

APPLICANT SHALL PROVIDE A PROOF OF PURCHASE OF THE OFFSITE NUTRIENT CREDITS (FROM THE NONPOINT SOURCE CREDIT BANKS APPROVED BY THE DEQ) IN THE FORM OF PURCHASE AND SALE AGREEMENT PRIOR TO APPLYING FOR THE LAND DISTURBANCE PERMIT OR THE CONSTRUCTION GENERAL PERMIT, WHICHEVER COMES FIRST

TIER 1 PROJECT

LOCALLY ADMINISTERED PROJECTS

PRINCE WILLIAM COUNTY  
NAME OF LOCALITY

(SIGNATURE)  
KHATTAB SHAMMOUT, P.E.

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION

DATE: \_\_\_\_\_ ASSISTANT DIRECTOR OF TRANSPORTATION  
TITLE OF POSITION

(SIGNATURE)  
KHATTAB SHAMMOUT, P.E.

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

DATE: \_\_\_\_\_ ASSISTANT DIRECTOR OF TRANSPORTATION  
TITLE OF POSITION

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION

\_\_\_\_\_ DISTRICT PLANNING AND INVESTMENT MANAGER

\_\_\_\_\_ DISTRICT PROJECT DEVELOPMENT ENGINEER

APPROVED FOR RIGHT OF WAY ACQUISITION

\_\_\_\_\_ DISTRICT ENGINEER/ADMINISTRATOR

|         |
|---------|
| REVISED |
|         |
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|         |
|         |
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|         |
|         |
|         |

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

\_\_\_\_\_ DISTRICT PLANNING AND INVESTMENT MANAGER

\_\_\_\_\_ DISTRICT PROJECT DEVELOPMENT ENGINEER

APPROVED FOR CONSTRUCTION

\_\_\_\_\_ DISTRICT ENGINEER/ADMINISTRATOR

PRINCE WILLIAM COUNTY POPULATION 470,335 (2019 CENSUS)

| STATE PROJECT NO. | SECTION | FEDERAL AID PROJECT NO. | TYPE CODE | UPC NO. | EQUALITIES |       | LENGTH INCLUDING BRIDGE(S) |       | LENGTH EXCLUDING BRIDGE(S) |       | BRIDGE PROJECT NO. | TYPE PROJECT      | DESCRIPTION  |
|-------------------|---------|-------------------------|-----------|---------|------------|-------|----------------------------|-------|----------------------------|-------|--------------------|-------------------|--|
|                   |         |                         |           |         | FEET       | MILES | FEET                       | MILES | FEET                       | MILES |                    |                   |  |
| EN18-076-283      | P101    | TAP-5B01(092)           | PENG      | 113607  | N / A      |       | 625.00                     | 0.118 | 625.00                     | 0.118 | N / A              | PRELIMINARY ENGR. | Fr. ASPHALT TRAIL N. OF SOMERSET CROSSING DR<br>To. ASPHALT TRAIL IN SOMERSET CROSSING SUBDIVISION |
|                   | R201    | N / A                   | ROWA      | 113607  | N / A      |       | 625.00                     | 0.118 | 625.00                     | 0.118 | N / A              | RIGHT-OF-WAY      | Fr. ASPHALT TRAIL N. OF SOMERSET CROSSING DR<br>To. ASPHALT TRAIL IN SOMERSET CROSSING SUBDIVISION |
|                   | C501    | N / A                   | Y051      | 113607  | N / A      |       | 625.00                     | 0.118 | 625.00                     | 0.118 | N / A              | CONSTRUCTION      | Fr. ASPHALT TRAIL N. OF SOMERSET CROSSING DR<br>To. ASPHALT TRAIL IN SOMERSET CROSSING SUBDIVISION |

Project Lengths are based on Old Carolina Construction Baseline

Copyright 2021, Commonwealth of Virginia

|  |                         |                |
|--|-------------------------|----------------|
| PRINCE WILLIAM COUNTY PROJECT<br>SPR2020-00402 S03 | PROJECT<br>EN18-076-283 | SHEET NO.<br>1 |
|--|-------------------------|----------------|

PROJECT MANAGER *Ludwik Kulczycki - Prince William County - (703) 792-6347*  
 SURVEYED BY, DATE *Tami Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500*  
 DESIGN BY *Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500*  
 SUBSURFACE UTILITY BY, DATE *Accurark, Inc. - 04/09/20 - (804) 550-7740*

# LOCATION MAP AND INDEX OF SHEETS

| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|---------|-------|-------|----------------------------------|-----------|
|         | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 1A        |

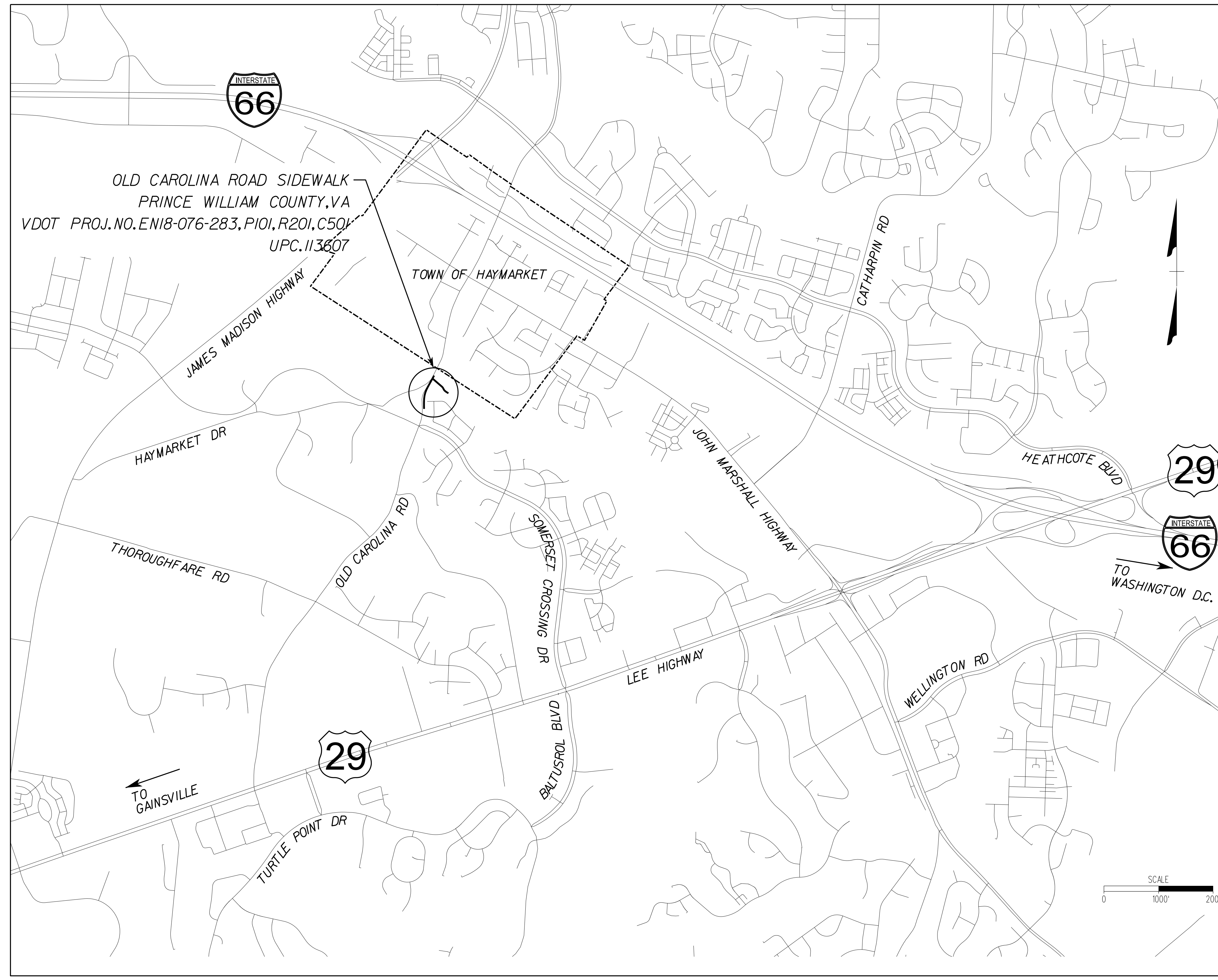
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

### INDEX OF SHEETS

| SHEET NO.        | DESCRIPTION OF SHEETS                               |
|------------------|---|
| I                | TITLE   |
| 1A               | PROJECT LOCATION MAP AND INDEX OF SHEETS            |
| 1B               | NOT USED  |
| 1C               | RIGHT OF WAY DATA                                   |
| 1D               | REVISION DATA                                       |
| 1E               | NOT USED  |
| 1F               | NOT USED  |
| 1G               | GEOMETRIC LAYOUT AND SURVEY CONTROL DATA            |
| 1H               | EXISTING UTILITIES AND SURVEY INFORMATION           |
| 1I               | NOT USED  |
| 1J(1) THRU 1J(2) | TRANSPORTATION MANAGEMENT PLAN                      |
| 1K(1) THRU 1K(6) | EROSION AND SEDIMENT CONTROL PLAN                   |
| 2                | GENERAL NOTES                                       |
| 2A               | TYPICAL SECTIONS                                    |
| 2B               | EXISTING AND PROPOSED DRAINAGE DESCRIPTIONS         |
| 2C(1)            | EXISTING OUTFALL DRAINAGE AREA MAP                  |
| 2C(2)            | PROPOSED OUTFALL DRAINAGE AREA MAP                  |
| 2C(3)            | EXISTING VRRM MAP                                   |
| 2C(4)            | PROPOSED VRRM MAP                                   |
| 2D(1)            | STORM DRAIN DRAINAGE AREA MAP                       |
| 2D(2)            | DITCH DRAINAGE AREA MAP                             |
| 2E(1)            | STORM SEWER PROFILES AND COMPUTATIONS               |
| 2F(1) THRU 2F(4) | STORMWATER POLLUTION PREVENTION PLANS               |
| 2G               | SIDEWALK DETAILS                                    |
| 2H               | ROADSIDE DEVELOPMENT                                |
| 2I               | NOT USED  |
| 2J               | SUMMARY OF QUANTITIES                               |
| 2K(1) THRU 2K(2) | VDOT STANDARD DETAILS                               |
| 2L(1) THRU 2L(2) | DRAINAGE DETAILS                                    |
| 2M               | DITCH SCHEDULE AND DETAILS                          |
| 2N(1) THRU 2N(2) | EROSION AND SEDIMENT DETAILS                        |
| 3                | PLAN AND PROFILE - STA.100+18.00 TO STA.104+75.00   |
| 3RW              | RIGHT OF WAY SHEET - STA.100+18.00 TO STA.104+75.00 |
| 4                | PLAN AND PROFILE - STA.104+75.00 TO STA.203+48.00   |
| 4RW              | RIGHT OF WAY SHEET - STA.104+75.00 TO STA.203+48.00 |
| 5                | SIGNING & PAVEMENT MARKINGS                         |
| CROSS SECTIONS   |   |
| X-1              | CROSS SECTIONS-KEY MAP                              |
| X-2 THRU X-8     | CROSS SECTIONS-OLD CAROLINA RD CONSTR.B/L           |
| X-9 THRU X-15    | CROSS SECTIONS-SIDEWALK CONSTR.B/L                  |

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PRINCE WILLIAM COUNTY  
ATCS°  
ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL



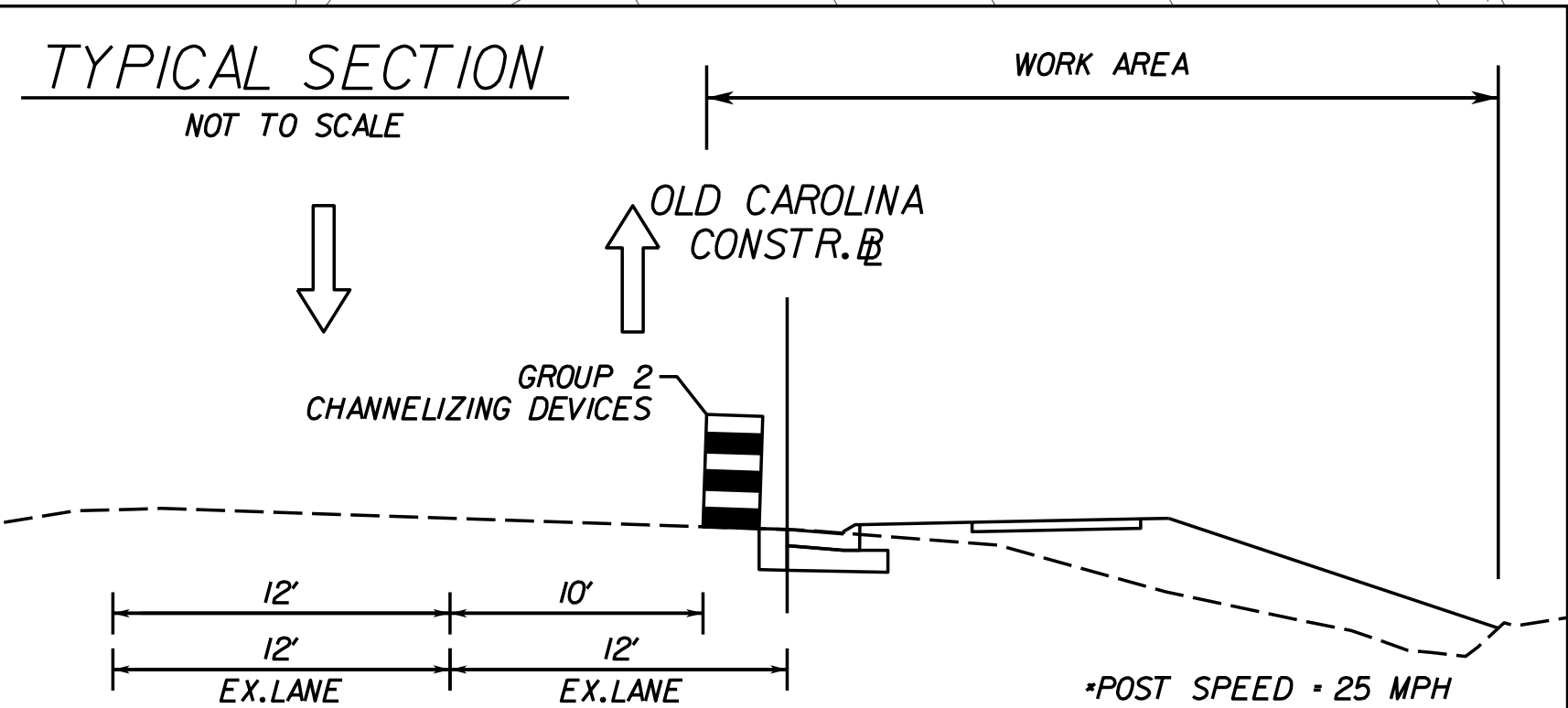
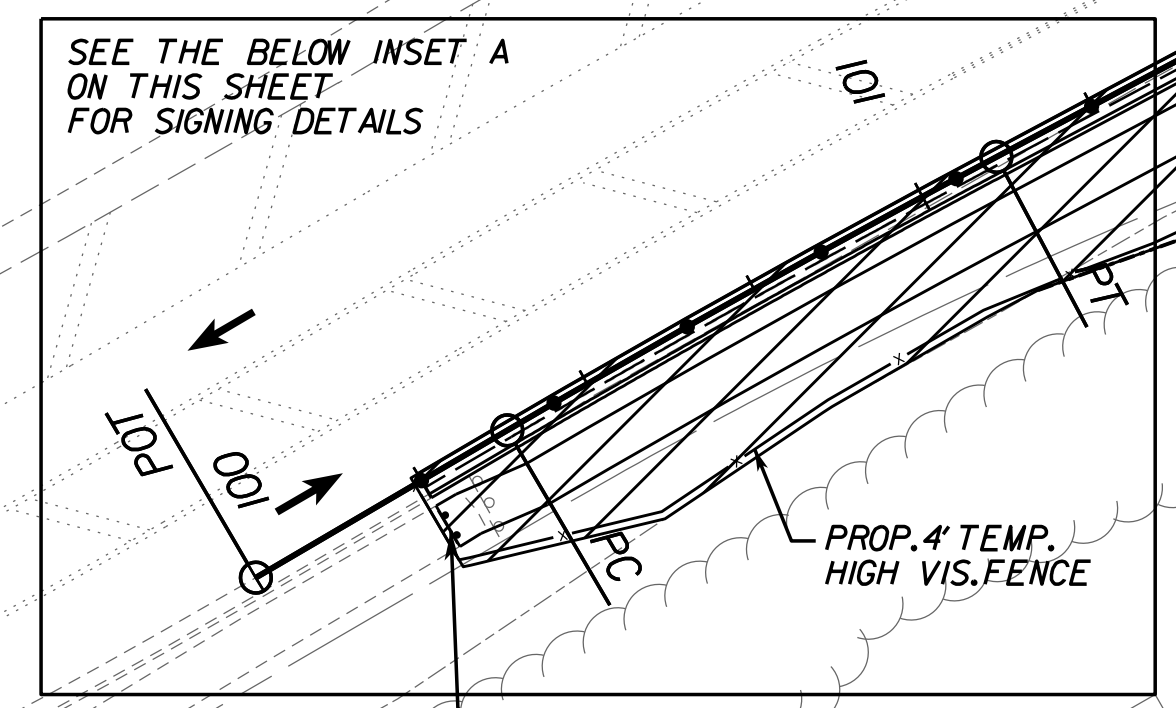
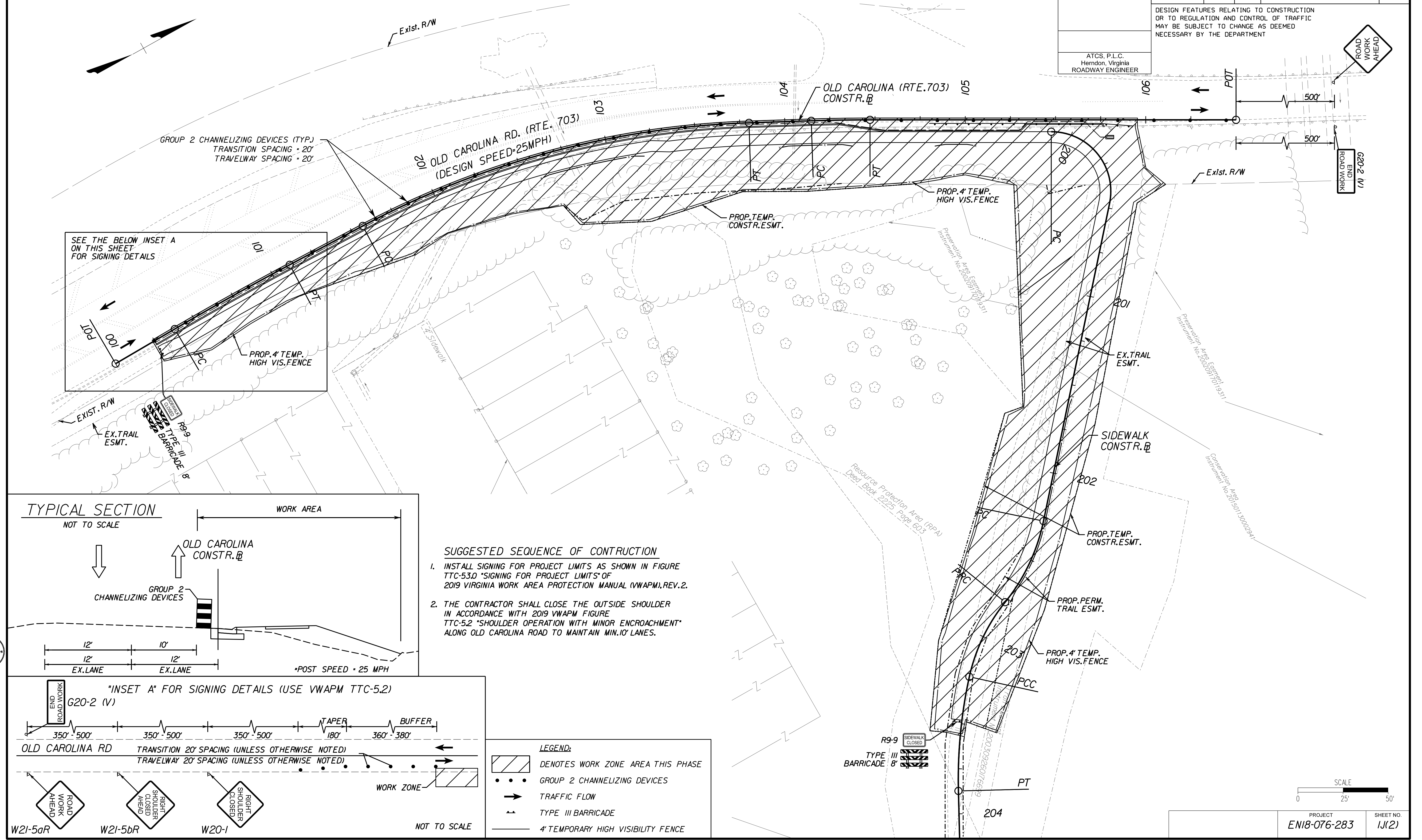
|         |              |           |    |
|---------|--------------|-----------|----|
| PROJECT | EN18-076-283 | SHEET NO. | 1A |
|---------|--------------|-----------|----|

PROJECT MANAGER: *Ludwik Kulczycki - Prince William County - (703) 792-6347*  
 SURVEYED BY, DATE: *Tami Lenox, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500*  
 DESIGN BY: *Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500*  
 SUBSURFACE UTILITY BY, DATE: *Accumark, Inc. - 04/09/20 - (904) 550-7740*

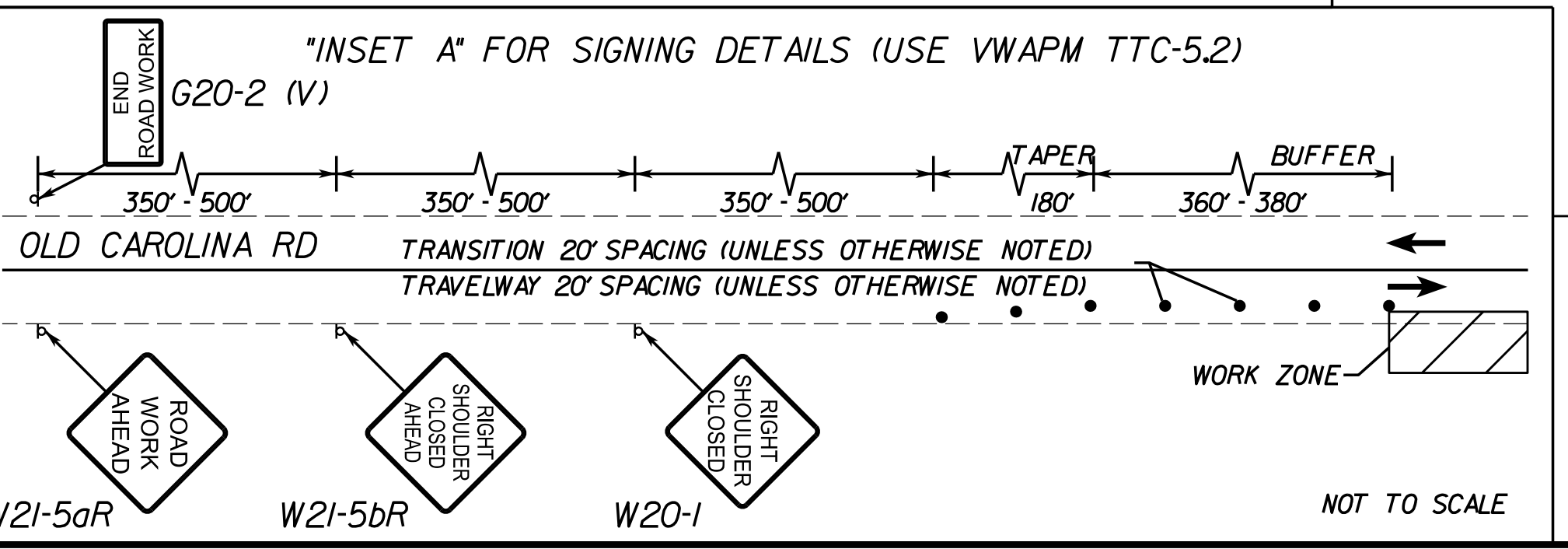
# TRANSPORTATION MANAGEMENT PLAN

| REVISED   | STATE | ROUTE | STATE PROJECT |     | SHEET NO. |
|---|-------|-------|---------------|-----|-----------|
|   |       |       | VA.           | 703 |           |
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| ATCS, P.L.C.<br>Herndon, Virginia<br>ROADWAY ENGINEER   |       |       |               |     |           |

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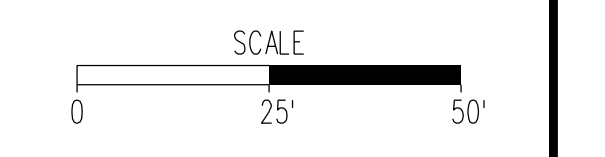


- SUGGESTED SEQUENCE OF CONTRUCTION**
1. INSTALL SIGNING FOR PROJECT LIMITS AS SHOWN IN FIGURE TTC-53.0 'SIGNING FOR PROJECT LIMITS' OF 2019 VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM), REV. 2.
  2. THE CONTRACTOR SHALL CLOSE THE OUTSIDE SHOULDER IN ACCORDANCE WITH 2019 VWAPM FIGURE TTC-5.2 'SHOULDER OPERATION WITH MINOR ENCROACHMENT' ALONG OLD CAROLINA ROAD TO MAINTAIN MIN. 10' LANES.



**LEGEND:**

- DENOTES WORK ZONE AREA THIS PHASE
- GROUP 2 CHANNELIZING DEVICES
- TRAFFIC FLOW
- TYPE III BARRICADE
- 4' TEMPORARY HIGH VISIBILITY FENCE



|              |           |
|--------------|-----------|
| PROJECT      | SHEET NO. |
| EN18-076-283 | I/J(2)    |

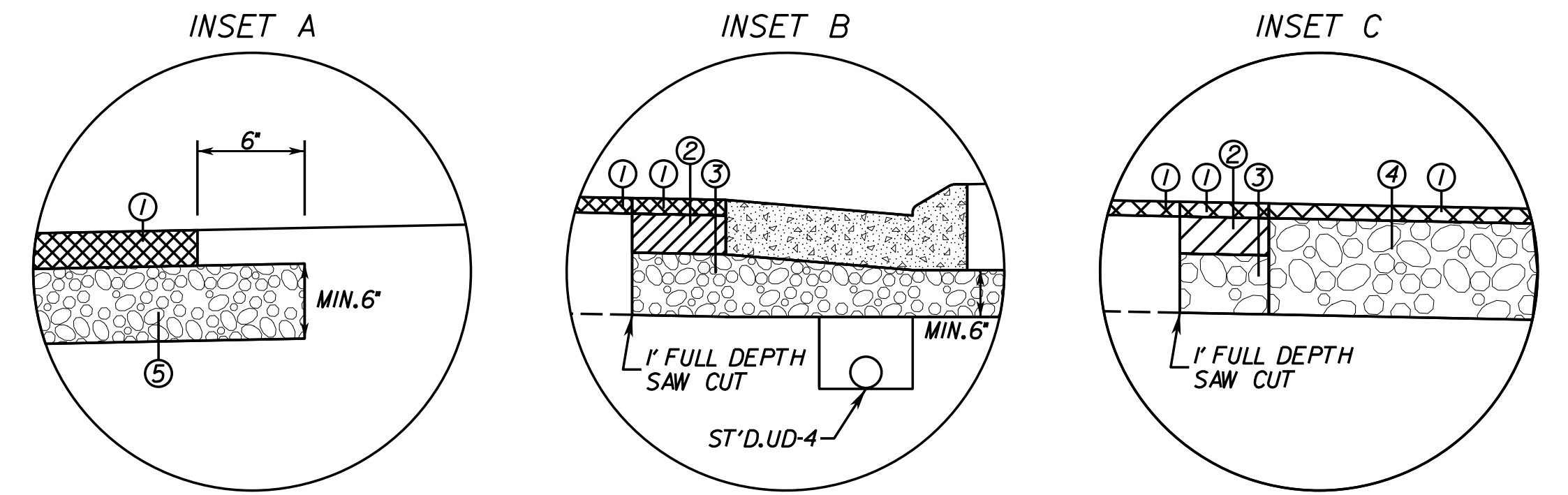
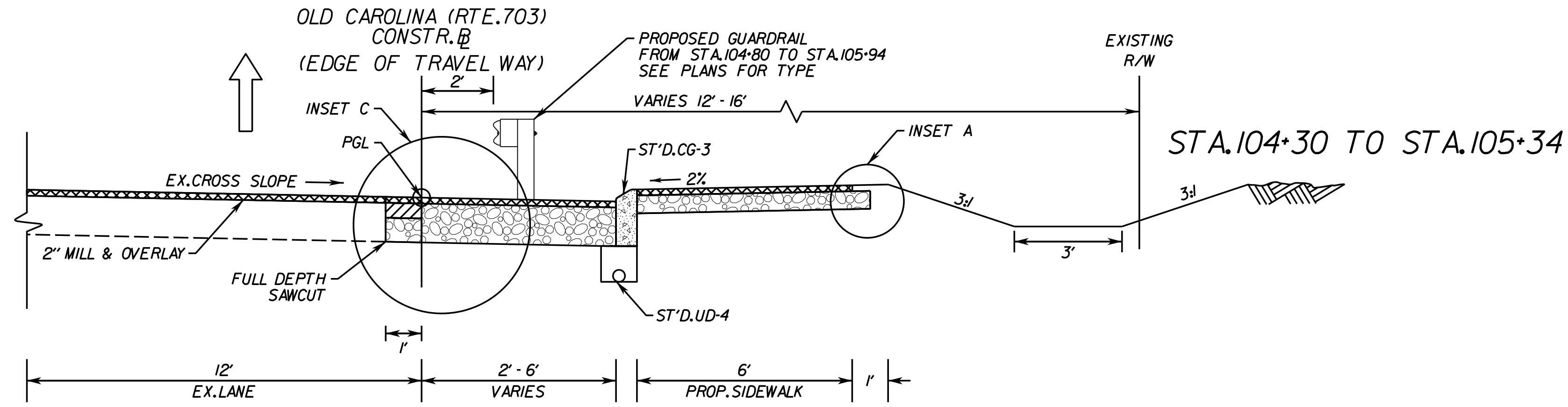
PRINCE WILLIAM COUNTY  
 ATCS ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

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 SUBSURFACE UTILITY BY, DATE: *Accumark, Inc. - 04/09/20 - (804) 550-7740*

# TYPICAL SECTIONS

|   |       |       |                                  |           |
|---|-------|-------|----------------------------------|-----------|
| REVISED   | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|   | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 2A        |
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| ATCS, P.L.C.<br>Herndon, Virginia<br>ROADWAY ENGINEER   |       |       |                                  |           |

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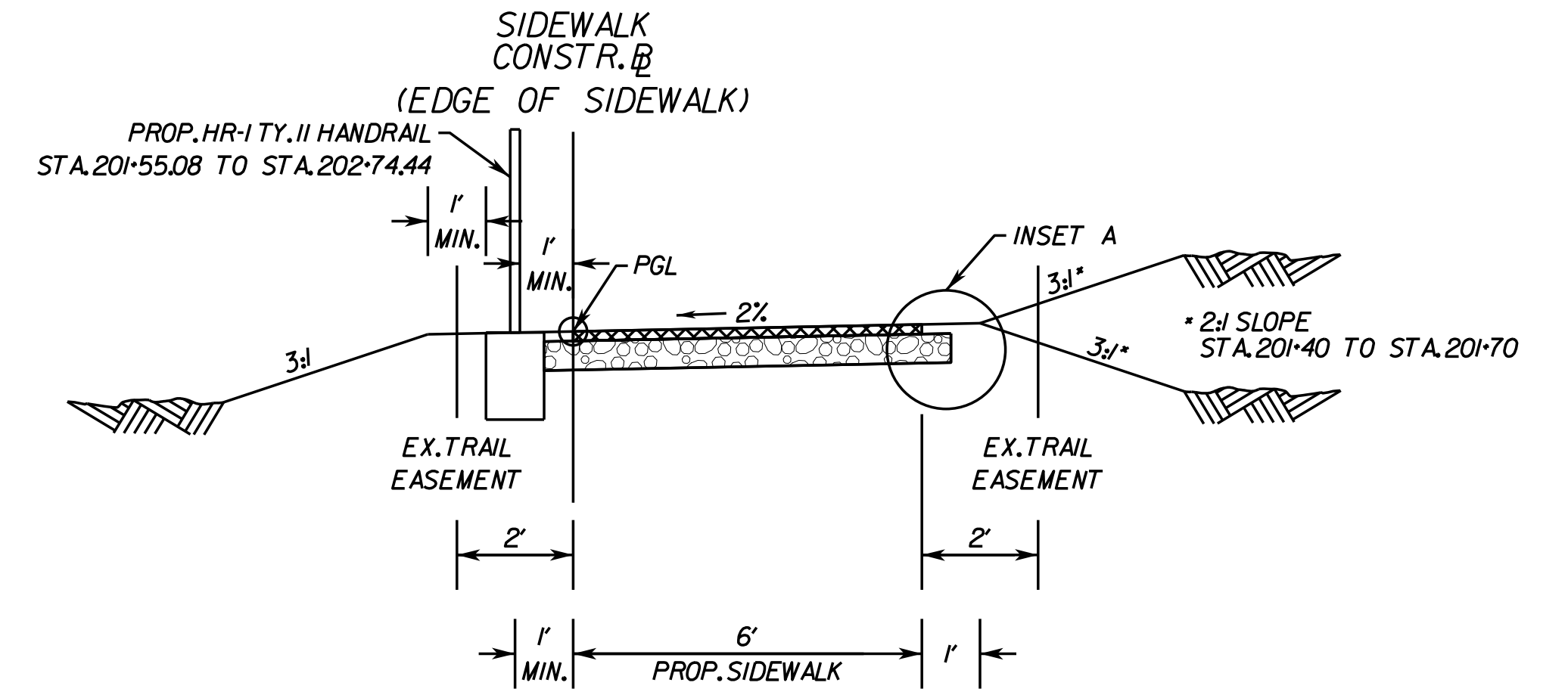
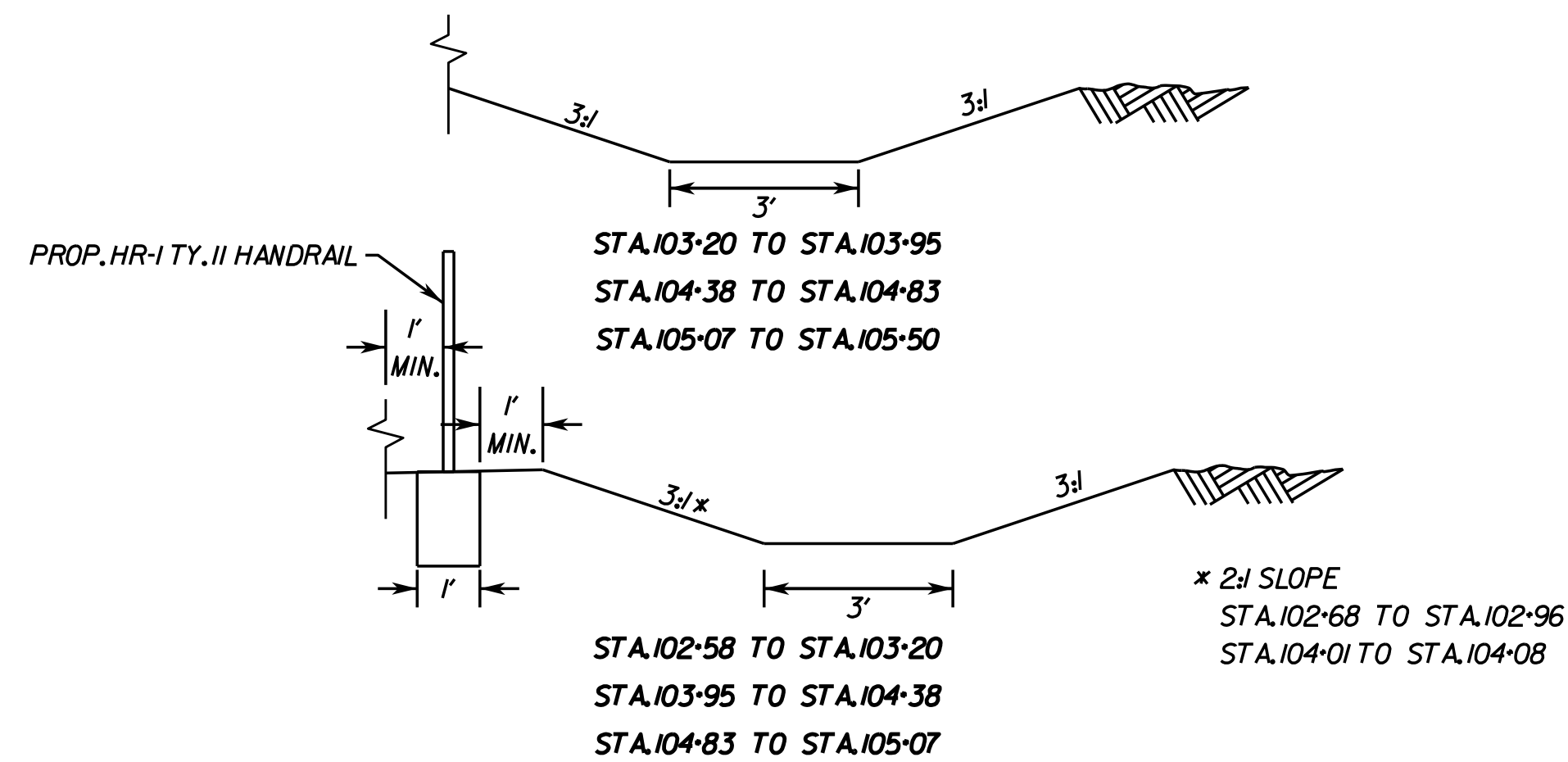
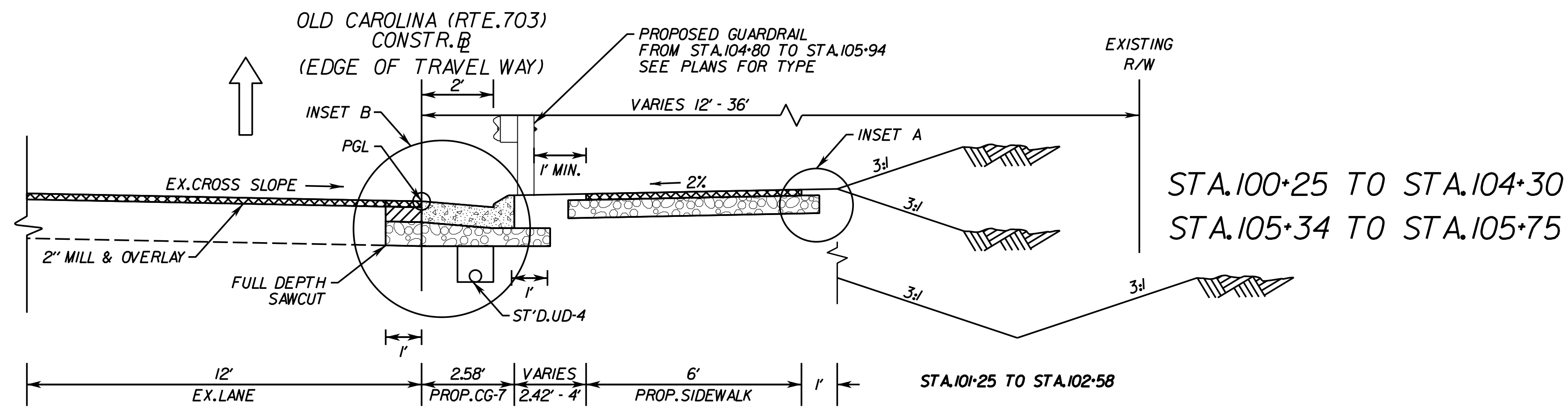


### PAVEMENT DESIGN

- ① 2" ASPHALT CONCRETE TYPE SM-9.5A ESTIMATED AT 244 LBS/SQ.YD.
- ② 5" ASPHALT CONCRETE TYPE BM-25.0A
- ③ 8" AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21B CONNECTED TO A STANDARD UD-4 EDGEDRAIN, IN ACCORDANCE WITH UD-4 STANDARD DETAILS.
- ④ 13" AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21B TO MATCH BOTTOM OF ADJACENT AGGREGATE
- ⑤ 6" AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21B

### NOTE:

1. ALL PAVEMENT WIDENING SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD WP-2. (SEE DETAIL ON SHEET 2K)
2. APPROX. LOCATION OF EXCESSIVELY WET SOIL: OLD CAROLINA (RTE.703) CONSTR. B/L STA.101+50.00 TO STA.105+80.00, SIDEWALK CONSTR. B/L STA.200+00.00 TO STA.201+50.00, OTHER WET LOCATIONS OBSERVED AT TIME OF CONSTRUCTION. PER GEOTECHNICAL REPORT, ANY EXCESSIVELY WET SOIL AS DETERMINED BY THE ENGINEER SHALL BE TREATED AS SUCH; SCARIFY, AERATE, AND RECOMPACT THE UPPER 2 FEET TO MEET THE REQUIREMENTS OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS, 2016. SUBGRADE SHALL BE PROOFROLLED WITH A FULLY LOADED DUMP TRUCK TO VERIFY STABILITY.



STA.199+88.68 TO STA.203+48

|              |           |
|--------------|-----------|
| PROJECT      | SHEET NO. |
| EN18-076-283 | 2A        |

PRINCE WILLIAM COUNTY



ATCS

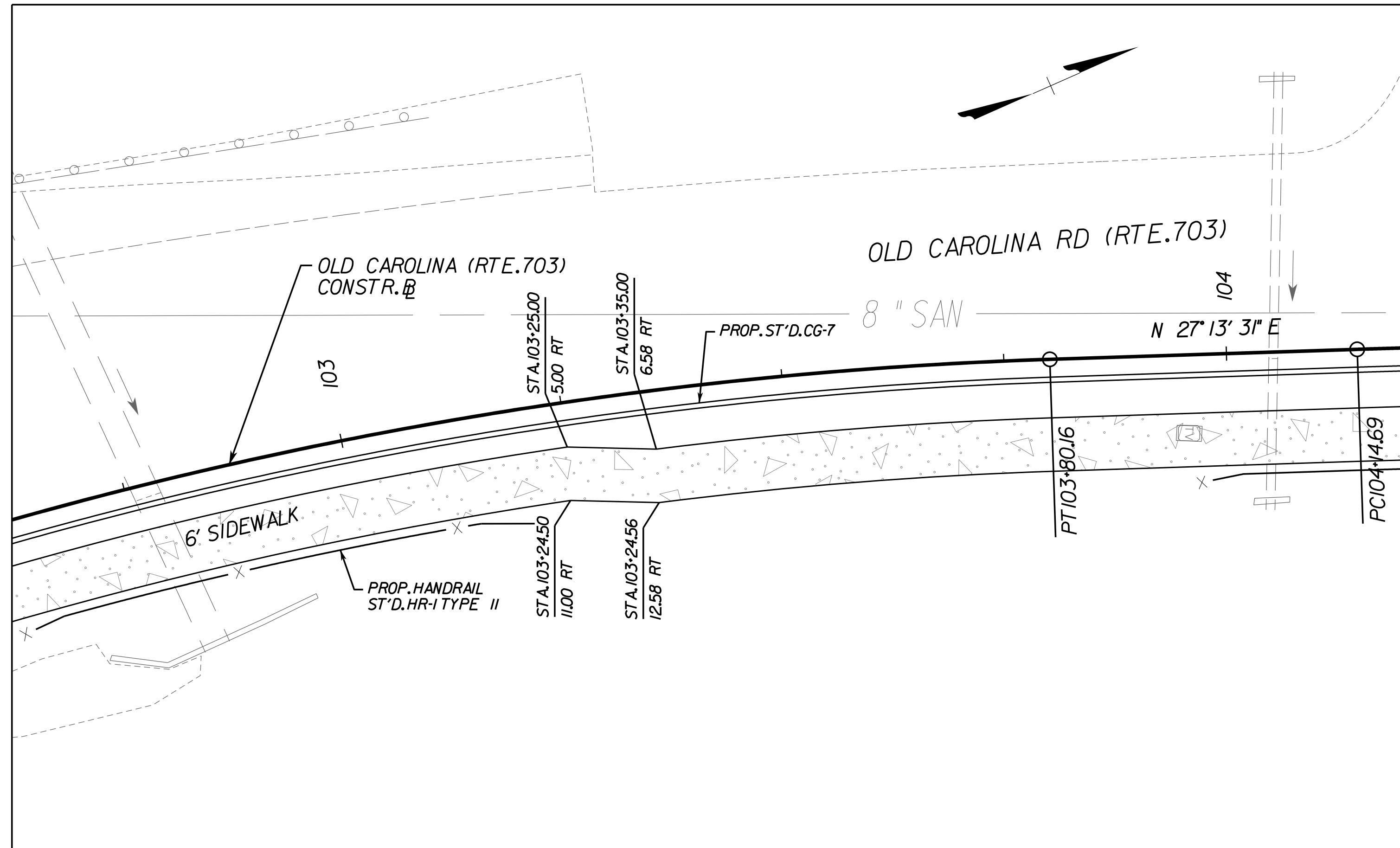
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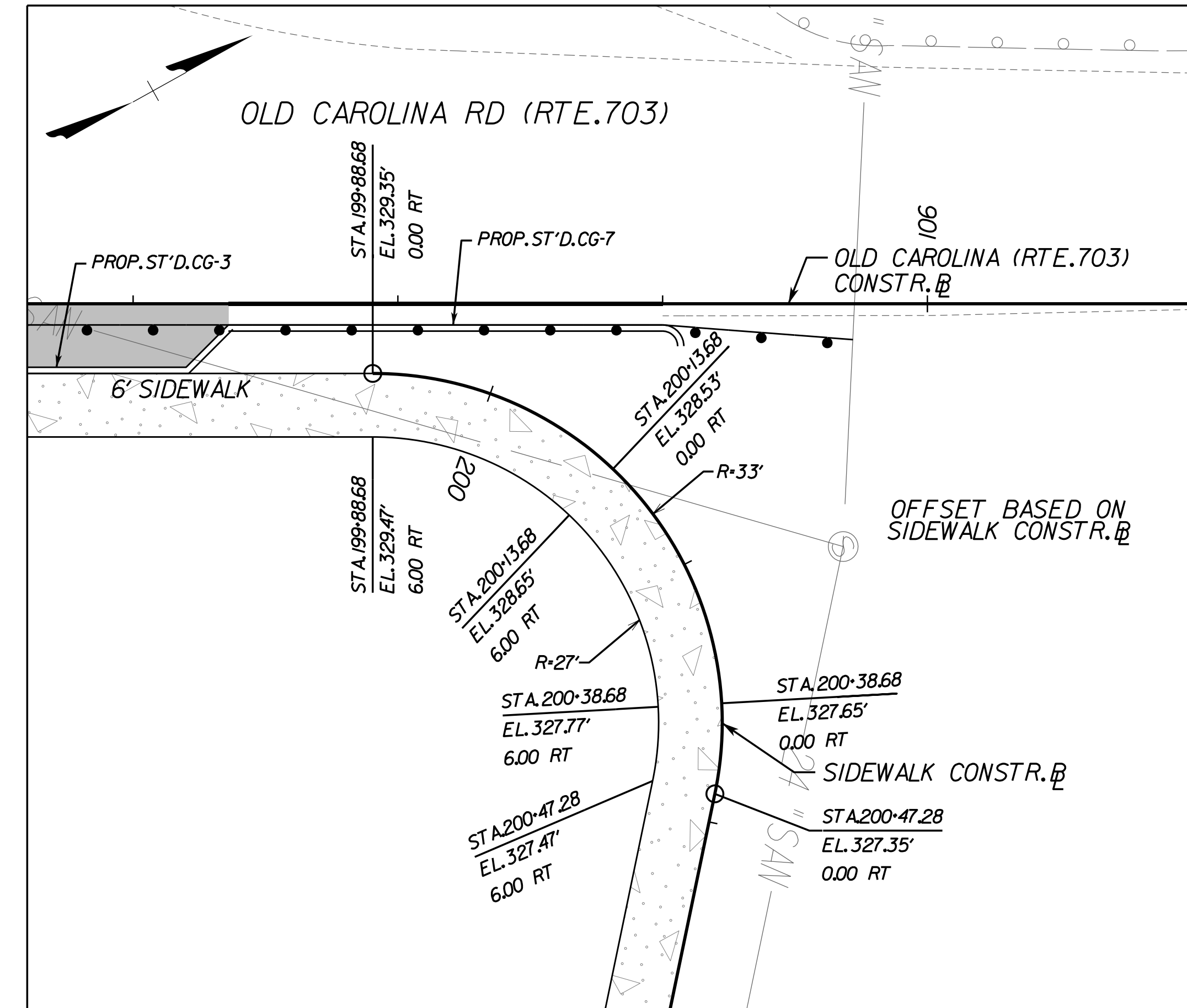
# SIDEWALK DETAILS

|   |       |       |                                  |           |
|---|-------|-------|----------------------------------|-----------|
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|   | VA.   | 703   | EN18-076-283<br>PI01, R201, C501 |           |
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| ATCS, P.L.C.<br>Herndon, Virginia<br>ROADWAY ENGINEER   |       |       |                                  |           |

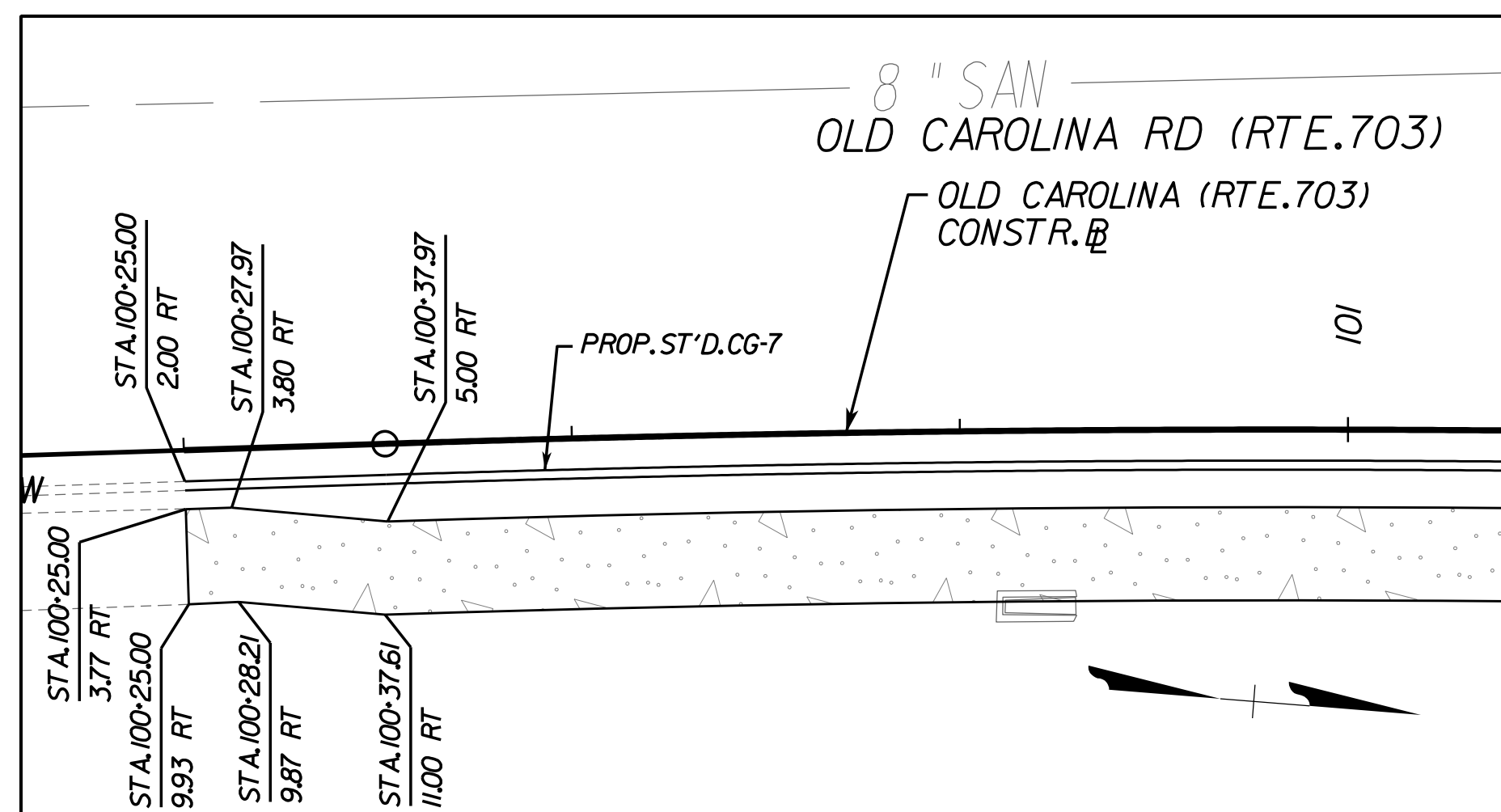
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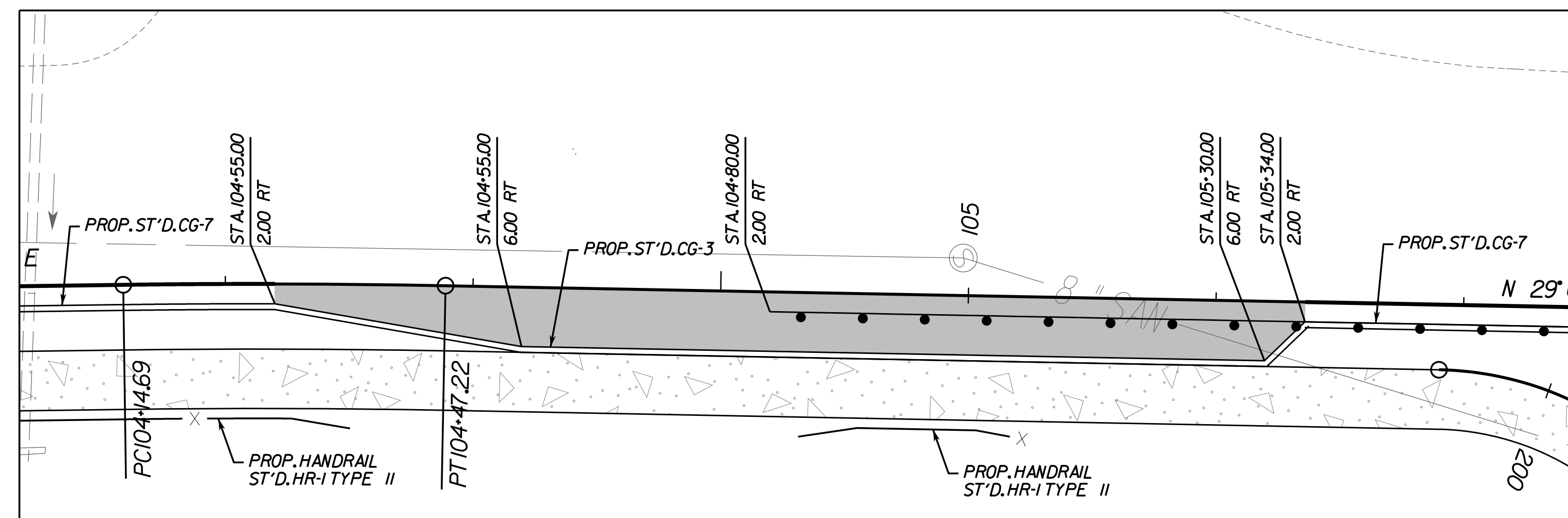
STA. 103+00.00 TO STA. 104+00.00



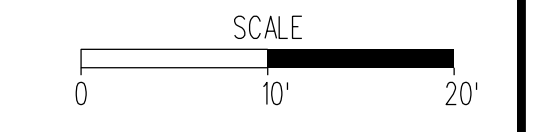
STA. 105+50.00 TO STA. 106+00.00



STA. 100+25.00 TO STA. 101+25.00



STA. 104+00 TO STA. 105+50.00



PROJECT: EN18-076-283  
SHEET NO.: 26

PRINCE WILLIAM COUNTY



ATCS

ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

PROJECT MANAGER Ludwik Kulczycki - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE Tami Lenox, L.S. - ATCS, P.L.C. - 07/08/17 - (703) 430-7500  
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# ROADSIDE DEVELOPMENT

|         |       |       |                                  |           |
|---------|-------|-------|----------------------------------|-----------|
| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|         | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 2H        |

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## CORE MIX

| MIX                          | LBS./ACRES | DESCRIPTION   |
|------------------------------|------------|---|
| 1                            | ▲ 100      | * 100% CERTIFIED FINE FESCUE  |
| 2                            | ▲          | 100% CERTIFIED TALL FESCUE  |
| 3                            | ▲ 75<br>25 | 50% CERTIFIED TALL FESCUE<br>* 50% CERTIFIED FINE FESCUE            |
| 4                            | ▲ 60<br>40 | 50% ORCHARDGRASS<br>50% CERTIFIED KENTUCKY BLUEGRASS                |
| 5                            | ▲          | 100% BERMUDAGRASS   |
| TEMPORARY                    |            |   |
| 3/1 - 5/16 and<br>8/16 - 3/1 | 50         | 50% CERTIFIED TALL FESCUE<br>50% BARLEY, WINTER RYE OR WINTER WHEAT |
| 5/16 - 8/16                  | 50         | 50% FOXTAIL MILLET<br>50% CERTIFIED TALL FESCUE                     |

\* FINE FESCUES INCLUDE CHEWINGS, CREEPING RED, HARD, SHEEP

## ADDITIVES

| TYPE | LBS./ACRES | DESCRIPTION                             |
|------|------------|---|
| A    | ▲          | 100% LOVEGRASS                          |
| B    | ▲ 25       | 100% BARLEY, WINTER RYE OR WINTER WHEAT |
| C    | ▲ 10       | 100% FOXTAIL MILLET                     |
| D    | ▲          | 100% ANNUAL RYEGRASS                    |
| E    | ▲          | 100% CROWNVTCH (LEGUME)                 |
| F    | ▲          | 100% SERICEA LESPEDEZA (LEGUME)         |
| G    | ▲          | 100% BIRDSFOOT TREFLOIL (LEGUME)        |
| H    | ▲ 25       | NONSTANDARD (NATIVE) SEE MIX            |
| I    | ▲          |   |
| J    | ▲          |   |
| K    | ▲          |   |

▲ ALL RATES TO BE SPECIFIED BY THE DISTRICT ROADSIDE MANAGER

## SEEDING SCHEDULE

| PROJECT NUMBERS               | SLOPES SEED MIX WITH ADDITIVE                                      | MOWED SEED MIX WITH ADDITIVE | SLOPES SEED MIX WITH ADDITIVE | MOWED SEED MIX WITH ADDITIVE | SLOPES SEED MIX WITH ADDITIVE | MOWED SEED MIX WITH ADDITIVE |
|-------------------------------|--|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|
|                               | SPRING MONTH & DATE  |                              | SUMMER MONTH & DATE           |                              | FALL & WINTER MONTH & DATE    |                              |
|                               | Coastal 3/1 - 5/15<br>Piedmont 3/16 - 5/31<br>Mountain 3/16 - 5/31 | 3/1 - 5/15                   | 5/16 - 9/15                   | 6/1 - 9/15                   | 9/16 - 11/15                  | 9/16 - 10/31                 |
| EN18-076-283                  | 1CH  | 3C                           | 4CH                           | 4C                           | 3BH                           | 3B                           |
| * SPECIFY KIND OF FINE FESCUE | SHEEP  | SHEEP                        | SHEEP                         | SHEEP                        | SHEEP                         | SHEEP                        |

### NOTES:

APPROXIMATELY 0.40 ACRES WILL BE DISTURBED ON THIS PROJECT AND WILL REQUIRE THE ESTABLISHMENT OF GRASSES AND/OR LEGUMES.

☆ NOTES FOR FIELD USE ONLY

OVERSEEDING RATES SHALL BE 100 PERCENT OF THE SEED MIXTURE SUPPLIED WITHOUT FERTILIZER.

THE ENGINEER WILL REQUIRE THE CONTRACTOR TO PERFORM SUPPLEMENTAL SEEDING WHEN LESS THAN 75 PERCENT UNIFORM STAND OF THE PERMANENT GRASS SPECIFIED IN THE MIXTURES IS OBTAINED. (ANNUAL SPECIES SUCH AS, RYE AND MILLET ARE TEMPORARY VARIETIES AND REQUIRE SUPPLEMENTAL SEEDING.)

NOTES APPLY TO SCHEDULE

LEGUME SEED MIXES (BIRDSFOOT TREFLOIL, CROWNVTCH, AND SERICEA LESPEDEZA) AND WEEPING LOVEGRASS SHALL NOT BE USED ON SHOULDERS AND OTHER LOCATIONS WITH SLOPES 3:1 OR FLATTER.

LEGUME SEED SHALL BE INOCULATED WITH THE APPROPRIATE STRAIN AND RATE OF BACTERIA. FOR HYDROSEEDING, USE FIVE TIMES THE DRY SEEDING RATE OF INOCULATE.

SPRING & SUMMER AND FALL & WINTER DEFINED FOR THE PURPOSE OF DETERMINING WHETHER HULLED OR UNHULLED BERMUDAGRASS AND SERICEA LESPEDEZA SEED IS REQUIRED:

SPRING & SUMMER 4/1 - 9/15 - USE HULLED SEED  
 FALL & WINTER 9/15 - 4/1 - USE UNHULLED SEED

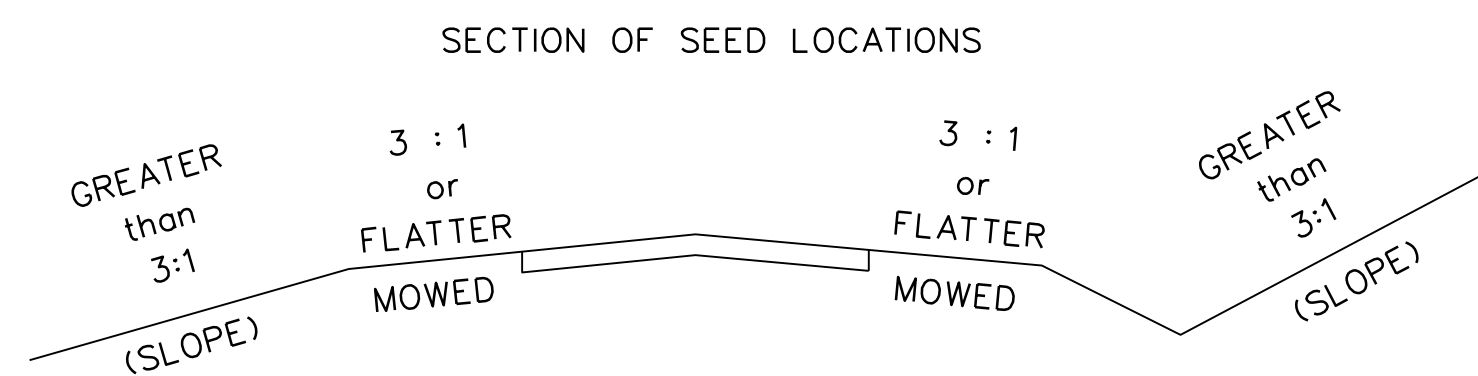
FOR MULCHES and HYDRAULIC EROSION CONTROL PRODUCT (HECP) SEE VDOT'S ROAD AND BRIDGE SPECIFICATIONS, SECTIONS 244 AND 603.

ALL TOPSOIL IS TO BE FREE OF HARD LUMPS, CLODS, ROCKS AND FOREIGN DEBRIS AND IS TO BE HAND RAKED TO TIE INTO EXISTING LAWNS.

ALL SEED MUST BE IN CONFORMANCE WITH VDOT SEED SPECIFICATIONS FOR GRASSES & LEGUMES AND BE PROVIDED AT THE PROJECT SITE IN BAGS NOT OPENED AND LABELED FOR USE ON VDOT PROJECTS WITH A GREEN TAG CERTIFYING INSPECTION BY THE VIRGINIA CROP IMPROVEMENT ASSOCIATION.

## MIX REQUIREMENTS THIS PROJECT

RECOMMENDATIONS FOR THE APPLICATION OF SEED MIXTURES (CORE MIX AND ADDITIVES), FERTILIZER, LIME, ETC. ARE TO BE OBTAINED FROM THE DISTRICT ROADSIDE MANAGER.



## ROADSIDE DEVELOPMENT SUMMARY

| PROJECT NUMBERS | ⊗ TOPSOIL 2" CLASS A   ⊙ B ACRES | REGULAR SEED LBS. | OVER SEEDING LBS. | LIME TONS | FERTILIZER    |                 |                | LEGUME SEED LBS. | LEGUME OVER SEEDING LBS. | TEMPORARY SEEDING LBS. | HECP (TYPE 1) S. Y. | HECP (TYPE 2) S. Y. | HECP (TYPE 3) S. Y. | HECP (TYPE 4) S. Y. |
|-----------------|----------------------------------|-------------------|-------------------|-----------|---------------|-----------------|----------------|------------------|--------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|
|                 |                                  |                   |                   |           | N             | P               | K              |                  |                          |                        |                     |                     |                     |                     |
|                 |                                  |                   |                   |           | NITROGEN LBS. | PHOSPHORUS LBS. | POTASSIUM LBS. |                  |                          |                        |                     |                     |                     |                     |
| EN18-076-283    | 0.40                             | 80                | 60                | 1.8       | 37            | 51              | 26             | 0                | 0                        | 40                     | 0                   | 2,361               | 1,889               | 0                   |

⊗ DENOTES ITEM(S) TO BE PAID FOR ON THE BASIS OF PLAN QUANTITIES IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE CURRENT ROAD AND BRIDGE SPECIFICATIONS.

PROJECT MANAGER *Ludwik Kulczycki - Prince William County - (703) 792-6347*  
 SURVEYED BY, DATE *Tami Lenox, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500*  
 DESIGN BY *Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500*  
 SUBSURFACE UTILITY BY, DATE *Acumark, Inc. - 04/09/20 - (904) 550-7740*

# VDOT STANDARD DETAILS

| REVISED | STATE | STATE |                                  | SHEET NO. |
|---------|-------|-------|----------------------------------|-----------|
|         |       | ROUTE | PROJECT                          |           |
|         | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 2K(11)    |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

**NOTES:**

- THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
- CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
- COMBINATION CURB & GUTTER HAVING A RADIUS OF 500 FEET OR LESS (ALONG FACE OF CURB) SHALL BE FAD FOR AS RADIAL COMBINATION CURB & GUTTER.
- FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER THE BOTTOM OF THE CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
- ALLOWABLE CRITERIA FOR THE USE OF CO-7 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL IN THE SECTION ON URBAN OS STANDARDS.
- WHEN THIS STANDARD IS TO BE TIED INTO EXISTING BARRIER CURB, THE TRANSITION IS TO BE MADE WITHIN 10' OR THE CHANGE IN STANDARDS CAN BE MADE AT REGULAR OPENINGS.
- WHEN COMBINATION MOUNTABLE CURB AND GUTTER IS USED, THE STANDARD ENTRANCE GUTTERS OR STANDARD CONNECTION FOR STREET INTERSECTIONS ARE TO HAVE THE MOUNTABLE CURB CONFIGURATION INCORPORATED.

THIS AREA MAY BE CONCRETE AT THE OPTION OF THE CONTRACTOR

THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES PROVIDED A MIN. DEPTH OF 7" IS MAINTAINED

|  |                                       |                                |
|--|---------------------------------------|--------------------------------|
| <b>VDOT</b><br>ROAD AND BRIDGE STANDARDS   | <b>COMBINATION 4" CURB AND GUTTER</b> | <b>SPECIFICATION REFERENCE</b> |
| SHEET 1 OF 1<br>201.04   | REVISION DATE                         | 105<br>502                     |
| A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. |                                       |                                |
| MIDWEST GUARDRAIL SYSTEM<br>(STANDARD AND REDUCED POST SPACING)                    |                                       |                                |
| VIRGINIA DEPARTMENT OF TRANSPORTATION  |                                       |                                |
| 2016 ROAD & BRIDGE STANDARDS   |                                       |                                |

**CONSTRUCTION JOINT DETAIL**

REMOVE EXISTING ASPHALT LAYERS TO EXISTING SUBBASE AND REPLACE WITH PROPOSED ASPHALT WIDENING LAYERS  
 PROPOSED MINIMUM 1 1/2" INCH THICK ASPHALT SURFACE COURSE (SEE NOTE 5)  
 X MINIMUM 12 INCHES, OR GREATER AS NECESSARY TO ABUT THE FULL THICKNESS OF EXISTING ASPHALT LAYERS AS DETERMINED BY CORES (SEE NOTE 3)

**NOTES:**

- ASPHALT PAVEMENT WIDENING SHALL HAVE A PAVEMENT DESIGN IN ACCORDANCE WITH CURRENT VDOT PROCEDURES AND BE APPROVED BY THE ENGINEER.
- THE PAVEMENT DESIGN FOR ASPHALT PAVEMENT WIDENING SHALL MEET OR EXCEED THE DEPTHS AND TYPES OF THE LAYERS OF EXISTING PAVEMENT. SUBSURFACE DRAINAGE OF THE EXISTING AND PROPOSED PAVEMENT SHALL BE ADDRESSED IN THE PAVEMENT DESIGN.
- A MINIMUM OF THREE CORES SHALL BE TAKEN ALONG THE CENTER OF THE ADJACENT TRAVEL LANE TO DETERMINE THE TYPE AND THICKNESS OF EXISTING PAVEMENT LAYERS. THESE CORES SHALL BE SPACED NO MORE THAN 500 FEET APART.
- THE ADJACENT TRAVEL LANE SHALL BE WELLED A MINIMUM DEPTH OF 1 1/2" INCHES AND REPLACED WITH AN ASPHALT SURFACE COURSE TO MATCH THE PROPOSED PAVEMENT WIDENING SURFACE COURSE, UNLESS WAIVED BY THE ENGINEER.
- THE ENGINEER MAY REQUIRE THE MILLING DEPTH OF THE EXISTING PAVEMENT TO BE ADJUSTED TO ACHIEVE AN ACCEPTABLE PAVEMENT CROSS-SLOPE AND EFFECTIVE SURFACE DRAINAGE.
- EXISTING PAVEMENT MARKINGS AND MARKERS WITHIN THE PROJECT LIMITS SHALL BE RESTORED SUBJECT TO THE APPROVAL OF THE ENGINEER.
- FINAL TRANSVERSE PAVEMENT TIE-IN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 315 OF THE SPECIFICATIONS EXCEPT THAT ALL JOINTS AT TIE-IN LOCATIONS SHALL BE TESTED USING A 10 FOOT STRAIGHTEDGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 315 OF THE SPECIFICATIONS.

|  |  |                                |
|--|--|--------------------------------|
| <b>VDOT</b><br>ROAD AND BRIDGE STANDARDS   | <b>ASPHALT PAVEMENT WIDENING FOR WIDENING SUBJECT TO TRAFFIC</b> | <b>SPECIFICATION REFERENCE</b> |
| SHEET 1 OF 1<br>303.02   | REVISION DATE  | 315                            |
| A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. |  |                                |
| MIDWEST GUARDRAIL SYSTEM<br>(STANDARD AND REDUCED POST SPACING)                    |  |                                |
| VIRGINIA DEPARTMENT OF TRANSPORTATION  |  |                                |
| 2016 ROAD & BRIDGE STANDARDS   |  |                                |

**2016 ROAD & BRIDGE STANDARDS**

TRAFFIC DIRECTION FOR RAIL LAP AS SHOWN (SEE NOTE 7)

**GR-MGS1**  
(6'-3" POST SPACING)  
MIN. DISTANCE FROM FACE OF RAIL TO FIXED OBJECT = 60"

**GR-MGS1A**  
(13'-1/2" POST SPACING)  
MIN. DISTANCE FROM FACE OF RAIL TO FIXED OBJECT = 48"

**FLARE RATES**

| DESIGN SPEED | SHOULDER WIDTH | FLARE RATE | BEYOND SHOULDER LINE |
|--------------|----------------|------------|----------------------|
| 70           | 9'             | 30:1       | 15:1 *               |
| 60           | 8'             | 26:1       | 14:1 *               |
| 50           | 6.5'           | 21:1       | 11:1 *               |
| 40           | 5'             | 16:1       | 8:1 *                |
| 30           | 4'             | 13:1       | 7:1 *                |

\* SUGGESTED MAXIMUM FLARE RATE FOR SEMI-RIGID BARRIER SYSTEMS.

**SPlice DETAIL**  
RAIL SPICE SHALL BE FLANGED MID-SPAN FOR STANDARD POST SPACING (6'-3")

**NOTES:**

- GUARDRAIL LOCATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND CAN BE ADJUSTED DURING CONSTRUCTION IF AND AS DIRECTED BY THE ENGINEER.
- FOR DETAILS OF POST AND BLOCKOUTS SEE SHEET NO. 506.05.
- FOR DETAILS OF RAIL ELEMENT AND ASSOCIATED HARDWARE SEE SHEETS 506.05 AND 506.02.
- RAIL ELEMENTS WITH RADIUS LESS THAN OR EQUAL TO 150 FEET SHALL BE SHAPED CURVED AND FAD FOR AS RADIAL GR-MGS1 OR 1A.
- ALL GR-MGS1 AND GR-MGS1A RAIL SHALL BE MAINTAINED AT A HEIGHT OF 30" MIN. ± 32" MAX AS MEASURED PER STANDARD GR-NC.
- ALL GUARDRAIL POSTS SHALL BE SET PLUMB. POST SHALL NOT BE SET WITH A VARIATION OF MORE THAN 1/4" PER FOOT FROM VERTICAL. W-BEAM BLOCKOUTS AND POSTS SHALL BE SET AND ALIGNED WITHOUT ALTERATION OR FORCE AS PER SECTION 505 OF THE SPECIFICATIONS.
- ALL W-BEAM RAILS SHALL BE LAPPED IN THE DIRECTION OF VEHICULAR TRAVEL FOR THE FINISHED ROADWAY.
- ADJUSTING EXISTING GUARDRAIL TO MEET THE MGS1 STANDARD IS NOT PERMITTED.

|  |   |                                |
|--|---|--------------------------------|
| <b>VDOT</b><br>ROAD AND BRIDGE STANDARDS   | <b>MIDWEST GUARDRAIL SYSTEM (STANDARD AND REDUCED POST SPACING)</b> | <b>SPECIFICATION REFERENCE</b> |
| SHEET 2 OF 3<br>506.07   | REVISION DATE<br>09/17  | 221<br>236<br>505              |
| A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. |   |                                |
| MIDWEST GUARDRAIL SYSTEM<br>(STANDARD AND REDUCED POST SPACING)                    |   |                                |
| VIRGINIA DEPARTMENT OF TRANSPORTATION  |   |                                |
| 2016 ROAD & BRIDGE STANDARDS   |   |                                |

**2016 ROAD & BRIDGE STANDARDS**

**GR-MGS1A**

**STANDARD INSTALLATION 6" STEEL POST**

**STEEL POST**

**6" WIDE ROUTED WOOD BLOCKOUT**

**NOTES:**

- ALL BOLTS, NUTS, WASHERS, AND OTHER STEEL ITEMS ARE TO BE GALVANIZED.
- BLOCKOUTS OTHER THAN SHOWN SHALL BE A VDOT APPROVED PRODUCT MEETING MEASUREMENT CRITERIA. BLOCKOUTS SHALL BE FROM THE VDOT APPROVED PRODUCTS LIST. APPROVED BLOCKOUTS MAY BE INTERCHANGED ON ANY ONE PROJECT WITH THE RESTRICTION THAT THE SAME TYPE OF BLOCKOUT MUST BE USED IN ANY SINGLE RUN OF GUARDRAIL.
- WOOD BLOCKOUTS SHALL BE TREATED WITH A WOOD PRESERVATIVE IN ACCORDANCE WITH THE SPECIFICATIONS.
- DIMENSION MAY VARY PLUS OR MINUS 1/4" DUE TO MANUFACTURING TOLERANCES IN GUARDRAIL COMPONENTS.

|  |   |                                |
|--|---|--------------------------------|
| <b>VDOT</b><br>ROAD AND BRIDGE STANDARDS   | <b>MIDWEST GUARDRAIL SYSTEM (STANDARD AND REDUCED POST SPACING)</b> | <b>SPECIFICATION REFERENCE</b> |
| SHEET 2 OF 2<br>506.05   | REVISION DATE<br>NEW 02/17  | 221<br>236<br>505              |
| A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. |   |                                |
| MIDWEST GUARDRAIL SYSTEM<br>(STANDARD AND REDUCED POST SPACING)                    |   |                                |
| VIRGINIA DEPARTMENT OF TRANSPORTATION  |   |                                |
| 2016 ROAD & BRIDGE STANDARDS   |   |                                |

**GR-MGS2**

**PLAN**

**ELEVATION**

**NOTES:**

- TANGENT END TERMINAL (GR-MGS2) SHALL BE A VDOT APPROVED PRODUCT MEETING MEASUREMENT CRITERIA. ANY TERMINAL USED FOR THE GR-MGS2 SHALL BE FROM THE VDOT APPROVED PRODUCTS LIST.
- ALL TERMINALS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE FOLLOWING VDOT REQUIREMENTS:
  - ALL STANDARD GR-MGS2 TERMINALS (SIMILAR TO AS SHOWN ABOVE) SHALL BE INSTALLED WITHOUT AN OFFSET.
  - INSTALLING GR-MGS2 TERMINAL ON A RADIUS IS NOT PERMITTED.
  - DIRECTION OF THE REFLECTIVE TAPE ON THE TERMINAL HEAD SHALL CONFORM TO MUTCD APPLICATION FOR DIAGONAL STRIPES ON OBJECT MARKERS AND SPOKE END PANELS (SEE NOTE 4).
  - DO NOT CHANGE THE LAPPING OF TERMINAL FOR ANY INSTALLATIONS. INSTALL AS SHOWN IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS REGARDLESS OF ADJACENT TRAFFIC DIRECTION (SEE DETAIL THIS SHEET).
  - HEIGHT MEASURED AT TOP OF W-BEAM IS 30" MIN. ± 32" MAX.
- THIS DRAWING IS REPRESENTATIONAL ONLY. DETAILS, DIMENSIONS, QUANTITIES, AND OTHER INFORMATION NOT SHOWN WILL VARY FOR EACH MANUFACTURER. SEE INDIVIDUAL MANUFACTURER'S PLANS FOR THIS INFORMATION.
- FLOURESCENT PRISMATIC LENS YELLOW SHEETING SHALL BE USED ON THE REFLECTIVE MARKERS. ALL REFLECTIVE SHEETING IS TO BE IN ACCORDANCE WITH SECTION 701 OF THE ROAD AND BRIDGE SPECIFICATIONS. STRIPES SHALL SLOPE DOWN TOWARD THE SIDE OF THE OBSTRUCTION ON WHICH TRAFFIC IS TO PASS.
 

COLOR:  
FIELD - YELLOW (REFLECTORIZED)  
MESSAGE - BLACK STRIPES (NON-REFLECTORIZED)

|  |  |                                |
|--|--|--------------------------------|
| <b>VDOT</b><br>ROAD AND BRIDGE STANDARDS   | <b>MIDWEST GUARDRAIL SYSTEM (TANGENT END TERMINAL)</b> | <b>SPECIFICATION REFERENCE</b> |
| SHEET 1 OF 3<br>506.06   | REVISION DATE<br>09/17                                 | 221<br>236<br>505              |
| A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. |  |                                |
| MIDWEST GUARDRAIL SYSTEM<br>(TANGENT END TERMINAL)                                 |  |                                |
| VIRGINIA DEPARTMENT OF TRANSPORTATION  |  |                                |
| 2016 ROAD & BRIDGE STANDARDS   |  |                                |

**GR-MGS2**

**SITE PREPARATION REQUIREMENTS FOR GR-MGS2**

**NOTES:**

- THE CROSS SLOPE OF THE GRADE APPROACHING THE GUARDRAIL TERMINAL AND ADJACENT TO FOR ITS FULL LENGTH MUST BE A MAXIMUM OF 2% IF THE EXISTING GRADE IS FLAT OR IS A POSITIVE SLOPE DUE TO THE SUPERELEVATION OF THE ROADWAY PAVEMENT. THE MINIMUM OFFSET FROM THE FACE OF RAIL TO THE HINGE POINT AS SHOWN IS REQUIRED.
- THE AREA IMMEDIATELY BEHIND AND BEYOND THE TERMINAL SHALL BE TRAVERSABLE AND FREE FROM FIXED OBJECTS. IF A CLEAR RUN OUT IS NOT ATTAINABLE THIS AREA SHALL AT LEAST BE SIMILAR IN CHARACTER TO THE UPSTREAM UNSHELLED ROADSIDE AREAS.
- FOR NEW CONSTRUCTION AND RECONSTRUCTION THE 10:1 SLOPE GRADING SHALL EXTEND A MINIMUM OF 6'-0" MEASURED FROM THE FACE OF RAIL.
- FOR PROPRIETARY GUARDRAIL TERMINALS THE MANUFACTURER'S SITE PREPARATION REQUIREMENTS TAKE PRECEDENCE OVER THIS STANDARD IF ADDITIONAL GRADING IS REQUIRED.

|  |  |                                |
|--|--|--------------------------------|
| <b>VDOT</b><br>ROAD AND BRIDGE STANDARDS   | <b>MIDWEST GUARDRAIL SYSTEM (TANGENT END TERMINAL)</b> | <b>SPECIFICATION REFERENCE</b> |
| SHEET 2 OF 3<br>506.07   | REVISION DATE<br>09/17                                 | 221<br>236<br>505              |
| A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. |  |                                |
| MIDWEST GUARDRAIL SYSTEM<br>(TANGENT END TERMINAL)                                 |  |                                |
| VIRGINIA DEPARTMENT OF TRANSPORTATION  |  |                                |
| 2016 ROAD & BRIDGE STANDARDS   |  |                                |

PRINCE WILLIAM COUNTY



ATCS°  
ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

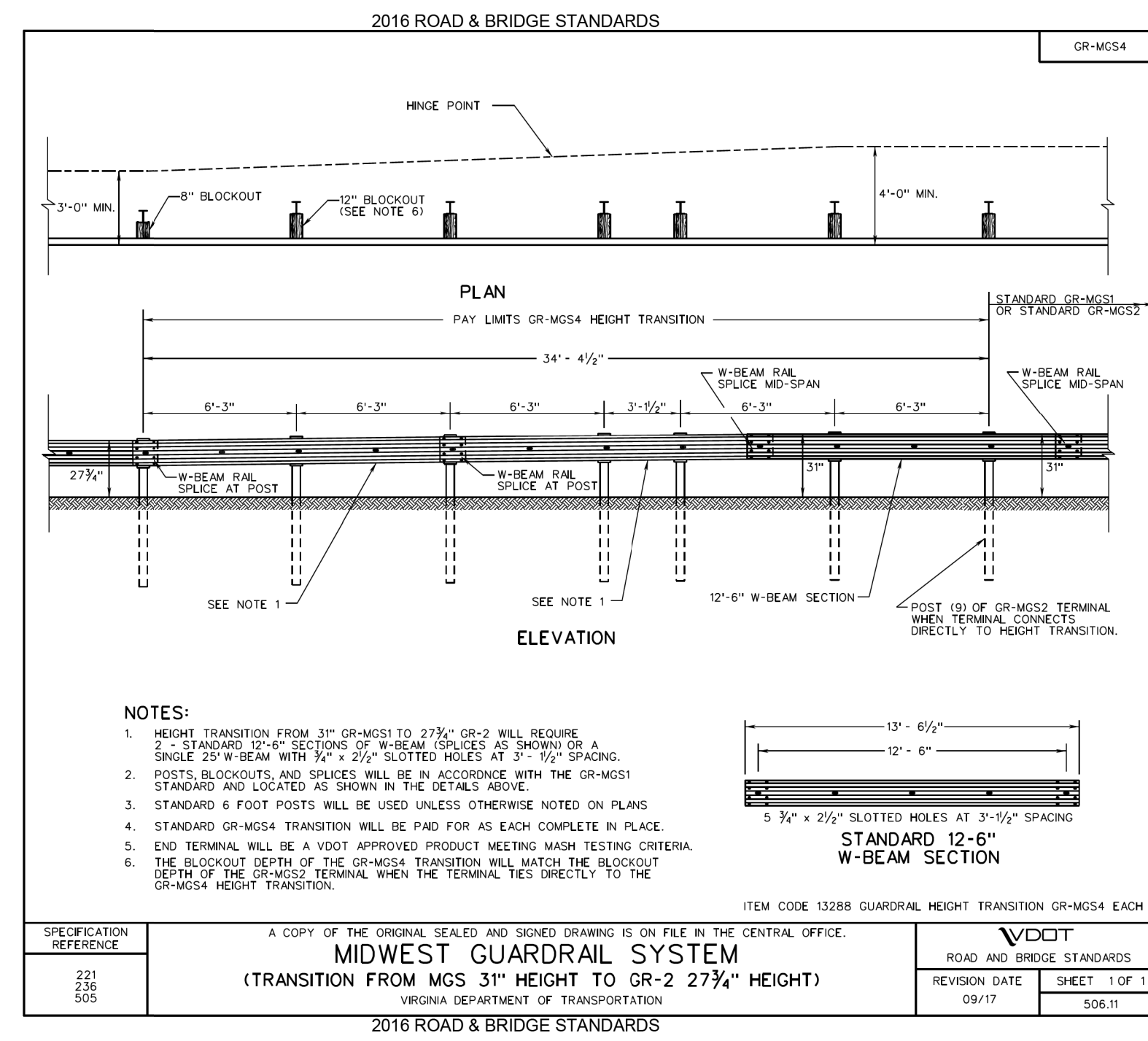
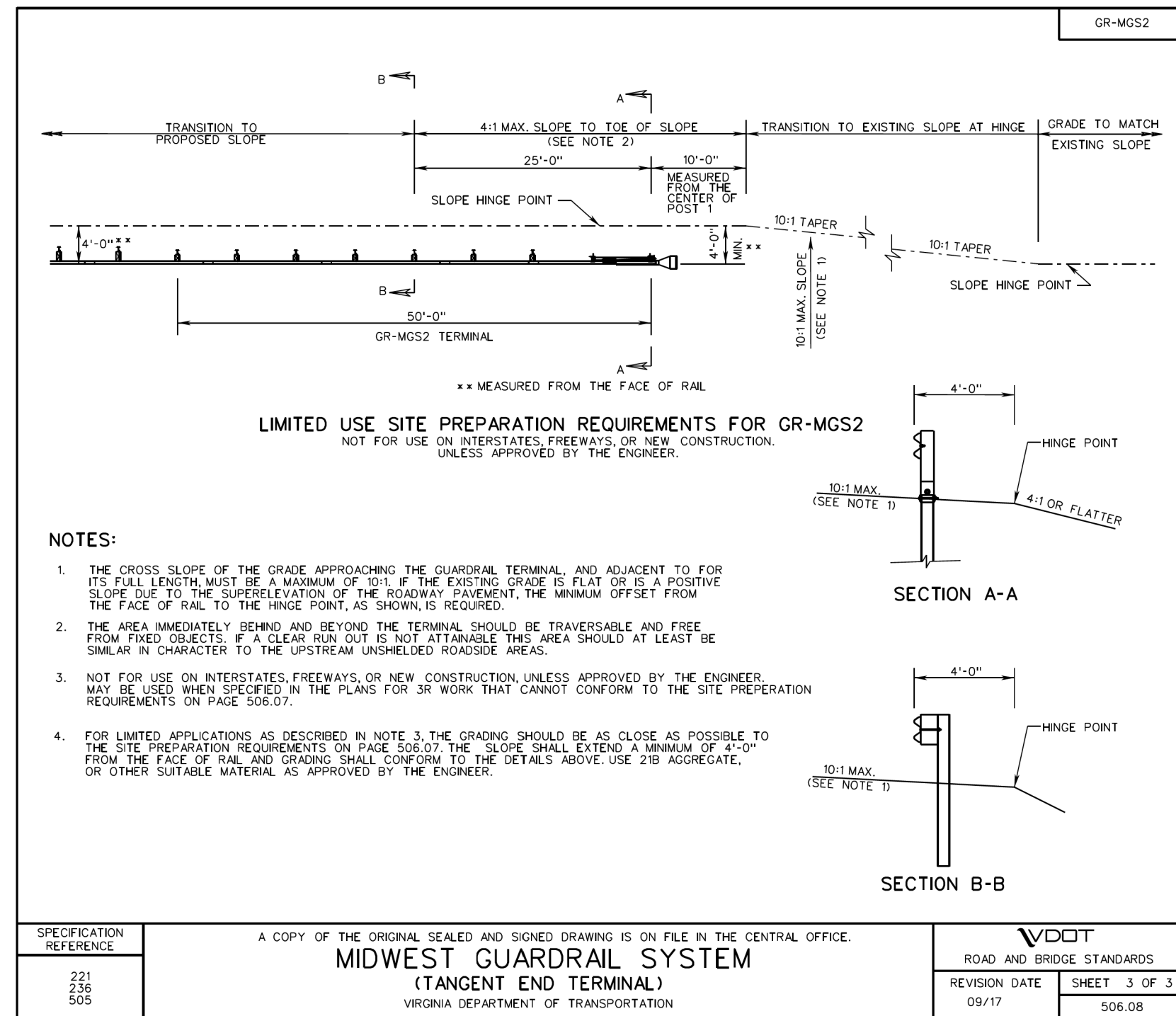
PROJECT MANAGER Ludwik Kulczycki - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE Tami Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE Accurate, Inc. - 04/09/20 - (804) 550-7740

# VDOT STANDARD DETAILS

| REVISED | STATE | STATE   |                                  | SHEET NO. |
|---------|-------|---------|----------------------------------|-----------|
|         | ROUTE | PROJECT |                                  |           |
|         | VA.   | 703     | EN18-076-283<br>P101, R201, C501 | 2K(2)     |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.





PROJECT MANAGER: Ludwik Kulczycki - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tami Lenox, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accumark, Inc. - 04/09/20 - (804) 550-7740

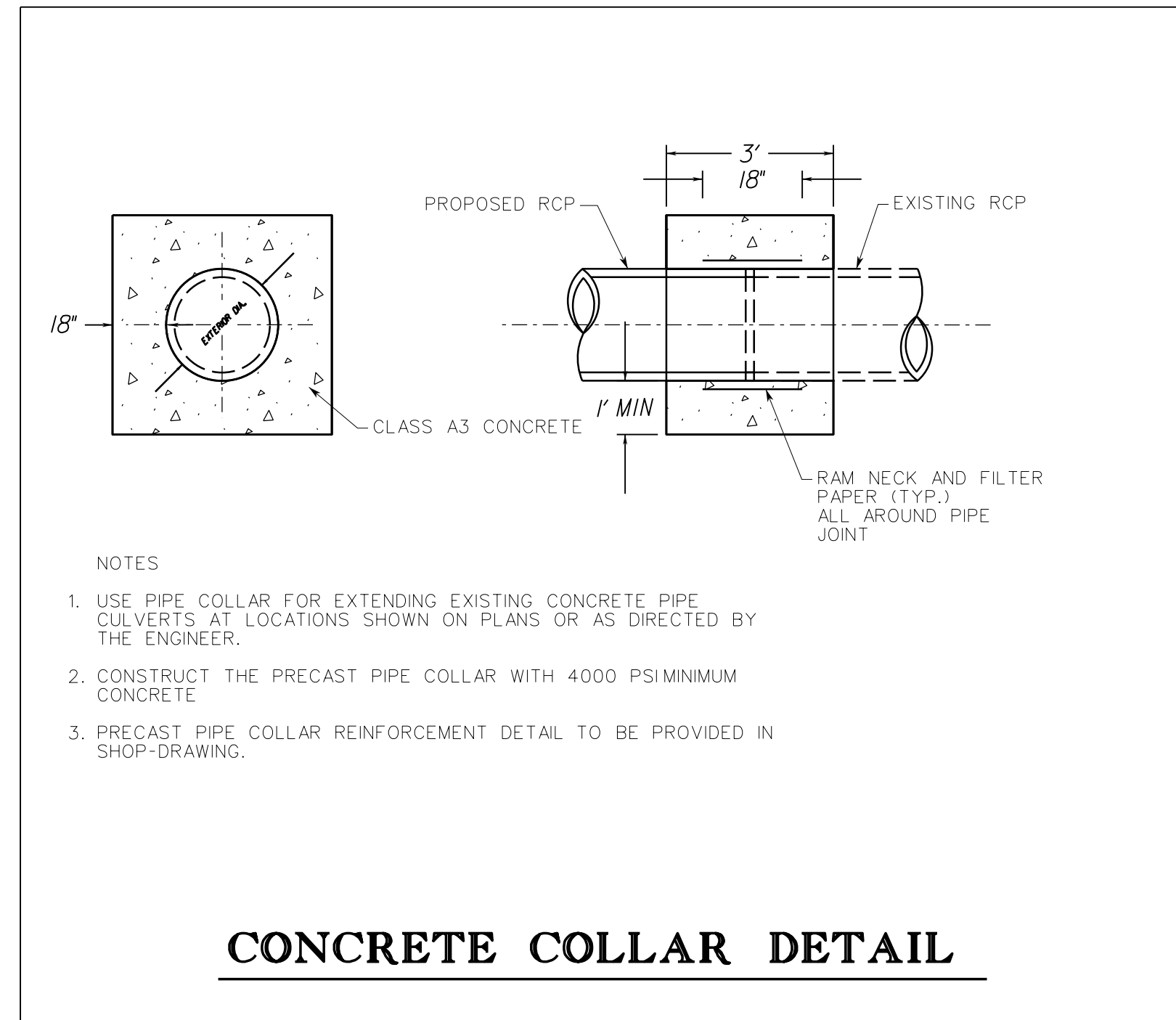
# DRAINAGE DETAILS

| REVISED | STATE | STATE   |                                  | SHEET NO. |
|---------|-------|---------|----------------------------------|-----------|
|         | ROUTE | PROJECT |                                  |           |
|         | VA.   | 703     | EN18-076-283<br>PI01, R201, C501 | 2L(1)     |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

ATCS, P.L.C.  
Herndon, Virginia  
HYDRAULIC ENGINEER

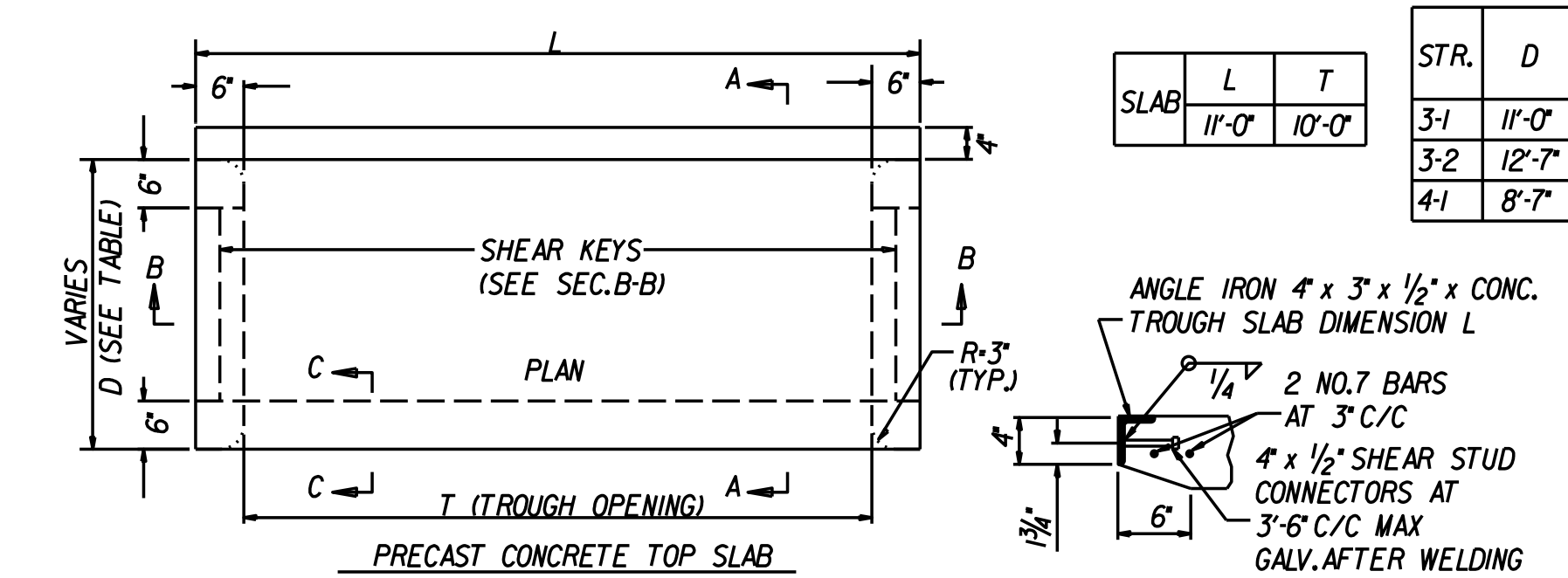
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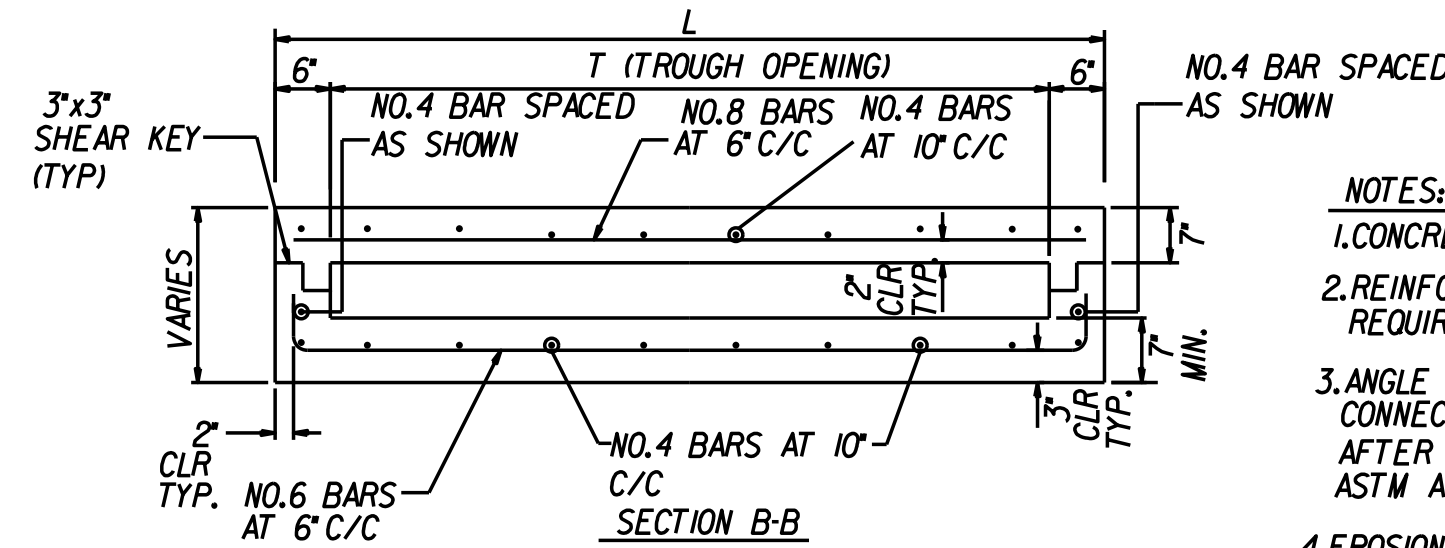
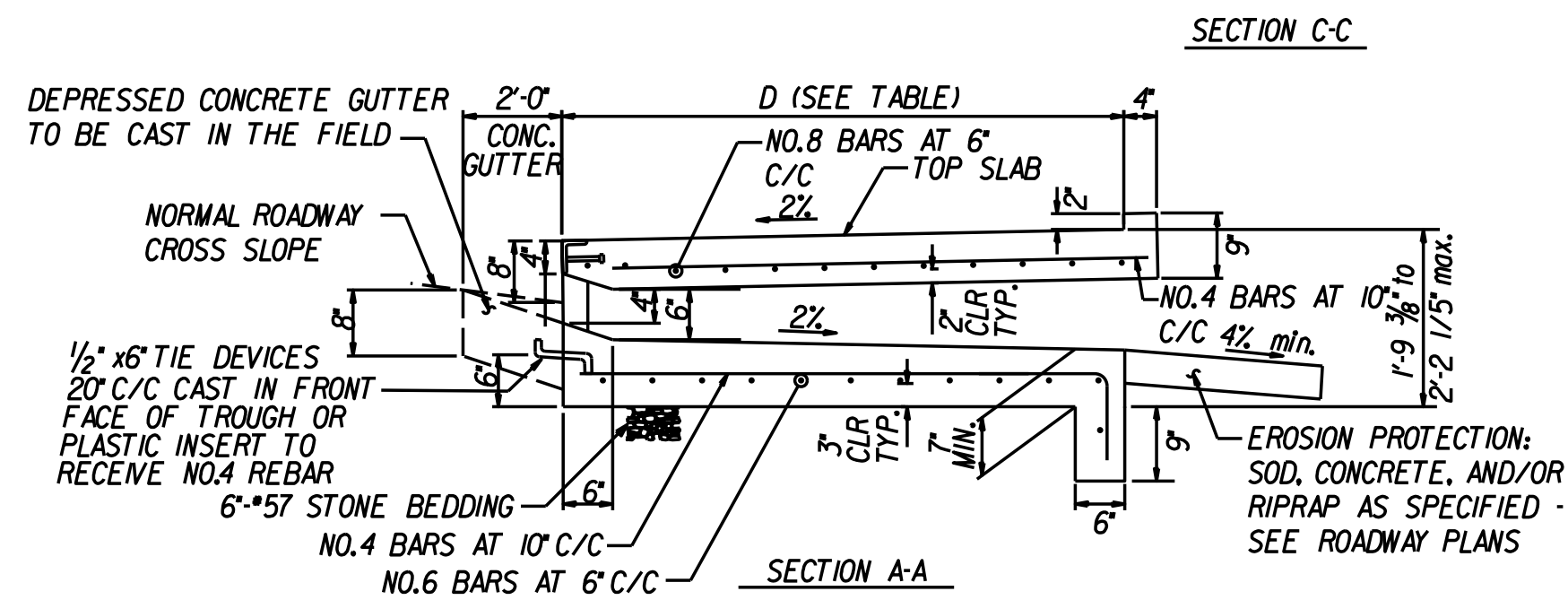
**NOTES**

1. USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
2. CONSTRUCT THE PRECAST PIPE COLLAR WITH 4000 PSIMUM CONCRETE
3. PRECAST PIPE COLLAR REINFORCEMENT DETAIL TO BE PROVIDED IN SHOP-DRAWING.

## CONCRETE COLLAR DETAIL



| STR. | D      |
|------|--------|
| 3-1  | 11'-0" |
| 3-2  | 12'-7" |
| 4-1  | 8'-7"  |



- NOTES:**
1. CONCRETE SHALL BE MIX A3 (4500 PSI).
  2. REINFORCEMENT STEEL SHALL MEET THE REQUIREMENTS OF ASTM A615, GRADE 60.
  3. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123.
  4. EROSION PROTECTION TO BE PAID FOR SEPARATELY.

NON-STANDARD PRE-CAST OPEN BACK INLET - 13-1, 13-2, & 14-1

N.T.S.

PRINCE WILLIAM COUNTY



ATCS°

ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

PROJECT MANAGER: Ludwik Kulczycki - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tami Lenox, L.S. - ATCS, P.L.C. - 07/08/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accurate, Inc. - 04/09/20 - (804) 550-7740

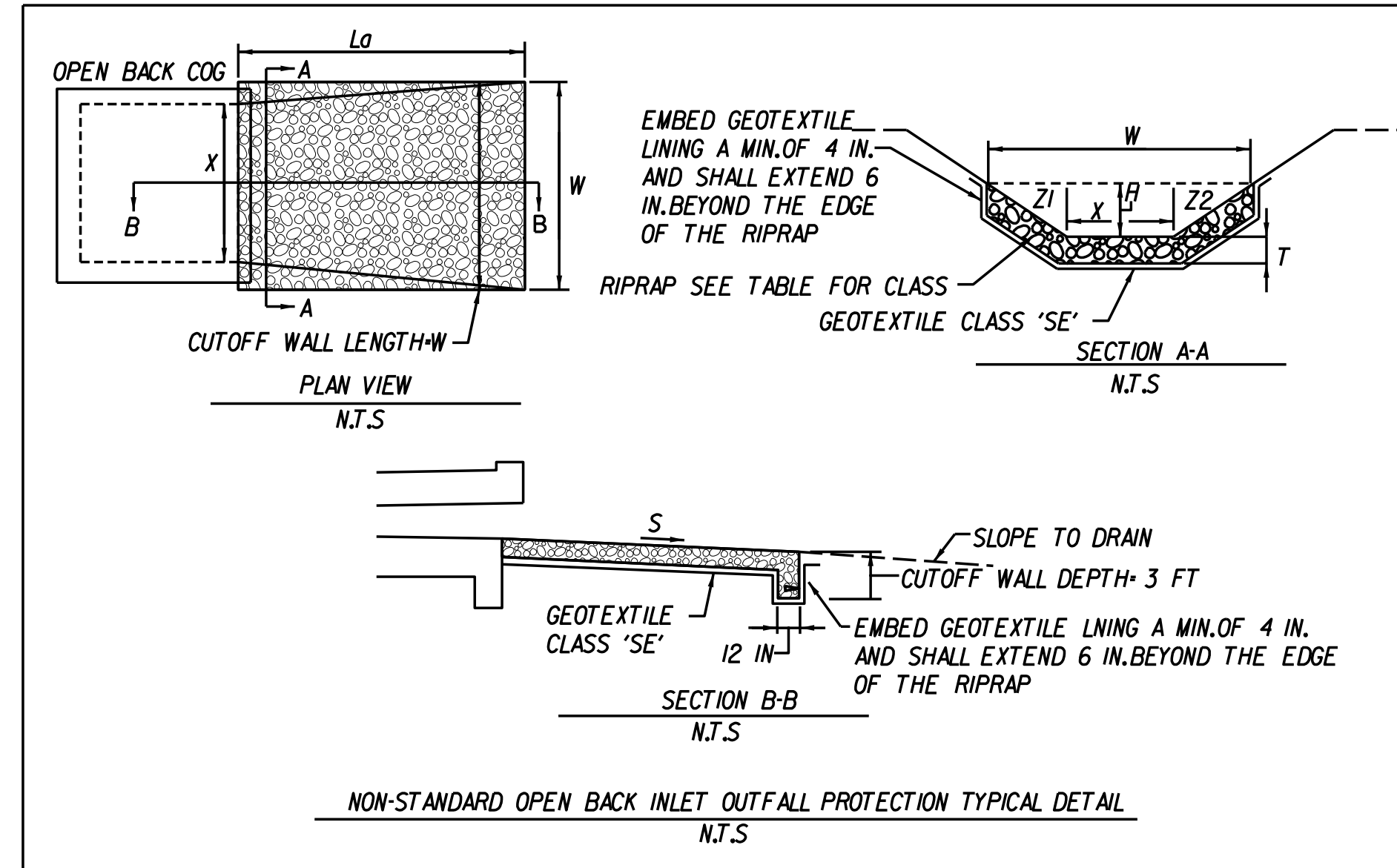
# DRAINAGE DETAILS

|         |       |       |                                  |           |
|---------|-------|-------|----------------------------------|-----------|
| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|         | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 2L(2)     |

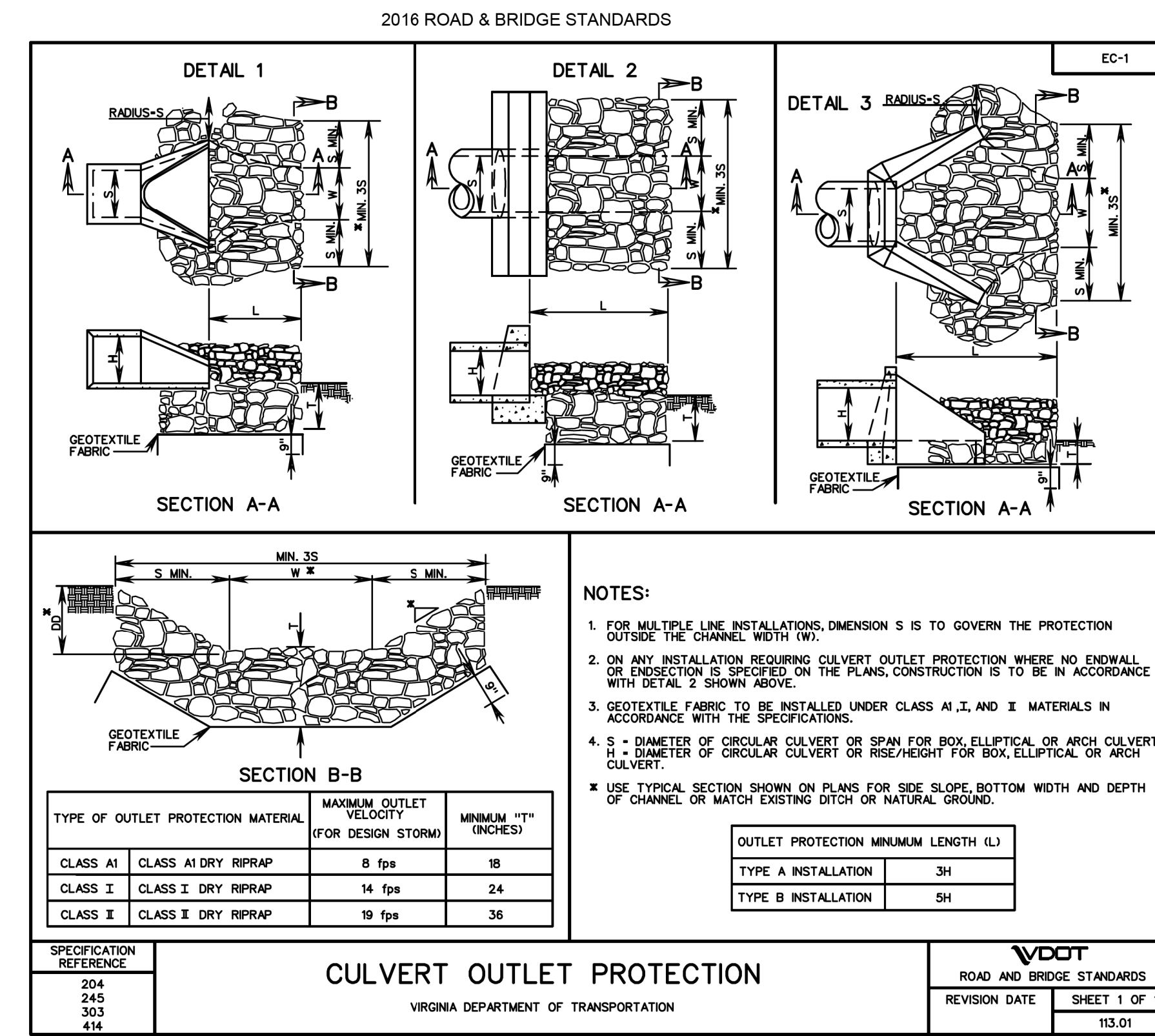
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

ATCS, P.L.C.  
Herndon, Virginia  
HYDRAULIC ENGINEER

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



| STRUCTURE ID | La (FT) | W (FT) | T (IN) | X (FT) | H (FT) | CLASS   | S   | QTY (TON) | CUTOFF WALL (LF) | Z1 (FT:FT) | Z2 (FT:FT) |
|--------------|---------|--------|--------|--------|--------|---------|-----|-----------|------------------|------------|------------|
| 3-1          | 17      | 12.0   | 24     | 10.0   | 0.50   | CLASS I | 33% | 34        | 11.0             | 2:1        | 2:1        |
| 3-2          | 13      | 12.0   | 24     | 10.0   | 0.50   | CLASS I | 33% | 26        | 11.0             | 2:1        | 2:1        |
| 4-1          | 12      | 12.0   | 24     | 10.0   | 0.50   | CLASS I | 33% | 24        | 11.0             | 2:1        | 2:1        |



| STRUCTURE ID | INSTALLATION TYPE | H (IN) | S (IN) | 3S (FT) | L (FT) | CLASS   | T (IN) | QTY (TON) |
|--------------|-------------------|--------|--------|---------|--------|---------|--------|-----------|
| 3-3          | A                 | 12     | 12     | 3       | 3      | CLASS I | 24     | 2         |
| 3-4          | B                 | 36     | 36     | 9       | 15     | CLASS I | 24     | 23        |
| 3-5          | A                 | 24     | 24     | 6       | 6      | CLASS I | 24     | 6         |
| 4-2 & 4-3*   | B                 | 24     | 72*    | 19      | 10     | CLASS I | 24     | 30        |

\*TWIN 24"x38" HERCP

PRINCE WILLIAM COUNTY



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ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

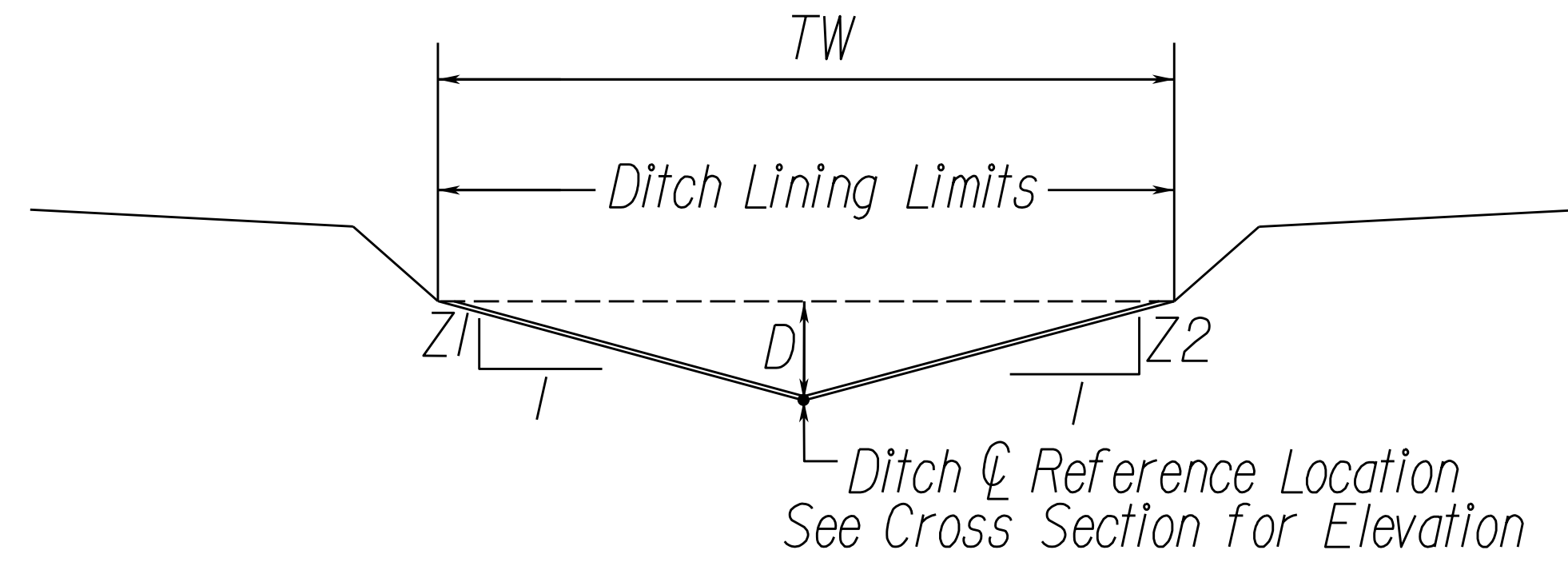
PROJECT MANAGER: *Ludwik Kulczycki - Prince William County - (703) 792-6347*  
 SURVEYED BY, DATE: *Tami Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500*  
 DESIGN BY: *Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500*  
 SUBSURFACE UTILITY BY, DATE: *Accusark, Inc. - 04/09/20 - (804) 550-7740*

# DITCH SCHEDULE AND DETAILS

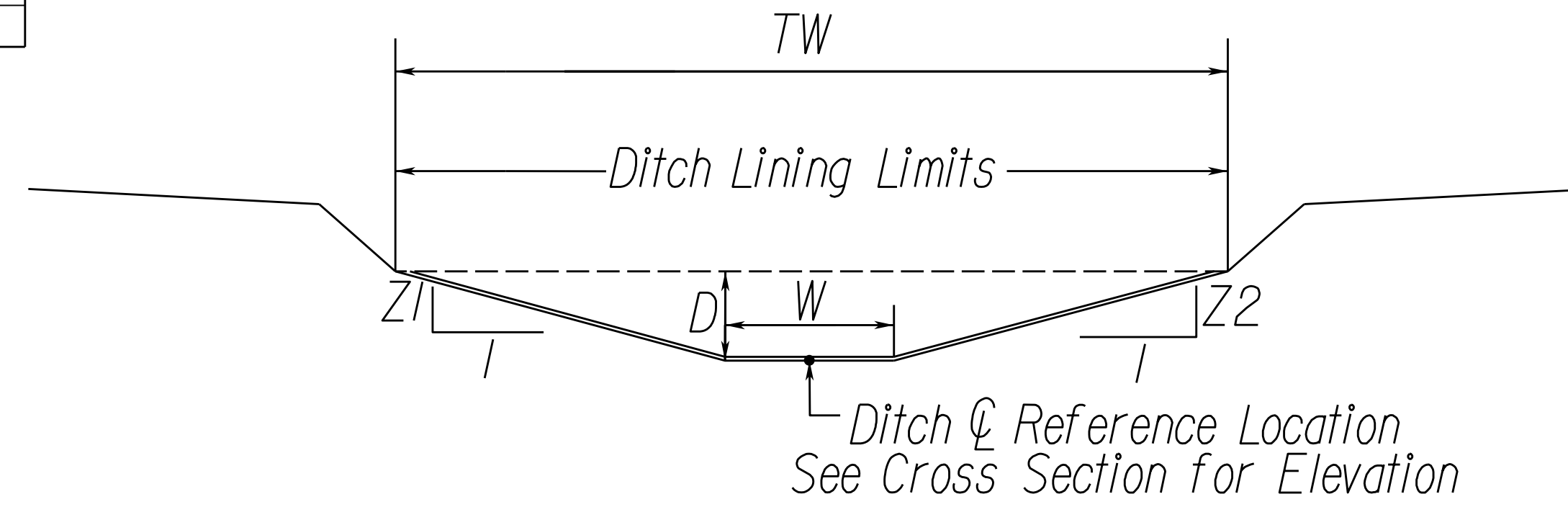
|   |       |       |                                  |           |
|---|-------|-------|----------------------------------|-----------|
| REVISED   | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|   | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 2M        |
| DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT |       |       |                                  |           |
| ATCS, P.L.C.<br>Herndon, Virginia<br>HYDRAULIC ENGINEER   |       |       |                                  |           |

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

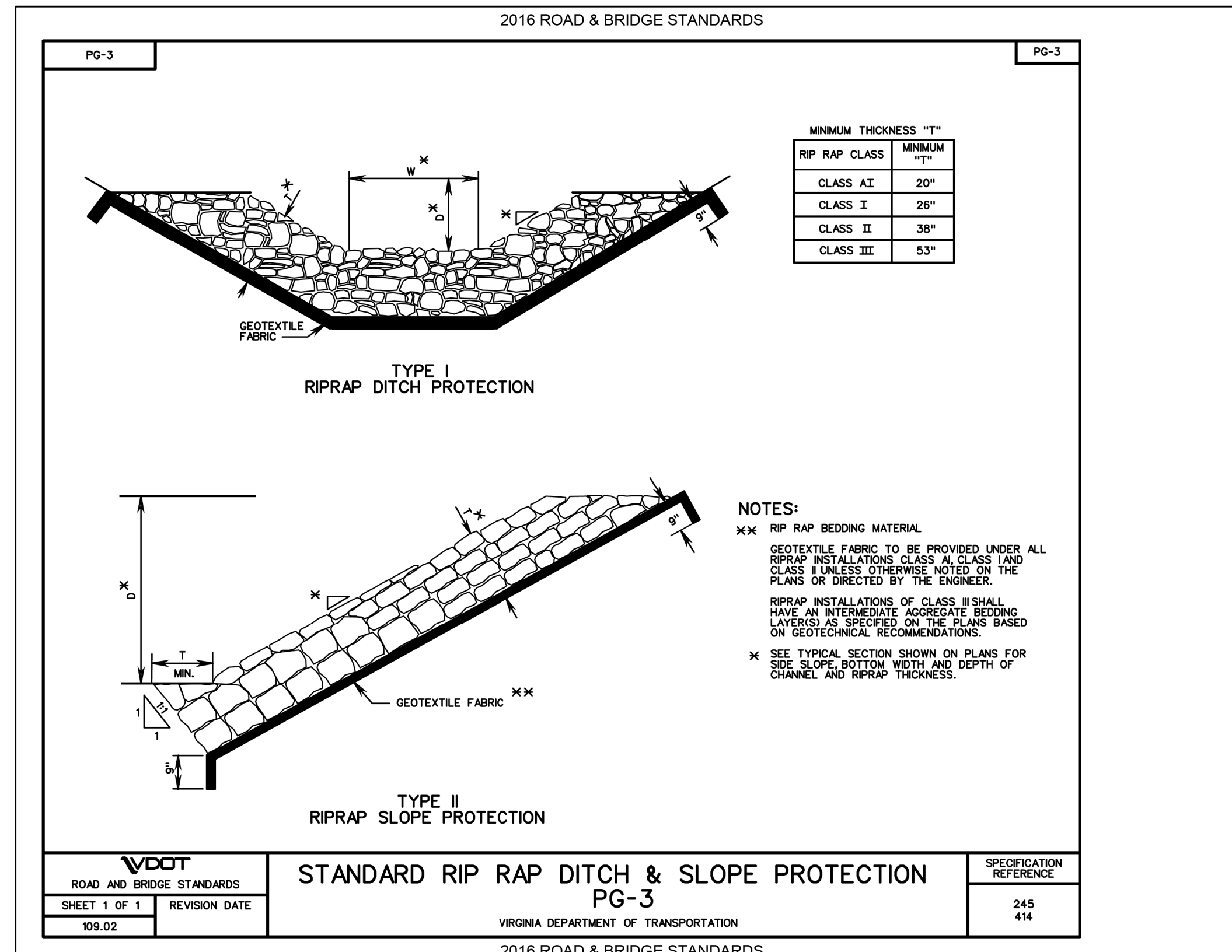
| DITCH SCHEDULE |          |              |              |             |                |                           |                           |                |                       |                     |              |                               |
|----------------|----------|--------------|--------------|-------------|----------------|---------------------------|---------------------------|----------------|-----------------------|---------------------|--------------|-------------------------------|
| SHEET          | DITCH ID | BASELINE     | STATION (FT) | OFFSET (FT) | ELEVATION (FT) | SIDE SLOPE (Z1:1) (FT/FT) | SIDE SLOPE (Z2:1) (FT/FT) | DEPTH (D) (FT) | BOTTOM WIDTH (W) (FT) | TOP WIDTH (TW) (FT) | TYP. SECTION | LINING                        |
| 3              | D3-1     | OLD CAROLINA | 100+50       | 16.2 RT     | 349.92         | 3                         | 3                         | 0.50           | 0                     | 3.0                 | V-DITCH      | EC-2 TYPE 4                   |
|                |          |              | 101+00       | 15.38 RT    | 346.28         | 3                         | 3                         | 0.50           | 0                     | 3.0                 | V-DITCH      | EC-2 TYPE 4                   |
|                |          |              | 101+50       | 15.3 RT     | 342.52         | 3                         | 3                         | 1.0            | 0                     | 6.0                 | V-DITCH      | EC-2 TYPE 4                   |
|                |          |              | 102+00       | 17.9 RT     | 338.46         | 3                         | 6                         | 1.0            | 0                     | 9.0                 | V-DITCH      | EC-2 TYPE 4                   |
| 3              | D3-2     | OLD CAROLINA | 102+00       | 17.9 RT     | 338.46         | 3                         | 6                         | 1.0            | 0                     | 9                   | V-DITCH      | EC-3 TYPE 1                   |
|                |          |              | 102+50       | 21.2 RT     | 334.70         | 3                         | 3                         | 1.25           | 0                     | 7.5                 | V-DITCH      | PG-3 TYPE 1<br>RIPRAP CLASS I |
|                |          |              | 102+75       | 20.8 RT     | 330.41         | 3                         | 3                         | 1.25           | 0                     | 7.5                 | V-DITCH      | PG-3 TYPE 1<br>RIPRAP CLASS I |
| 3 - 4          | D3-3     | OLD CAROLINA | 103+00       | 29.8 RT     | 330.13         | 3                         | 3                         | 2.0            | 3.0                   | 15.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |
|                |          |              | 103+50       | 29.1 RT     | 328.69         | 3                         | 3                         | 2.0            | 3.0                   | 15.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |
|                |          |              | 104+00       | 29.0 RT     | 327.18         | 3                         | 3                         | 2.0            | 3.0                   | 15.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |
|                |          |              | 104+50       | 26.8 RT     | 326.90         | 3                         | 3                         | 2.0            | 3.0                   | 15.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |
|                |          |              | 105+00       | 26.1 RT     | 326.33         | 3                         | 3                         | 2.0            | 3.0                   | 15.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |
|                |          |              | 105+25       | 26.4 RT     | 325.88         | 3                         | 3                         | 2.0            | 3.0                   | 15.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |
|                |          |              | 105+50       | 30.4 RT     | 325.00         | 3                         | 3                         | 2.0            | 7.0                   | 19.0                | TRAPIZOIDAL  | EC-3 TYPE 1                   |



TYPICAL V-DITCH SECTION



TYPICAL TRAPIZOIDAL DITCH SECTION



PRINCE WILLIAM COUNTY



ATCS

ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

|              |           |
|--------------|-----------|
| PROJECT      | SHEET NO. |
| EN18-076-283 | 2M        |

PROJECT MANAGER: Ludwik Kulczycki - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tami Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accurate, Inc. - 04/09/20 - (804) 550-7740

# EROSION AND SEDIMENT CONTROL DETAILS

|         |       |       |       |                                  |           |
|---------|-------|-------|-------|----------------------------------|-----------|
| REVISED | STATE | ROUTE | STATE | PROJECT                          | SHEET NO. |
|         | VA.   | 703   |       | EN18-076-283<br>P101, R201, C501 | 2N(11)    |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

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2016 ROAD & BRIDGE STANDARDS

**GENERAL NOTES:**

- ROLLED EROSION CONTROL PRODUCT IS TO BE LOCATED AS INDICATED ON THE PLANS IN ACCORDANCE WITH THE DIMENSIONS SPECIFIED ON TYPICAL SECTION.
- "T-TOP" STAPLES OR OTHER MANUFACTURER'S DESIGN APPROVED BY THE ENGINEER MAY BE SUBSTITUTED FOR THE STAPLES SHOWN.
- WIDTH OF MATERIAL MAY VARY FROM MINIMUM DIMENSION BY INCREMENTS OF 4 OR 5 FEET.
- FOR SOURCES OF APPROVED MATERIAL SEE VDOT'S APPROVED PRODUCTS LIST FOR EC-2 MATERIALS TYPES 1, 2, 3, OR 4.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

|                                |  |                         |
|--------------------------------|--|-------------------------|
| VDOT ROAD AND BRIDGE STANDARDS | ROLLED EROSION CONTROL PRODUCT PROTECTIVE COVERING INSTALLATION CRITERIA (TEMPORARY USE) | SPECIFICATION REFERENCE |
| SHEET 1 OF 1                   | REVISION DATE 07/16  | 244 606                 |
| 113.02                         |  |                         |

2016 ROAD & BRIDGE STANDARDS

**GENERAL NOTES:**

- STAPLES SHALL BE WOOD OR METAL AS RECOMMENDED BY THE MANUFACTURER AND SHALL BE A MINIMUM OF 12" IN LENGTH IN SANDY SOILS. METAL STAPLES A MINIMUM OF 18" IN LENGTH SHALL BE USED.
- ALL EC-3 MATERIALS ARE TO BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST.
- EC-3 MATERIAL SHOULD BE INSTALLED TO THE SHOULDER BREAK POINT OR EXISTING GROUND THEN EMBEDDED 6" MATERIAL ON BOTH SIDES OF THE DITCH SHALL BE INSTALLED TO THE SAME ELEVATIONS.
- IF MORE THAN 3 LINES OF MATERIAL ARE REQUIRED PARALLEL TO THE C OF THE DITCH MATERIAL SHALL BE INSTALLED PERPENDICULAR TO THE CENTER LINE OF THE DITCH, STARTING AT THE LOWEST ELEVATION OF THE DITCH.
- FOR SOURCES OF APPROVED MATERIALS SEE VDOT'S APPROVED PRODUCTS LIST FOR STD. EC-3, TYPES 1, 2, AND 3.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

|                                |  |                         |
|--------------------------------|--|-------------------------|
| VDOT ROAD AND BRIDGE STANDARDS | ROLLED EROSION CONTROL PRODUCT SOIL STABILIZATION MAT (PERMANENT DITCH INSTALLATION) | SPECIFICATION REFERENCE |
| SHEET 1 OF 3                   | REVISION DATE 07/16  | 244 506                 |
| 113.03                         |  |                         |

2016 ROAD & BRIDGE STANDARDS

**GENERAL NOTES:**

- ROCK CHECK DAMS THAT ARE DESIGNATED ON THE PLANS AS A STORMWATER MANAGEMENT (SWM) ITEM ARE TO BE LEFT IN PLACE AS A PERMANENT INSTALLATION.
- WHERE DRAINAGE AREAS EXCEED 1 ACRE OR DITCH GRADE EXCEEDS 1% A TEMPORARY "SEDIMENT FOREBAY" SHALL BE INSTALLED WITH MINIMUM DIMENSIONS OF 12" DEPTH, 2' WIDTH AND 5' LENGTH.
- IF A CHECK DAM IS LOCATED INSIDE CLEAR ZONE AND ADJACENT TO A TRAVELWAY, SLOPE FACING ON COMING TRAFFIC IS TO BE 6:1 AND MAXIMUM H IS TO BE 12".
- CHECK DAM SHALL NOT BE USED FOR LOCATIONS IN LIVE STREAM.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

|                                |                             |                         |
|--------------------------------|-----------------------------|-------------------------|
| VDOT ROAD AND BRIDGE STANDARDS | ROCK CHECK DAMS TYPE I & II | SPECIFICATION REFERENCE |
| SHEET 1 OF 1                   | REVISION DATE 04/19         | 107 303                 |
| 113.06                         |                             |                         |

2016 ROAD & BRIDGE STANDARDS

**GENERAL NOTES:**

- TYPE A SILT FENCE WILL HAVE WOODEN POSTS AND IS LIMITED TO FILL HEIGHTS OF 20 FEET OR LESS. TYPE B SILT FENCE WILL HAVE STEEL POSTS AND MUST BE USED WHERE THE FILL HEIGHT EXCEEDS 20 FEET. WOODEN POSTS SHALL BE OAK AND HAVE NOMINAL DIMENSIONS OF 2" BY 2". STEEL POSTS SHALL HAVE A MINIMUM WEIGHT OF 1.25 POUNDS PER LINEAR FOOT.
- ALL POSTS SHALL BE DRIVEN 24" MIN INTO THE GROUND AND SHALL EXTEND 6" ABOVE THE FILTER FABRIC.
- WHEN TWO SEPARATE SECTIONS OF GEOTEXTILE FABRIC ADJOIN EACH OTHER, THEY SHALL OVERLAP BY 6" AND BE DOUBLE FOLDED.
- GEOTEXTILE FABRIC SHALL BE FASTENED SECURELY TO THE POSTS AT BOTH THE TOP AND VERTICAL MIDPOINT OF THE GEOTEXTILE FABRIC.
- SLICING IS AN APPROVED ALTERNATIVE TO TRENCHING FOR ANCHORING THE GEOTEXTILE FABRIC INTO THE GROUND. SLICING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTION 303 OF THE ROAD AND BRIDGE SPECIFICATIONS.
- WHEN TWO SEPARATE SECTIONS OF GEOTEXTILE FABRIC ADJOIN EACH OTHER, THEY SHALL OVERLAP BY 6" AND BE DOUBLE FOLDED.
- GEOTEXTILE FABRIC SHALL BE FASTENED SECURELY TO THE POSTS AT BOTH THE TOP AND VERTICAL MIDPOINT OF THE GEOTEXTILE FABRIC.
- WHEN THE DISTANCE FROM THE TOE OF THE FILL TO THE SILT FENCE IS NOT PROVIDED IN THE PLANS A MINIMUM OF 5 FEET WILL BE USED.
- MATERIALS FOR ALL SILT FENCE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 242 OF THE VDOT ROAD & BRIDGE SPECIFICATIONS.
- THE GEOTEXTILE FABRIC FOR SILT FENCE SHALL BE FROM THE VDOT MATERIALS' APPROVED LIST 63.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

|                                |   |                         |
|--------------------------------|---|-------------------------|
| VDOT ROAD AND BRIDGE STANDARDS | TEMPORARY SILT BARRIERS SILT FENCE (TYPE A & B) | SPECIFICATION REFERENCE |
| SHEET 1 OF 2                   | REVISION DATE 04/20                             | 107 245 303             |
| 113.07                         |   |                         |

2016 ROAD & BRIDGE STANDARDS

**GENERAL NOTES:**

- INLET PROTECTION USING SEDIMENT RETENTION ROLLS SHALL BE CONSTRUCTED WITH COMPOST FILTER SOCKS OR SEDIMENT TUBES.
- ONLY SEDIMENT RETENTION ROLL PRODUCTS WITH A MINIMUM 8" DIAMETER LISTED ON THE VDOT APPROVED PRODUCTS LIST MAY BE USED FOR TYPE B INLET PROTECTION.
- SEDIMENT SHALL BE REMOVED FROM INLET PROTECTION WHEN IT HAS ACCUMULATED TO ONE-HALF THE EXPOSED HEIGHT OF THE STRUCTURE AND PAID FOR AS SEDIMENT REMOVAL PER CURB FARD.
- STAKING SEDIMENT RETENTION ROLLS TO MEET THE REQUIRED INLET PROTECTION HEIGHT IS NOT PERMITTED.
- SEDIMENT RETENTION ROLLS AND STAKES USED FOR INLET PROTECTION APPLICATIONS SHALL BE REMOVED AFTER STABILIZATION IS COMPLETE.
- GEOTEXTILE PRODUCTS DESIGNED TO BE INSERTED INTO OR ANCHORED TO GRATES OR SLOTS OF CURB INLETS AND ARE FOUND ON VDOT'S EC-6 APPROVED PRODUCTS LIST MAY BE SUBSTITUTED FOR THE DROP INLET PROTECTION DEVICES DETAILED IN THIS STANDARD.
- SEDIMENT RETENTION ROLL WILL BE ANCHORED WITH A 50 POUND SANDBAG ON EACH END OR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

|                                |                           |                         |
|--------------------------------|---------------------------|-------------------------|
| VDOT ROAD AND BRIDGE STANDARDS | INLET PROTECTION (TYPE B) | SPECIFICATION REFERENCE |
| SHEET 2 OF 3                   | REVISION DATE 04/19       | 107 244 303             |
| 113.10                         |                           |                         |

2016 ROAD & BRIDGE STANDARDS

**GENERAL NOTES:**

- DEWATERING BASIN SIZE SHALL BE DETERMINED BY THE FORMULA  $B \times L \times G \times 1.0$  (CU. FT. OF STORAGE CAPACITY).
- THIS WORK SHALL CONSIST OF THE CONSTRUCTION OF A DEWATERING BASIN FOR THE PURPOSE OF RECEIVING SEDIMENT-LOADED WATER PUMPED FROM A CONSTRUCTION SITE. ALLOW FOR FILTRATION BEFORE IT REENTERS THE WATERWAY. PUMPING INTO THESE BASINS SHALL CEASE WHEN THE FLOW FROM THE BASIN BECOMES SEDIMENT-LOADED.
- SURFACE WATER FLOW SHALL BE DIVERTED AROUND THIS DEVICE.
- THE OUTFLOW FROM THE BASINS SHALL HAVE A STABILIZED CONVEYANCE TO RECEIVING WATERS.
- ONCE THE DEWATERING BASIN BECOMES FILLED TO HALF OF THE STORAGE CAPACITY, ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED DISPOSAL AREA OUTSIDE OF THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE ENGINEER APPROVES THEIR REMOVAL. GROUND CONDITIONS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION UNLESS SPECIALLY APPROVED OTHERWISE BY THE ENGINEER.
- SYNTHETIC PRODUCTS THAT HAVE BEEN APPROVED FOR USE ON VDOT PROJECTS AND FOUND ON VDOT'S SPEL LIST MAY BE USED IN LIEU OF THIS DESIGN. HOWEVER, VDOT WILL ONLY COMPENSATE THE CONTRACTOR UP TO THE BID PRICE PER EACH AT THIS SITE.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

|                                |                  |                         |
|--------------------------------|------------------|-------------------------|
| VDOT ROAD AND BRIDGE STANDARDS | DEWATERING BASIN | SPECIFICATION REFERENCE |
| SHEET 1 OF 1                   | REVISION DATE    | 107 303                 |
| 113.12                         |                  |                         |

PRINCE WILLIAM COUNTY  
ATCS<sup>®</sup> PLANNING | SURVEYING | ENVIRONMENTAL

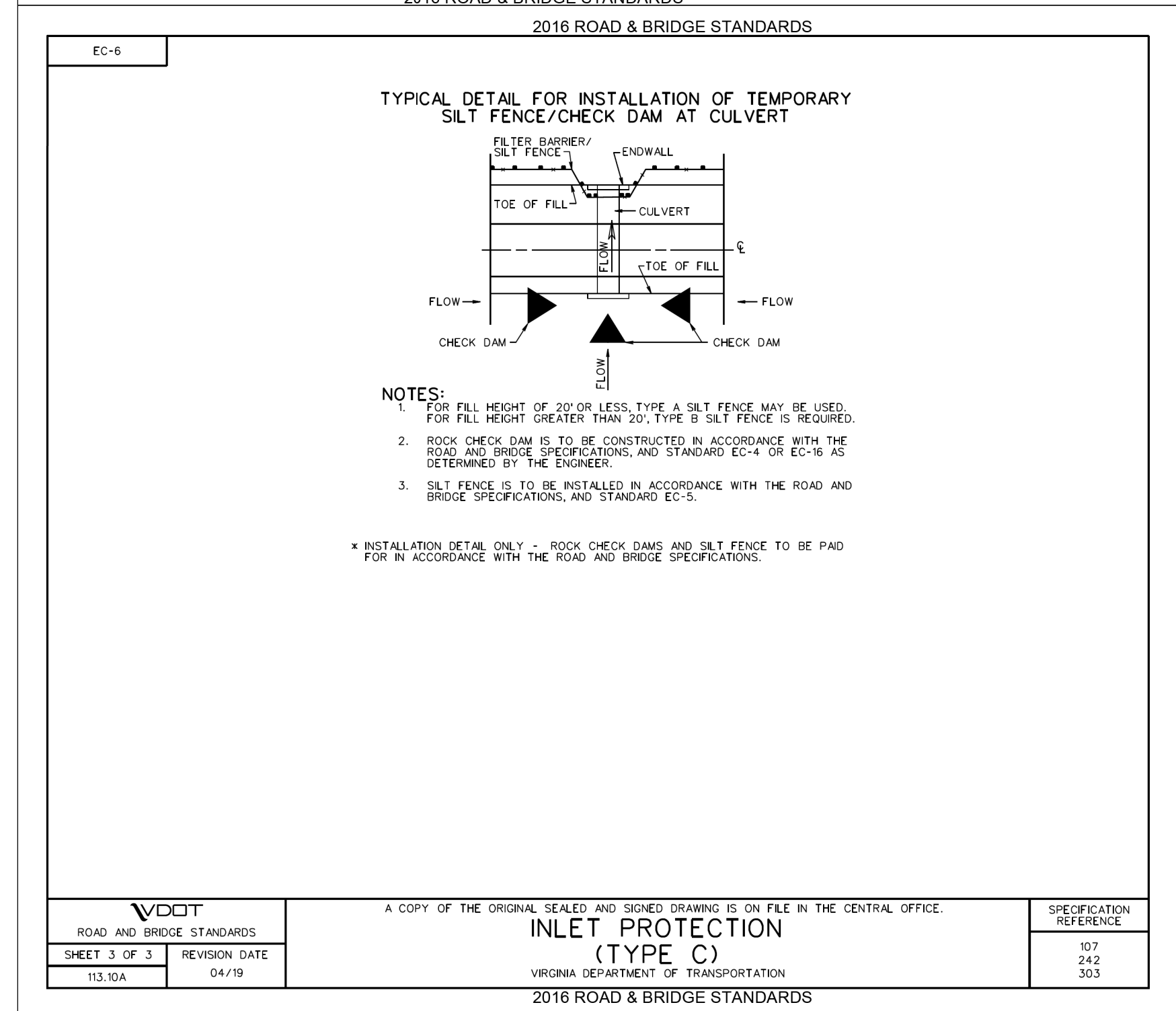
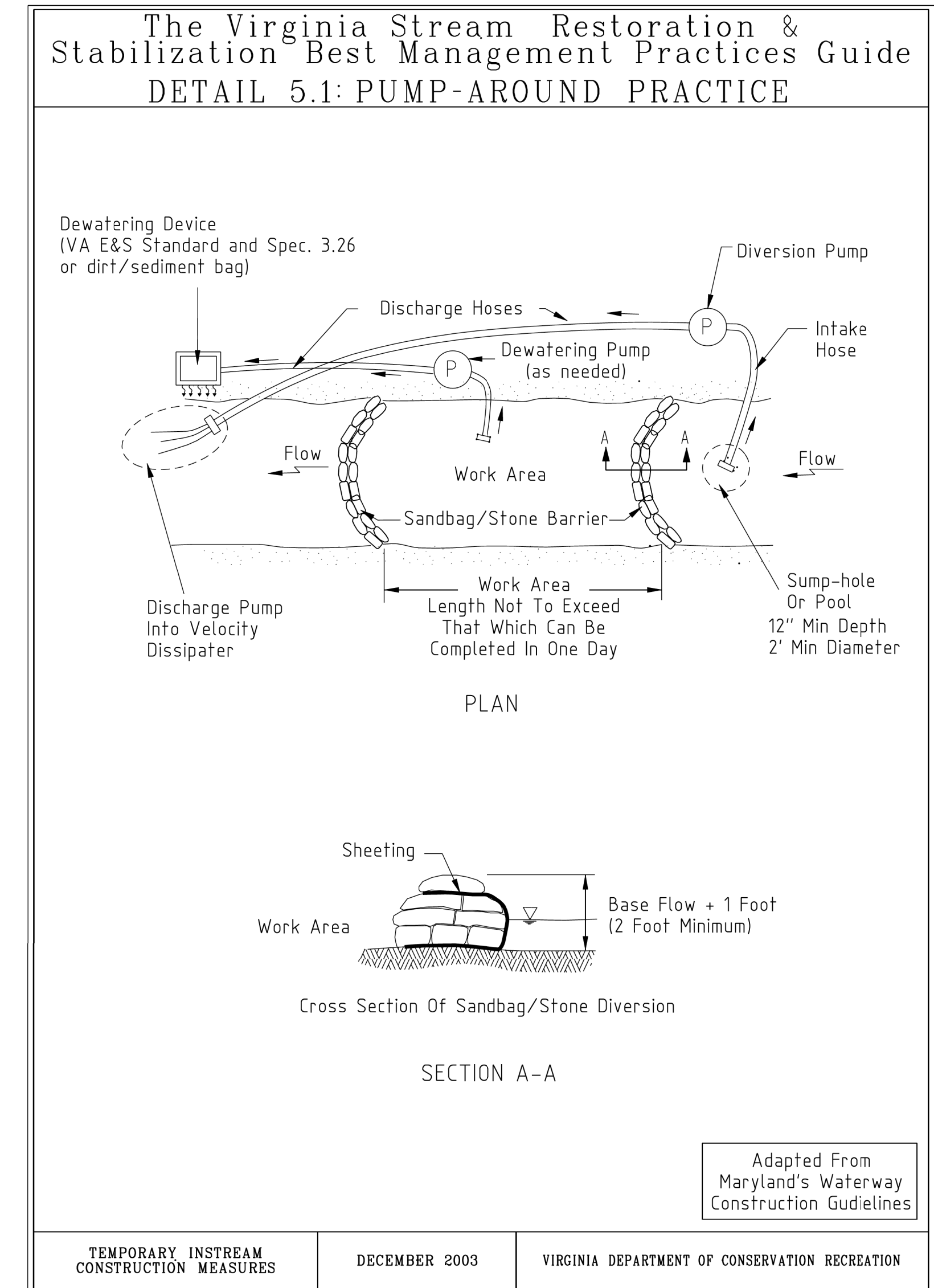
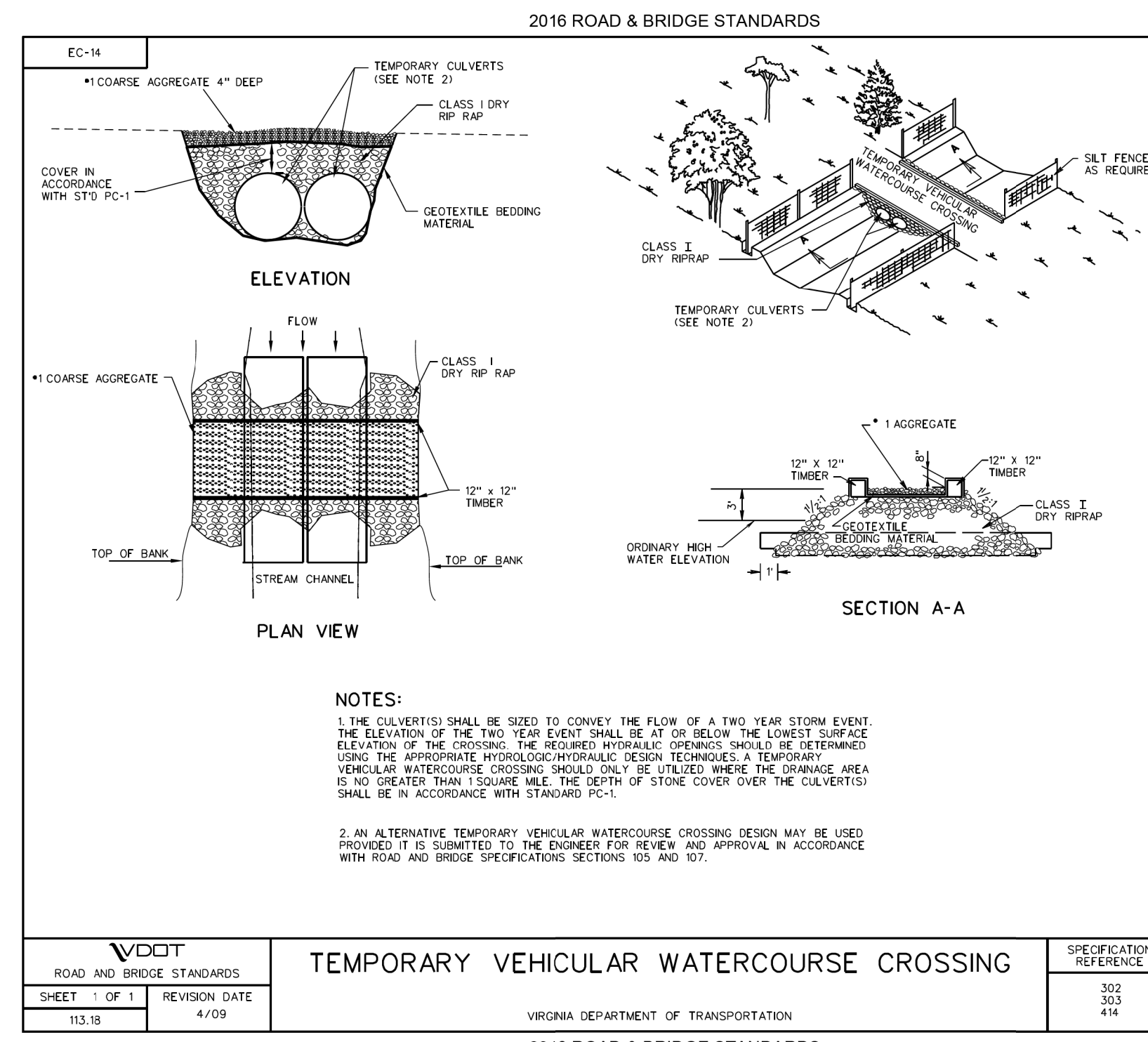
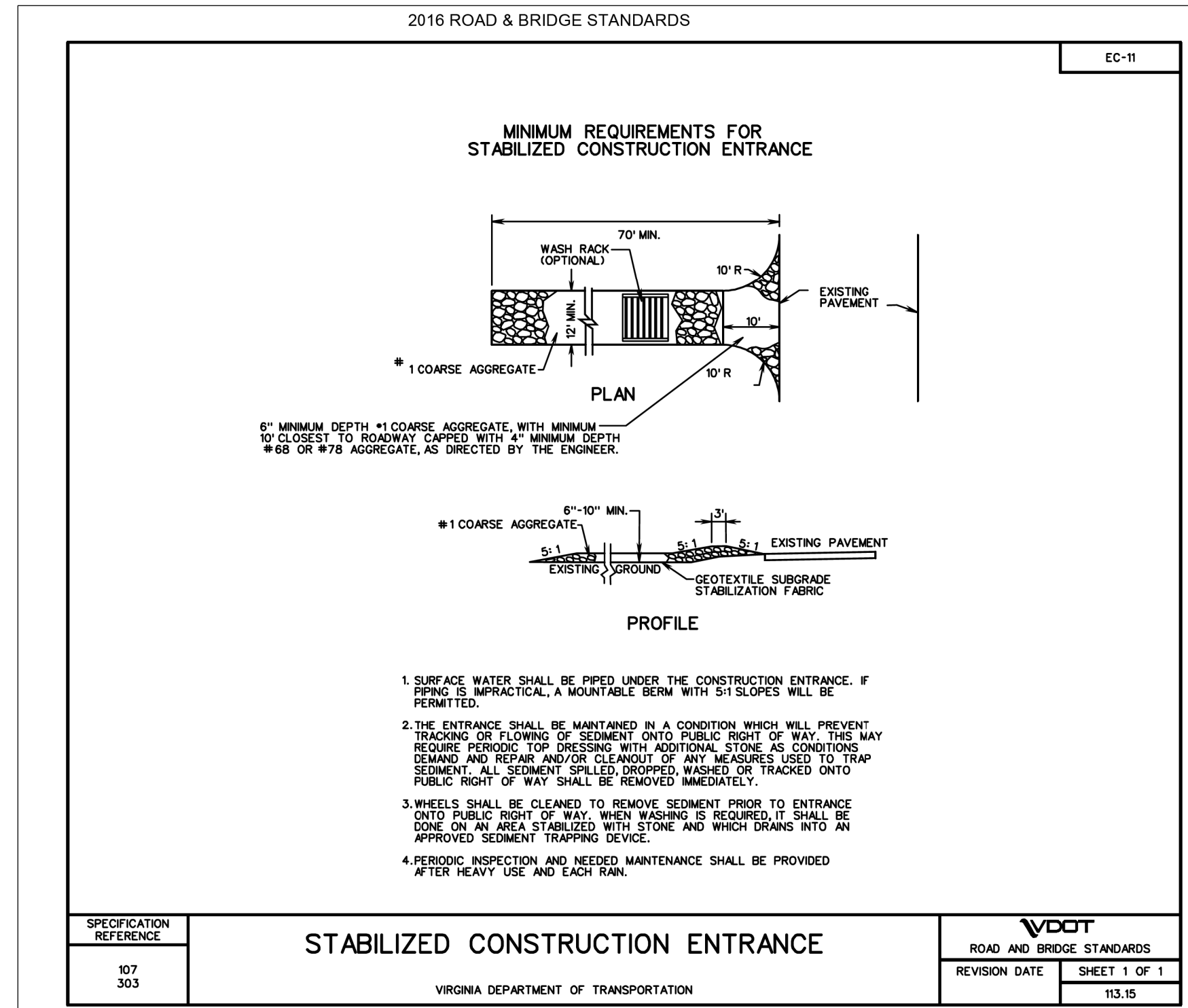
PROJECT MANAGER *Ludwik Kulczycki - Prince William County - (703) 792-6347*  
 SURVEYED BY, DATE *Tami Lenox, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500*  
 DESIGN BY *Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500*  
 SUBSURFACE UTILITY BY, DATE *Accurate, Inc. - 04/09/20 - (904) 550-7740*

# EROSION AND SEDIMENT CONTROL DETAILS

| REVISED | STATE |     | STATE PROJECT                    |  | SHEET NO. |
|---------|-------|-----|----------------------------------|--|-----------|
|         | VA.   | 703 | EN18-076-283<br>P101, R201, C501 |  |           |

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PRINCE WILLIAM COUNTY



ATCS ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

PROJECT MANAGER: Ludwik Kulczyk - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tami Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accumack, Inc. - 04/08/20 - (804) 550-7740

FOR UTILITY OWNERS & LEGEND SEE SHEET 1H

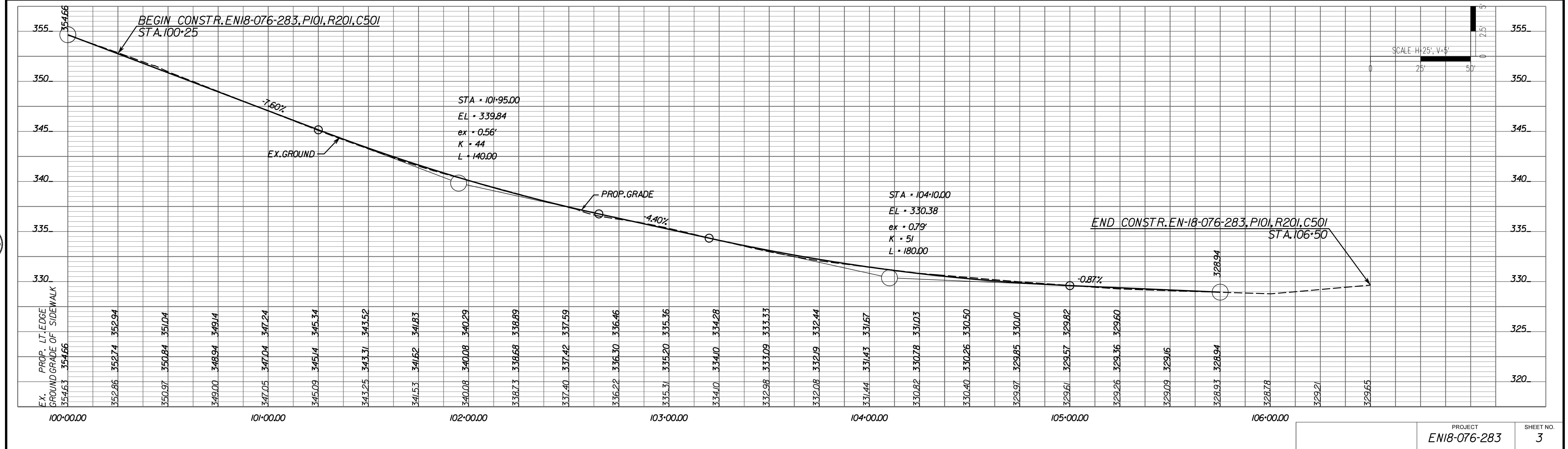
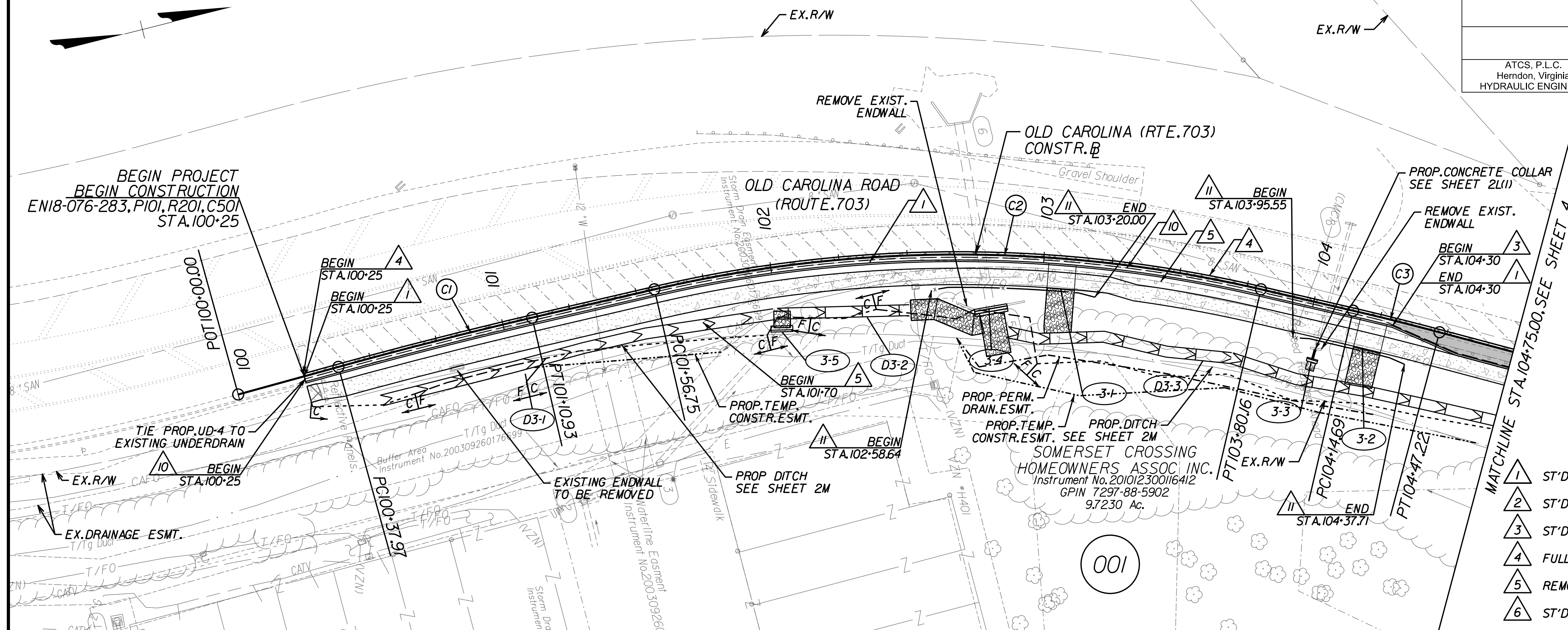
| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|---------|-------|-------|----------------------------------|-----------|
|         | VA.   | 703   | EN18-076-283<br>PI01, R201, C501 | 3         |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

**LEGEND**

|  |  |
|--|--|
|  | DENOTES 6' ASPHALT CONCRETE SIDEWALK   |
|  | DENOTES FULL DEPTH PAVEMENT            |
|  | DENOTES DEMOLITION OF PAVEMENT / TRAIL |
|  | DENOTES MILL AND OVERLAY               |
|  | DENOTES PAVED SHOULDER                 |
|  | DENOTES EXISTING RIGHT OF WAY          |
|  | DENOTES CONSTRUCTION LIMITS IN CUTS    |
|  | DENOTES CONSTRUCTION LIMITS IN FILLS   |

|  |   |   |
|--|---|---|
| <b>CURVE C1</b><br>PI = 100+74.46<br>DELTA = 2° 19' 21.5" (RT)<br>D = 3° 10' 59"<br>T = 36.49'<br>L = 72.97'<br>R = 1800.00'<br>PC = 100+37.97<br>PT = 101+10.93 | <b>CURVE C2</b><br>PI = 102+70.44<br>DELTA = 26° 10' 38.47" (RT)<br>D = 1° 43' 01"<br>T = 113.69'<br>L = 223.41'<br>R = 489.00'<br>PC = 101+56.75<br>PT = 103+80.16 | <b>CURVE C3</b><br>PI = 104+30.96<br>DELTA = 1° 51' 49.64" (RT)<br>D = 5° 43' 46"<br>T = 16.27'<br>L = 32.53'<br>R = 1000.00'<br>PC = 104+14.69<br>PT = 104+47.22 |
|--|---|---|



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PRINCE WILLIAM COUNTY



ATCS

ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

**REFERENCES**  
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

| ITEM               | SHEET NO. |
|--------------------|-----------|
| ALIGNMENT DATA     | 1G        |
| TYPICAL SECTIONS   | 2A        |
| DRAIN DESCRIPTIONS | 2B        |

|           |              |
|-----------|--------------|
| PROJECT   | EN18-076-283 |
| SHEET NO. | 3            |

PROJECT MANAGER: Ludwik Kulczyk - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tamr Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accumack, Inc. - 04/08/20 - (804) 550-7740

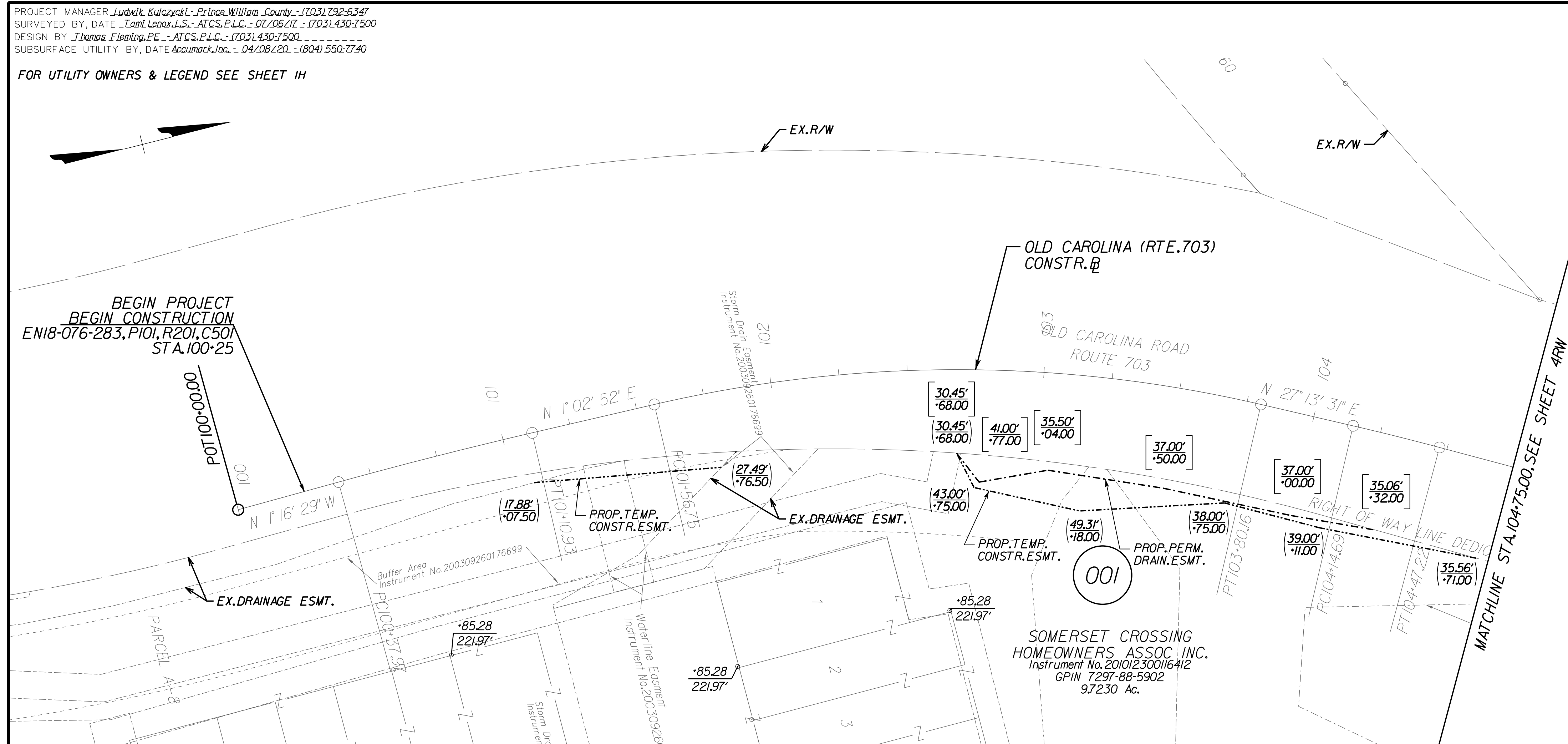
FOR UTILITY OWNERS & LEGEND SEE SHEET 1H

| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|---------|-------|-------|----------------------------------|-----------|
|         | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 3RW       |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

ATCS, P.L.C.  
Herndon, Virginia  
LAND SURVEYOR

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| PARCEL NUMBER | PERM. DRAIN. ESMT. SQ. FT. | PERM. TRAIL ESMT. SQ. FT. | TEMP. CONSTR. ESMT. SQ. FT. |
|---------------|----------------------------|---------------------------|-----------------------------|
| 001           | 627                        | 1,812                     | 13,100                      |

**NOTES**

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- ALL OF THE PROPERTIES PHYSICAL IMPROVEMENTS ARE NOT SHOWN HEREON.
- THIS PLAN SHEET WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY NOT SHOW ALL EASEMENTS WHICH MAY AFFECT THE PROPERTY SHOWN HEREON.
- THIS SURVEY DATUM IS BASED ON VDOT PROJECT \*EN18-076-283, P101, R201, UPC \*113607
- ALL MONUMENTATION TO BE SET UPON COMPLETION OF CONSTRUCTION.
- NO CEMETERY SITES WERE OBSERVED ON THE SUBJECT PROPERTY. THIS DOES NOT PRECLUDE THEIR EXISTENCE.

OFFSETS SHOWN FROM  
OLD CAROLINA (RTE.703) CONSTR. B/L.

**LEGEND**

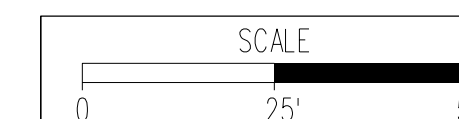
- (00.00 / .00.00) DENOTES STATION / OFFSET OF PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- [00.00' / .00.00] DENOTES STATION / OFFSET OF PROPOSED PERMANENT EASEMENT
- (123) DENOTES IMPACT PARCEL
- DENOTES EXISTING RIGHT-OF-WAY LINE
- DENOTES EXISTING PROPERTY LINE
- DENOTES PROPOSED RIGHT OF WAY LINE
- - - - - DENOTES TEMPORARY CONSTRUCTION EASEMENT LINE
- 100 DENOTES CONSTRUCTION B/L

PRINCE WILLIAM COUNTY



ATCS

ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL



|              |           |
|--------------|-----------|
| PROJECT      | SHEET NO. |
| EN18-076-283 | 3RW       |

PROJECT MANAGER: Ludwik Kulczyk - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tam L. Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, PE - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accumack, Inc. - 04/08/20 - (804) 550-7740

| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|---------|-------|-------|----------------------------------|-----------|
|         | VA.   | 703   | EN18-076-283<br>P101, R201, C501 | 4         |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

FOR UTILITY OWNERS & LEGEND SEE SHEET IH

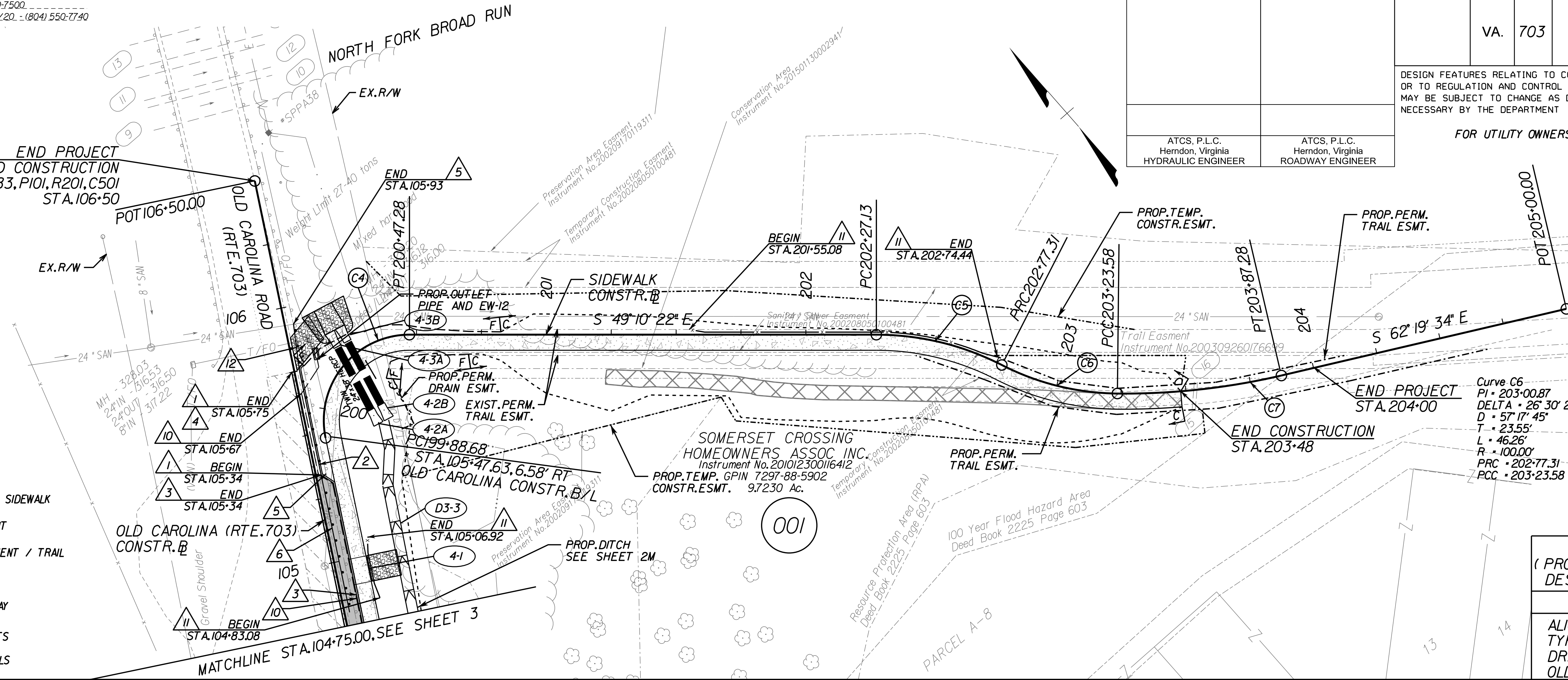
ATCS, P.L.C.  
Herndon, Virginia  
HYDRAULIC ENGINEER

ATCS, P.L.C.  
Herndon, Virginia  
ROADWAY ENGINEER

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

- 1 ST'D.CG-7 REQ'D.
- 2 ST'D.GR-MGS-1 REQ'D.
- 3 ST'D.CG-3 REQ'D.
- 4 FULL DEPTH SAWCUT
- 5 REMOVE EX.GUARDRAIL
- 6 ST'D.GR-MGS2 REQ'D.
- 10 ST'D.UD-4 REQ'D.
- 11 ST'D.HR-I TYPE II REQ'D.
- 12 ST'D GR-MGS4 REQ'D.
- 123 PROPERTY OWNER IDENTIFICATION

- LEGEND**
- DENOTES 6' ASPHALT CONCRETE SIDEWALK
  - DENOTES FULL DEPTH PAVEMENT
  - DENOTES DEMOLITION OF PAVEMENT / TRAIL
  - DENOTES MILL AND OVERLAY
  - DENOTES EXISTING RIGHT OF WAY
  - DENOTES CONSTRUCTION LIMITS IN CUTS
  - DENOTES CONSTRUCTION LIMITS IN FILLS



Curve C4  
PI = 200+29.24  
DELTA = 107° 44' 17.78" (RT)  
D = 173' 37' 25"  
T = 40.56'  
L = 58.60'  
R = 33.00'  
PC = 199+88.68  
PT = 200+47.28

Curve C5  
PI = 202+52.70  
DELTA = 27° 07' 35.42" (RT)  
D = 54' 03' 09"  
T = 25.57'  
L = 50.18'  
R = 106.00'  
PC = 202+27.13  
PRC = 202+77.31

Curve C6  
PI = 203+00.87  
DELTA = 26° 30' 22.98" (LT)  
D = 57' 17' 45"  
T = 23.55'  
L = 46.26'  
R = 100.00'  
PRC = 202+77.31  
PCC = 203+23.58

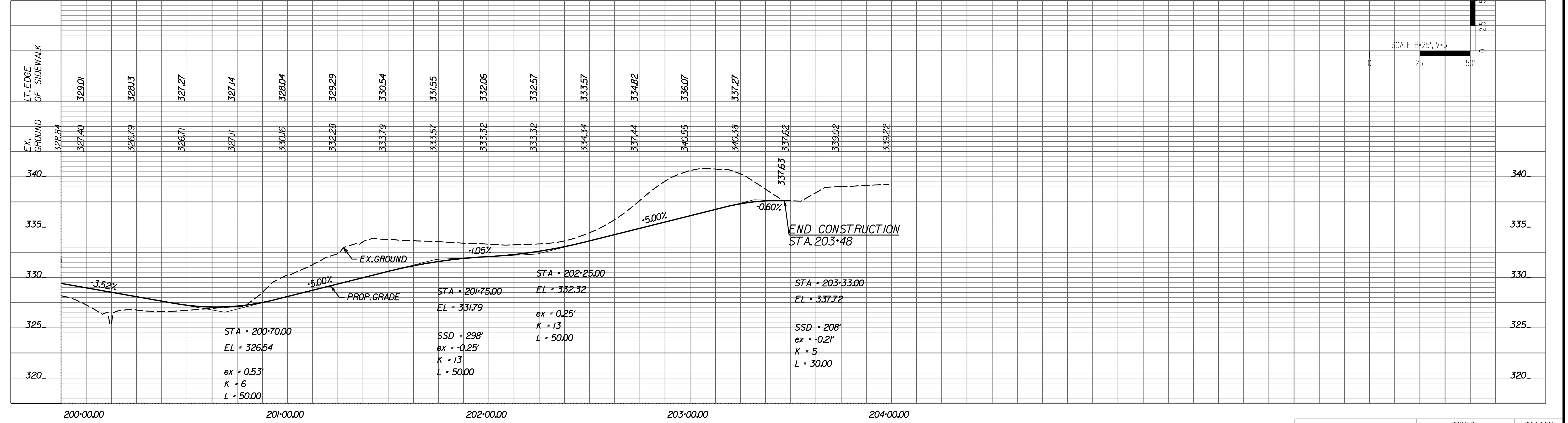
Curve C7  
PI = 203+55.58  
DELTA = 13° 46' 24.19" (LT)  
D = 21' 37' 16"  
T = 32.01'  
L = 63.70'  
R = 265.00'  
PCC = 203+23.58  
PT = 203+87.28

SCALE 0 25 50'

REFERENCES  
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

| ITEM               | SHEET NO. |
|--------------------|-----------|
| ALIGNMENT DATA     | 1G        |
| TYPICAL SECTIONS   | 2A        |
| DRAIN DESCRIPTIONS | 2B        |
| OLD CAROLINA PROF. | 3         |

PRINCE WILLIAM COUNTY  
ATCS ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL



SCALE H: 25', V: 5'

|         |              |           |   |
|---------|--------------|-----------|---|
| PROJECT | EN18-076-283 | SHEET NO. | 4 |
|---------|--------------|-----------|---|



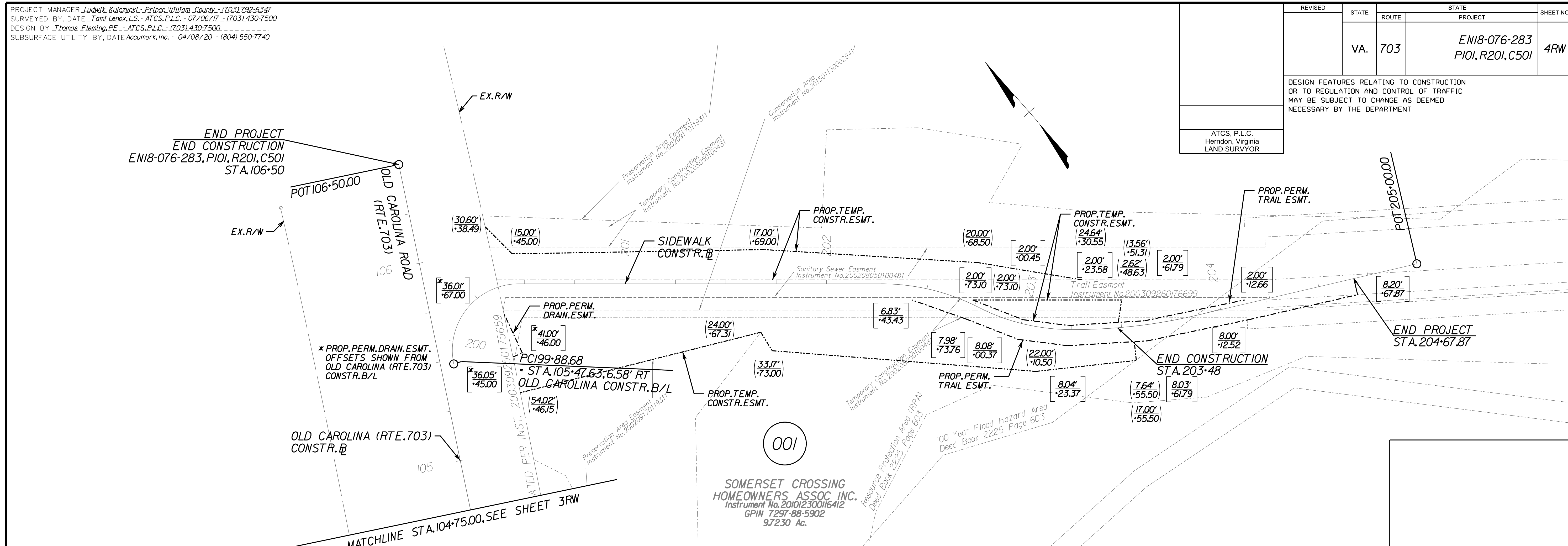
PROJECT MANAGER: Ludwik Kulczyk - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tam Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accumack, Inc. - 04/08/20 - (804) 550-7740

| REVISED | STATE | ROUTE | STATE PROJECT                    | SHEET NO. |
|---------|-------|-------|----------------------------------|-----------|
|         | VA.   | 703   | EN18-076-283<br>PI01, R201, C501 | 4RW       |

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

ATCS, P.L.C.  
Herndon, Virginia  
LAND SURVYOR

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| PARCEL NUMBER | PERM. DRAIN. ESMT. | PERM. TRAIL ESMT. | TEMP. CONSTR. ESMT. |
|---------------|--------------------|-------------------|---------------------|
|               | SQ. FT.            | SQ. FT.           | SQ. FT.             |
| 001           | SEE 3RW            | SEE 3RW           | SEE 3RW             |

**NOTES**

- THIS RIGHT OF WAY SHEET REPRESENTS A FIELD RUN PERIMETER SURVEY OF THE PROPOSED R/W LIMITS. ALL OTHER ADJOINING/DEPARTING BOUNDARY LINES SHOWN ARE COMPILED FROM VARIOUS SOURCES; FOUND FIELD MONUMENTATION, METES AND BOUNDS DESCRIPTIONS, AND RECORDED PLATS. THE ADJOINING LINES DO NOT REPRESENT A FIELD RUN SURVEY OF THE ADJOINING PROPERTIES AND ARE A BEST FIT BASED ON COMPILED DATA. ALL AREAS SHOWN FOR R/W TAKES AND EASEMENTS ARE APPROXIMATE ONLY.
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- OFFSETS SHOWN FROM SIDEWALK CONSTR. B/L UNLESS OTHERWISE NOTED
- LEGEND**
- (00.00)  
(00.00)
  - [00.00]  
[00.00]
  - 123
  - 
  - 
  - 
  - 
  - 100
- DENOTES STATION / OFFSET OF PROPOSED TEMPORARY CONSTRUCTION EASEMENT  
 DENOTES STATION / OFFSET OF PROPOSED PERMANENT EASEMENT  
 DENOTES IMPACT PARCEL  
 DENOTES EXISTING RIGHT-OF-WAY LINE  
 DENOTES EXISTING PROPERTY LINE  
 DENOTES PROPOSED RIGHT OF WAY LINE  
 DENOTES TEMPORARY CONSTRUCTION EASEMENT LINE  
 DENOTES CONSTRUCTION B/L

PRINCE WILLIAM COUNTY  
  
 ATCS  
 ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL

PROJECT MANAGER: Ludwik Kulczycki - Prince William County - (703) 792-6347  
 SURVEYED BY, DATE: Tami Leno, L.S. - ATCS, P.L.C. - 07/06/17 - (703) 430-7500  
 DESIGN BY: Thomas Fleming, P.E. - ATCS, P.L.C. - (703) 430-7500  
 SUBSURFACE UTILITY BY, DATE: Accumark, Inc. - 04/09/20 - (804) 550-7740

# SIGNING & PAVEMENT MARKING

| REVISED   | STATE |           | STATE PROJECT                    |  | SHEET NO. |
|---|-------|-----------|----------------------------------|--|-----------|
|   | VA.   | ROUTE 703 | EN18-076-283<br>P101, R201, C501 |  |           |
| DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT |       |           |                                  |  |           |
| ATCS, P.L.C.<br>Herndon, Virginia<br>ROADWAY ENGINEER   |       |           |                                  |  |           |

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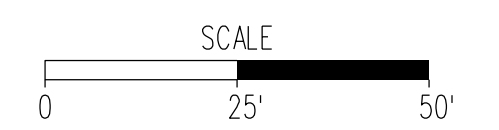


**GENERAL NOTES**

1. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE 2009 MUTCD, THE 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, THE 2016 VDOT ROAD AND BRIDGE STANDARDS, AND THE 2020 ROAD AND BRIDGE SPECIFICATIONS
2. LIMITS SHOWN OF PROPOSED PAVEMENT MARKINGS ARE APPROXIMATE ONLY AND SHALL BE MODIFIED IN THE FIELD TO ENSURE THAT PROPOSED PAVEMENT MARKINGS CONTINUE UNTIL EXISTING MARKINGS CAN BE MATCHED
3. THE CONTRACTOR SHALL RESTORE ANY PAVEMENT MARKINGS DAMAGED DURING CONSTRUCTION
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE 2009 MUTCD, THE 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, THE 2016 VDOT ROAD AND BRIDGE STANDARDS, AND THE 2020 ROAD AND BRIDGE SPECIFICATIONS.
5. SIGNS THAT ARE NOT IN REUSABLE CONDITION AS DETERMINED BY THE ENGINEER SHALL BE REPLACED
6. UNLESS OTHERWISE APPROVED BY THE ENGINEER OR INDICATED IN THE MAINTENANCE OF TRAFFIC AND SEQUENCE OF CONSTRUCTION PLANS, EXISTING TRAFFIC SIGNS WHICH ARE TO BE RELOCATED SHALL REMAIN IN PLACE UNTIL THE NEW SIGN STRUCTURE IS IN PLACE.
7. ALL EXISTING AND PROPOSED SIGN LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. ALL PROPOSED SIGN LOCATIONS SHALL BE WITHIN RIGHT OF WAY, AND SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BEFORE THE SIGN STRUCTURE IS INSTALLED.

**PAVEMENT MARKINGS LEGEND**

- (A) TYPE B, CLASS I, DOUBLE YELLOW 4" WIDTH



|              |           |
|--------------|-----------|
| PROJECT      | SHEET NO. |
| EN18-076-283 | 5         |

PRINCE WILLIAM COUNTY



ATCS

ENGINEERING | PLANNING | SURVEYING | ENVIRONMENTAL