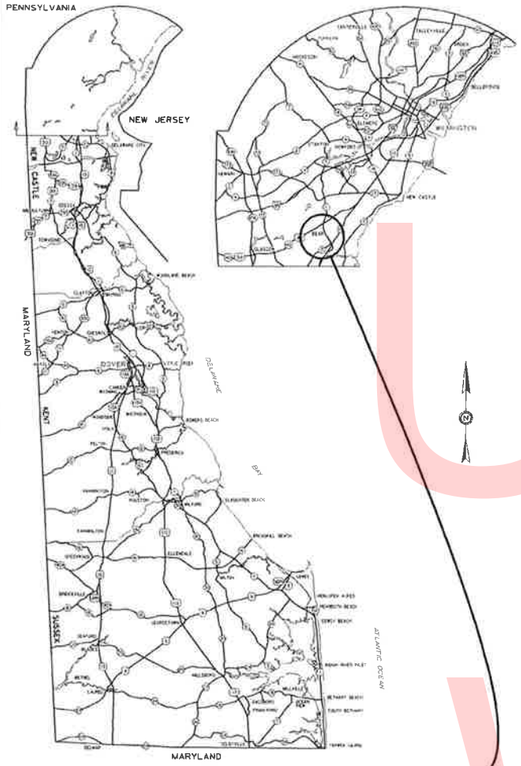
# THE STATE OF DELAWARE
# DEPARTMENT OF TRANSPORTATION

**U.S. CUSTOMARY UNITS**




GENERAL LOCATION OF CONTRACT

CONSTRUCTION PLANS FOR:

## SR1 MEDIAN BARRIER REPLACEMENT

**CONTRACT NUMBER:** T201611003
**FEDERAL AID PROJECT NUMBER:** NH-N067(29)

**COUNTY:** NEW CASTLE **M.R. #:** N067

END CONTRACT
STATION A201+28.65
STATION B199+23.96

BEGIN CONTRACT
STATION A157+06.28
STATION B154+64.57

## DESIGN DESIGNATION

| | | |
|---|---|---|
| FUNCTIONAL CLASS: OTHER FREEWAY/EXPRESSWAYS | D.H.V. PROJECTED: 5,685 | YEAR: 2025 |
| TYPE OF CONSTRUCTION: SAFETY IMPROVEMENT | DESIGN SPEED: 60 M.P.H. | |
| A.A.D.T. CURRENT: 44,550 | YEAR: 2014 | TRUCKS: 10 % |
| A.A.D.T. PROJECTED: 56,250 | YEAR: 2025 | DIRECTION OF DISTRIBUTION: 100 % |

## INDEX OF SHEETS


| SHEET Nº | TABLE OF CONTENTS |
|---|---|
| 1 | TITLE |
| 2 | PLAN SHEET INDEX |
| 3 | LEGEND |
| 4 | NOTES |
| 5 | TYPICAL SECTIONS |
| 6-10 | HORIZONTAL AND VERTICAL CONTROL SHEETS |
| 11-15 | CONSTRUCTION PLANS |
| 16,17 | CONSTRUCTION DETAILS |
| 18-24 | CONSTRUCTION PHASING, MOT AND EROSION CONTROL PLANS |
| 25,26 | DETOUR PLANS |


TOTAL SHEETS: 26

## APPROVED DESIGN EXCEPTIONS

| DESIGN PARAMETER | REQUIRED | PROVIDED | DATE |
|---|---|---|---|
| | | | |

## ADDENDA & REVISIONS

| DESCRIPTION | NAME & DATE |
|---|---|
| | |

## ASSOCIATED CONTRACTS

| CONTRACT NO. | CONTRACT NAME |
|---|---|
| 83-101-04 | US 13 TO S. OF US 40 |
| T201007701 | DE 1 OVER US 13 LEFT THROUGH LANE CLOSURE |

## RECOMMENDED

SQUAD MANAGER, CONSTRUCTION — DATE 09/02/2016

GROUP ENGINEER, CONSTRUCTION — DATE 09/02/2016

ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS (CONSTRUCTION) — DATE 09/06/2016

**RECOMMENDED**
Vincent W. Davis
STORMWATER ENGINEER
DATE 09/02/2016
VINCENT W. DAVIS REGISTERED No. 12898 DELAWARE PROFESSIONAL ENGINEER — SEAL

**RECOMMENDED**
SQUAD MANAGER, TRANSPORTATION SOLUTIONS (PROJECT DEVELOPMENT OR BRIDGE DESIGN)
DATE 09/02/2016
JERRY K. LOVELL LICENSE No. 16257 DELAWARE PROFESSIONAL ENGINEER — SEAL

**RECOMMENDED**
BRIDGE DESIGN ENGINEER
DATE
SEAL

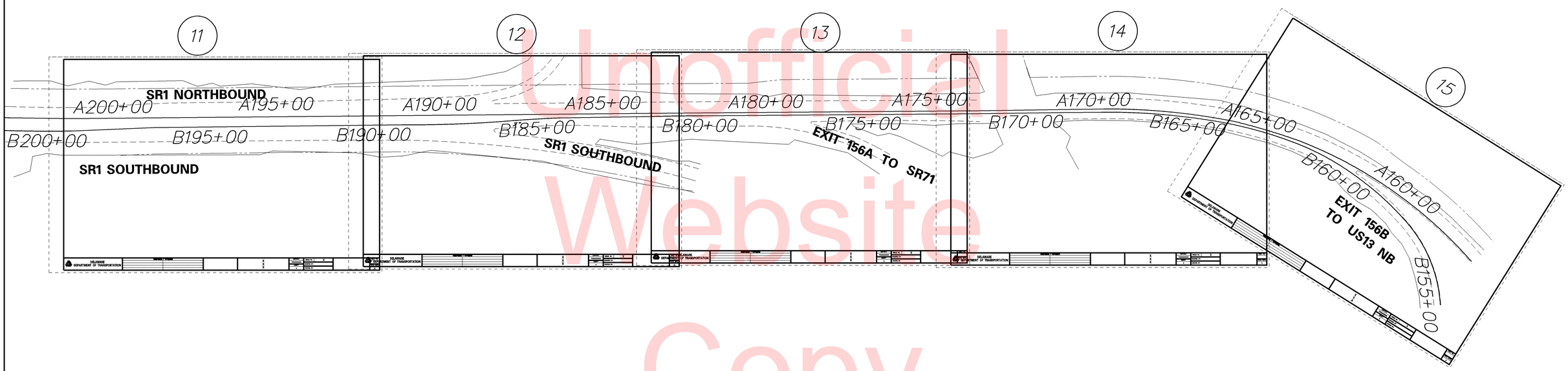
**RECOMMENDED**
GROUP ENGINEER, PROJECT DEVELOPMENT
DATE 09/06/2016
DARREN M. O'NEILL REGISTERED No. 10857 DELAWARE PROFESSIONAL ENGINEER — SEAL

**RECOMMENDED**
ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS
DATE 09/07/2016
MARK CHRISTOPHER TUDOR REGISTERED No. 10803 DELAWARE PROFESSIONAL ENGINEER — SEAL

**APPROVED**
CHIEF ENGINEER
DATE 09/12/2016
ROBERT BRIAN McCLEARY REGISTERED No. 8567 DELAWARE PROFESSIONAL ENGINEER — SEAL

LAST REVISED: 8/17/2008
Y:\NEWCASTL\067-ROAD\T201611003\PLANS\TC.DGN

Unofficial Website Copy




Unofficial Website Copy

| PLAN SHEET INDEX CROSS REFERENCE | | | | | |
|---|---|---|---|---|---|
| CONSTRUCTION PLAN | 11 | 12 | 13 | 14 | 15 |
| CONSTRUCTION PHASING, M.O.T. AND E&S | 19 | 20 | 21 | 22 | 23 |

W:\MSV8\CELLS\PROJDEV\SB.CEL

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

SCALE 0 150 300 450 FEET

**SR1 MEDIAN BARRIER REPLACEMENT**

| CONTRACT | BRIDGE NO. | 1–310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

**PLAN SHEET INDEX**

SHEET NO. 2

TOTAL SHTS. 26

# EXISTING SYMBOLS

## DRAINAGE

| | |
|---|---|
| | DITCH OR STREAM CENTERLINE |
| | DIRECTIONAL STREAM FLOW ARROW |
| C.B. / D.I. | DRAINAGE INLET |
| J.B. | DRAINAGE JUNCTION BOX |
| D | DRAINAGE MANHOLE |
| SIZE/TYPE LABEL | DRAINAGE PIPE AND FLOW ARROW |
| | DRAINAGE PIPE HEADWALL |
| | RIPRAP - AREA FEATURE |
| | RIPRAP - LINEAR FEATURE |

## MANMADE ROADSIDE FEATURES

| | |
|---|---|
| | BOLLARD - STEEL POLE |
| | BOLLARD - WOOD POST |
| (TYPE LABEL) | CURB |
| (TYPE LABEL) | CURB AND GUTTER |
| | FENCE - CHAINLINK OR STRANDED |
| | FENCE - STOCKADE OR SPLIT RAIL |
| FP | FLAG POLE |
| | GUARDRAIL - STEEL BEAM |
| | GUARDRAIL - WIRE ROPE |
| LAMP | LAMP AND POST - RESIDENTIAL |
| MB | MAILBOX |
| PM | PARKING METER AND POST |
| | PAVEMENT - FLEXIBLE |
| | PAVEMENT - RIGID |
| | PILE - BRIDGE |
| | PILLAR OR MISCELLANEOUS POST |
| | TRAFFIC SIGN AND POST |
| | WALL - BRICK OR BLOCK |
| | WALL - STONE |

## NATURAL ROADSIDE FEATURES

| | |
|---|---|
| | GRASS LAWN |
| | HEDGEROW OR THICKET |
| | MARSH BOUNDARY LINE |
| | TREE - CONIFEROUS |
| | TREE - DECIDUOUS |
| | TREE STUMP |
| | SHRUBBERY |
| WL | DELINEATED WETLAND BOUNDARY LINE |
| | WOODS LINE BOUNDARY |

## RIGHT-OF-WAY SYMBOLS

| | |
|---|---|
| C.M. | PROPERTY MARKER - CONCRETE MON. |
| I.P. | PROPERTY MARKER - IRON PIPE |
| 100+00 | HISTORIC RIGHT-OF-WAY BASELINE |
| | EXISTING RIGHT-OF-WAY |
| PL | EXISTING PROPERTY LINE |
| EASEMENT TYPE | EXISTING EASEMENT |
| DA | EXISTING DENIAL OF ACCESS |
| R/W-DA | EXISTING R/W & DENIAL OF ACCESS |

## SURVEY CONTROL & MONUMENTATION

| | |
|---|---|
| B.M. | SURVEY BENCHMARK LOCATION |
| T.P. | SURVEY TIE POINT LOCATION |
| | SURVEY TRAVERSE POINT |
| | POINT OF CURVATURE OR TANGENCY |
| | POINT OF INTERSECTING TANGENTS |

## UTILITY

| | |
|---|---|
| | SOIL BORING LOCATION |
| | UTILITY TEST HOLE LOCATION |
| TV | CABLE TV DISTRIBUTION BOX |
| E | ELECTRIC MANHOLE |
| EM | ELECTRIC METER |
| E | ELECTRIC TRANSFORMER |
| | POLE MOUNTED LUMINAIRE |
| G | GAS MANHOLE |
| G.M. | GAS METER |
| G.V. | GAS VALVE |
| G.P. | GAS PUMP - SERVICE STATION |
| | RAILROAD TRACKS |
| S | SANITARY SEWER MANHOLE |
| S.V. | SANITARY SEWER VALVE |
| SCO | SANITARY SEWER CLEANOUT OR VENT |
| S.D.F. | SEPTIC DRAIN FIELD |
| B | TELEPHONE BOOTH |
| T | TELEPHONE MANHOLE |
| T | TELEPHONE TEST POINT |
| J.W. | TRAFFIC - CONDUIT JUNCTION WELL |
| | TRAFFIC - LIGHT POLE AND BASE |
| | TRAFFIC - PEDESTRIAN POLE & BASE |
| | TRAFFIC - SIGNAL CABINET & BASE |
| | TRAFFIC - SIGNAL POLE AND BASE |
| U | UTILITY BOX |
| | UTILITY POLE GUY WIRE ANCHOR |
| | UTILITY POLE |
| F.H. | WATER - FIRE HYDRANT |
| W.M. | WATER METER |
| W.V. | WATER VALVE |
| WELL | WELL HEAD |
| ? | MANHOLE - UNDETERMINED OWNER |

# PROPOSED SYMBOLS

## CONSTRUCTION

| | |
|---|---|
| | CONCRETE SAFETY BARRIER - PERMANENT |
| BFS | BIOFILTRATION SWALE |
| | BRICK PATTERNED SURFACE |
| | BUTT JOINT |
| CZ | CLEAR ZONE |
| 100+00 | CONSTRUCTION BASELINE |
| CSF | CONSTRUCTION SAFETY FENCE |
| | CURB, TYPE 1 & TYPE 3 |
| | CURB, TYPE 2 |
| | CURB & GUTTER, TYPE 1 |
| | CURB & GUTTER, TYPE 2 |
| | CURB & GUTTER, TYPE 3 |
| | CURB & GUTTER, TYPE 4 |
| | CURB OPENING |
| | DRAINAGE INLET |
| | DITCH |
| | FENCE - METAL |
| | FENCE - WOOD |
| | FLARED END SECTION |
| | GUARDRAIL, TYPE 1 |
| | GUARDRAIL, TYPE 2 |
| | GUARDRAIL, TYPE 3 |
| | GUARDRAIL END ANCHORAGE |
| | GUARDRAIL END TREATMENT, TYPE 1 |
| | GUARDRAIL END TREATMENT, TYPE 2 |
| | GUARDRAIL END TREATMENT, TYPE 3 |
| | IMPACT ATTENUATOR |
| | JUNCTION BOX - DRAINAGE |
| LO | LATERAL OFFSET |
| LOC | LIMIT OF CONSTRUCTION |
| MB | MAILBOX |
| | MANHOLE |
| | PAVEMENT PATCH |
| | PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH |
| | PIPE & DIRECTIONAL FLOW ARROW |
| | RIPRAP |
| | P.C.C. SIDEWALK - 4" |
| | P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.) |
| | UNDERDRAIN |
| | UNDERDRAIN OUTLET |

## RIGHT-OF-WAY SYMBOLS

| | |
|---|---|
| | PROPOSED RIGHT-OF-WAY MONUMENT |
| DA | PROPOSED DENIAL OF ACCESS |
| PE | PROPOSED PERMANENT EASEMENT |
| R/W | PROPOSED RIGHT-OF-WAY |
| R/W-DA | PROPOSED R/W & DENIAL OF ACCESS |
| TCE | TEMPORARY CONSTRUCTION EASEMENT |
| 100+00 | PROPOSED RIGHT-OF-WAY BASELINE |

## IDENTIFIERS

| | |
|---|---|
| A/C | ADJUST BY CONTRACTOR |
| A/O | ADJUST BY OTHERS |
| B | CONCRETE SAFETY BARRIER |
| C | CURB OR CURB & GUTTER |
| C.J.B. | CONVERT TO JUNCTION BOX |
| C.M.H. | CONVERT TO DRAINAGE MANHOLE |
| C/O | CURB OPENING |
| CR | CURB RAMP / TYPE |
| CR-N | CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM |
| CSF | CONSTRUCTION SAFETY FENCE |
| DI | DRAINAGE INLET |
| DND | DO NOT DISTURB |
| ED | ENERGY DISSIPATOR |
| F | FENCE |
| F.E.S. | FLARED END SECTION |
| FF/C | FILL WITH FLOWABLE FILL |
| FS | FILTRATION STRUCTURE |
| GR | GUARDRAIL |
| JB | JUNCTION BOX |
| MH | MANHOLE |
| M | MONUMENT - RIGHT-OF-WAY |
| P | PIPE |
| RL/C | RELOCATE BY CONTRACTOR |
| RL/O | RELOCATE BY OTHERS |
| RM/C | REMOVE BY CONTRACTOR |
| RM/O | REMOVE BY OTHERS |
| UD | UNDERDRAIN / LENGTH |
| UDO | UNDERDRAIN OUTLET PIPE |

## LANDSCAPING

| | |
|---|---|
| LS | LANDSCAPE PLANTINGS |
| | SHRUBBERY |
| | CONIFEROUS TREE |
| | DECIDUOUS TREE |

## TRAFFIC

| | |
|---|---|
| ITMS-CON | ITMS CONDUIT |
| SIG-CON | SIGNAL CONDUIT |
| | CONDUIT JUNCTION WELL |
| | LUMINAIRE |
| | PAVEMENT MARKINGS |
| | PAVEMENT STRIPING |
| | TRAFFIC SIGN |

## PAVEMENT SECTION(S)

| | |
|---|---|
| | OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS |
| | RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS |
| | DRIVEWAY AND ENTRANCE PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS |

Unofficial Website Copy

## GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

2. SITE REVIEWER - AN EROSION CONTROL SITE REVIEWER SHALL BE A PERSON FROM THE CONTRACTOR'S STAFF ASSIGNED TO EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE AND SHALL BE REQUIRED ON SPECIFIC PROJECTS. THE NAME AND DNREC CERTIFICATION NUMBER OF EACH SITE REVIEWER SO REQUIRED SHALL BE SUBMITTED TO THE DEPARTMENT PRIOR TO THE EXECUTION OF THE CONTRACT. THE NAME OF THE DELAWARE REGISTERED PROFESSIONAL ENGINEER PROVIDING DIRECTION AND SUPERVISION OF THE SITE REVIEWER, AS REQUIRED IN SECTION 12.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, SHALL ALSO BE SUBMITTED TO THE DEPARTMENT PRIOR TO THE EXECUTION OF THE CONTRACT. THE SITE REVIEWER REQUIREMENTS IN EFFECT ON THIS PROJECT SHALL BE MARKED WITH AN "X" BELOW:

| EROSION POTENTIAL FOR THIS PROJECT | SITE REVIEWER REQUIREMENT |
|---|---|
| ( ) INSIGNIFICANT | NONE |
| ( X ) MINOR | CONTRACTOR CERTIFICATION COURSE TRAINING ONLY, AS DEFINED IN SECTION 13 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS. |
| ( ) MEDIUM | THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 12 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS. |
| ( ) MAJOR | SUPERINTENDENT AND AN INDIVIDUAL FROM CONTRACTOR'S STAFF SHALL BE CCR. ONE INDIVIDUAL FROM THE CONTRACTOR'S STAFF MUST BE A CCR PRIOR TO THE EXECUTION OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF CONTRACT. |

3. ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

| | |
|---|---|
| ( ) | NONE |
| ( ) | ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER. |
| ( X ) | ALL PLAN SHEETS, IN PDF FORMAT. |
| ( ) | EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT. |
| ( ) | PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT. |
| ( ) | DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM). |

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

4. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

| | |
|---|---|
| ( ) | CROSS SECTIONS |
| ( ) | RIGHT-OF-WAY PLANS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR) |

5. AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

| | |
|---|---|
| ( ) | THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. |
| ( X ) | THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 743000. |
| ( ) | THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR SHALL BE PAID FOR UNDER ITEM 743031. |

6. THE DISTURBED AREA FOR THIS PROJECT IS 0.178 ACRES.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO THE CONSTRUCTION SITE POLLUTION PREVENTION SPECIFICATIONS AS DETAILED IN SECTION 3.6 OF THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK". ALL COSTS ASSOCIATED WITH ADHERING TO THE STANDARDS SHALL BE INCIDENTAL TO THE OVERALL CONTRACT COSTS.

8. THE EROSION AND SEDIMENT CONTROL PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE EROSION AND SEDIMENT CONTROL PLANS ARE VALID FOR A THREE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE THREE YEARS, THE CONTRACTOR SHALL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE EROSION AND SEDIMENT CONTROL PLAN APPROVAL. DELDOT WILL REVIEW THE CURRENT EROSION AND SEDIMENT CONTROL PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

## PROJECT NOTES

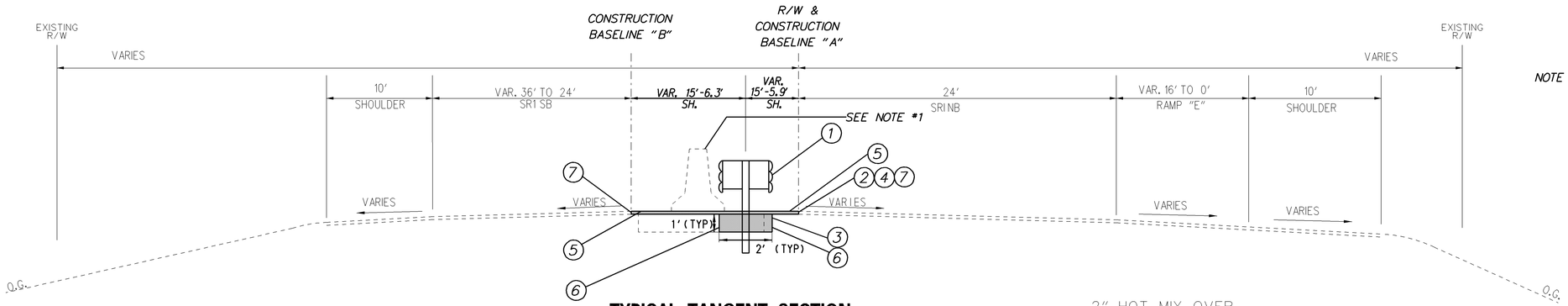
### SECTION 700

1. ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.

### MISCELLANEOUS

2. THERE ARE NO ENVIRONMENTAL PERMITS ASSOCIATED WITH THIS PROJECT. AS SUCH, AN ENVIRONMENTAL COMPLIANCE SHEET WAS NOT PREPARED.

Unofficial Website Copy

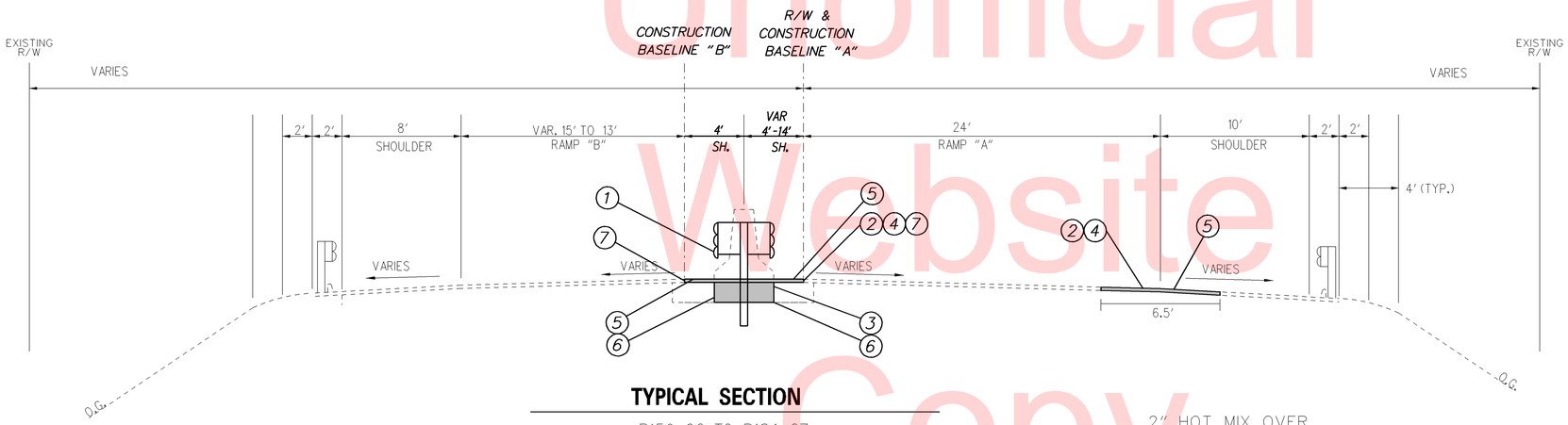



NOTE #1: REFER TO DETAILS FOR REMOVAL OF P.C.C. BARRIER

## TYPICAL TANGENT SECTION

B184+27 TO B198+98

2" HOT MIX OVER
12" P.C.C. PAVEMENT OVER
8" GRADED AGGREGATE BASE COURSE OVER
18" BORROW TYPE A




## TYPICAL SECTION

B159+62 TO B184+27

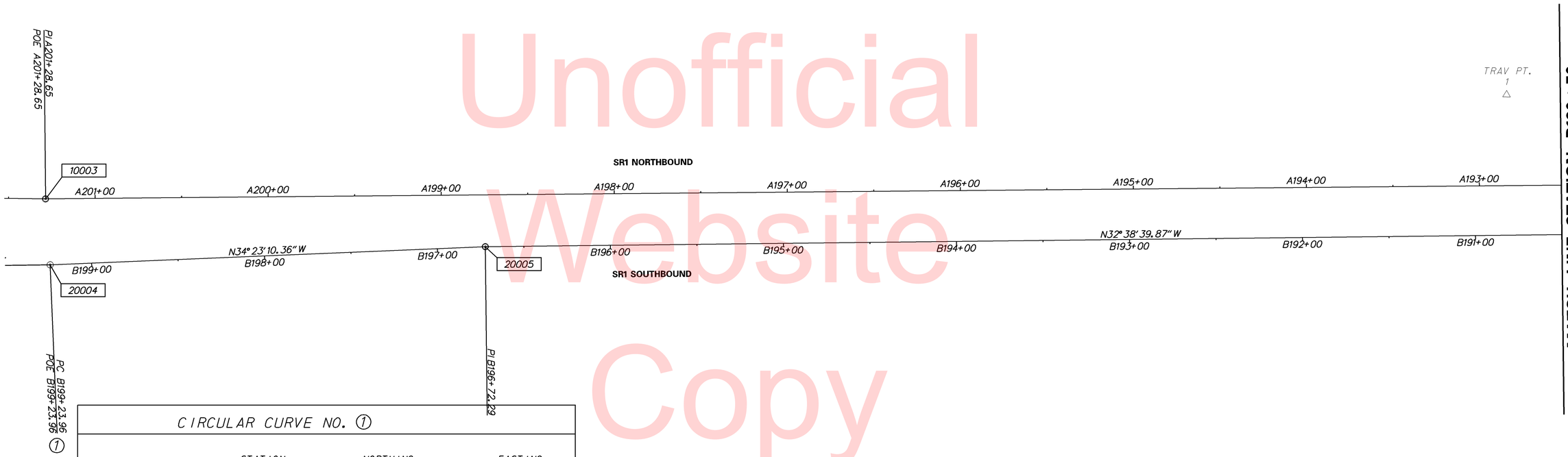
2" HOT MIX OVER
12" P.C.C. PAVEMENT OVER
8" GRADED AGGREGATE BASE COURSE OVER
18" BORROW TYPE A

Unofficial Website Copy

### PROPOSED LEGEND

1. ITEM 720669- THRIE-BEAM GUARDRAIL, TYPE 3-31
2. ITEM 401801- WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE) 2" DEPTH
3. ITEM 302007- GRADED AGGREGATE BASE COURSE, TYPE B
4. ITEM 760006 - PAVEMENT-MILLING, HOT-MIX, 2" DEPTH
5. ITEM 760016 - RUMBLE STRIPS, HOT MIX
6. ITEM 762002 - SAW CUTTING, CONCRETE, FULL DEPTH
7. ITEM 762001 - SAW CUTTING, BITUMINOUS CONCRETE

Unofficial Website Copy




## CIRCULAR CURVE NO. 1

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PCC(20002) | B201+11.37 | 592069.9458 | 590521.6781 |
| PI (20003) | B200+17.68 | 591989.2185 | 590569.2841 |
| CC( ) | | 594389.0953 | 594454.3450 |
| PT (20004) | B199+23.96 | 591910.5128 | 590620.1629 |
| Radius: | | 4565.56 | |
| Delta: | | 2° 21' 06.9616" Left | |
| Degree of Curvature(Arc): | | 1° 15' 17.8440" | |
| Length: | | 187.41 | |
| Tangent: | | 93.72 | |
| Chord: | | 187.40 | |
| Middle Ordinate: | | 0.96 | |
| External: | | 0.96 | |
| Tangent Direction: | | S 30° 31' 42.4389" E | |
| Radial Direction: | | S 59° 28' 17.5612" W | |
| Chord Direction: | | S 31° 42' 15.9197" E | |
| Radial Direction: | | S 57° 07' 10.5994" W | |
| Tangent Direction: | | S 32° 52' 49.4004" E | |

## HORIZONTAL / VERTICAL CONTROL DATA

| POINT | STATION | OFFSET | NORTHING | EASTING | ELEVATION |
|---|---|---|---|---|---|
| 1 | A192+83.77 | 52.60 | 591248.8470 | 591149.6018 | 62.30 |

## CONSTRUCTION ALIGNMENT CONTROL

| POINT | STATION | OFFSET | NORTHING | EASTING |
|---|---|---|---|---|
| 20005 | B196+72.29 | 0.00 | 591702.8240 | 590762.2970 |

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

W:\MSV8\CELLS\PROJDEV\SB.CEL

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

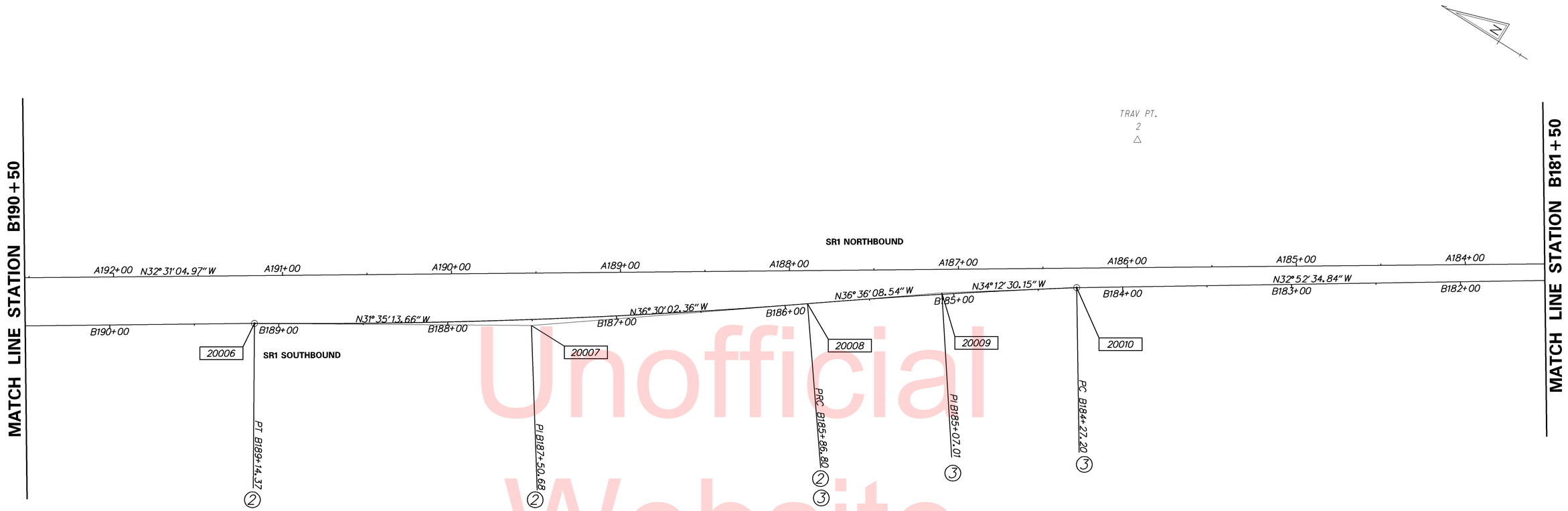
SCALE 0 30 60 90 FEET

**SR1 MEDIAN BARRIER REPLACEMENT**

| CONTRACT | BRIDGE NO. 1-310 |
|---|---|
| T201611003 | DESIGNED BY: APS |
| COUNTY | |
| NEW CASTLE | CHECKED BY: JKL |

**HORIZONTAL AND VERTICAL CONTROL**

SHEET NO. 6
TOTAL SHTS. 26




Unofficial Website Copy

## CIRCULAR CURVE NO. 2

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PC (20006) | B189+14.37 | 591064.6238 | 591171.1404 |
| PI (20007) | B187+50.68 | 590925.0194 | 591256.9824 |
| CC( ) | | 593065.3722 | 594424.9484 |
| PRC(20008) | B185+86.80 | 590793.2805 | 591354.4663 |

| | |
|---|---|
| Radius: | 3819.72 |
| Delta: | 4° 54' 48.7052" Left |
| Degree of Curvature(Arc): | 1° 29' 59.9980" |
| Length: | 327.57 |
| Tangent: | 163.88 |
| Chord: | 327.47 |
| Middle Ordinate: | 3.51 |
| External: | 3.51 |
| Tangent Direction: | S 31° 35' 13.6587" E |
| Radial Direction: | S 58° 24' 46.3414" W |
| Chord Direction: | S 34° 02' 38.0114" E |
| Radial Direction: | S 53° 29' 57.6359" W |
| Tangent Direction: | S 36° 30' 02.3639" E |

## CIRCULAR CURVE NO. 3

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PRC(20008) | B185+86.80 | 590793.2805 | 591354.4663 |
| PI (20009) | B185+07.01 | 590729.2084 | 591402.0546 |
| CC( ) | | 588515.7414 | 588288.0227 |
| PT (20010) | B184+27.20 | 590663.2043 | 591446.9250 |

| | |
|---|---|
| Radius: | 3819.72 |
| Delta: | 2° 23' 38.3968" Right |
| Degree of Curvature(Arc): | 1° 29' 59.9980" |
| Length: | 159.60 |
| Tangent: | 79.81 |
| Chord: | 159.59 |
| Middle Ordinate: | 0.83 |
| External: | 0.83 |
| Tangent Direction: | S 36° 36' 08.5448" E |
| Radial Direction: | S 53° 23' 51.4552" W |
| Chord Direction: | S 35° 24' 19.3463" E |
| Radial Direction: | S 55° 47' 29.8521" W |
| Tangent Direction: | S 34° 12' 30.1477" E |

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

**HORIZONTAL / VERTICAL CONTROL DATA**

| POINT | STATION | OFFSET | NORTHING | EASTING | ELEVATION |
|---|---|---|---|---|---|
| 2 | A185+93.33 | 75.39 | 590678.9039 | 591539.9751 | 60.76 |

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

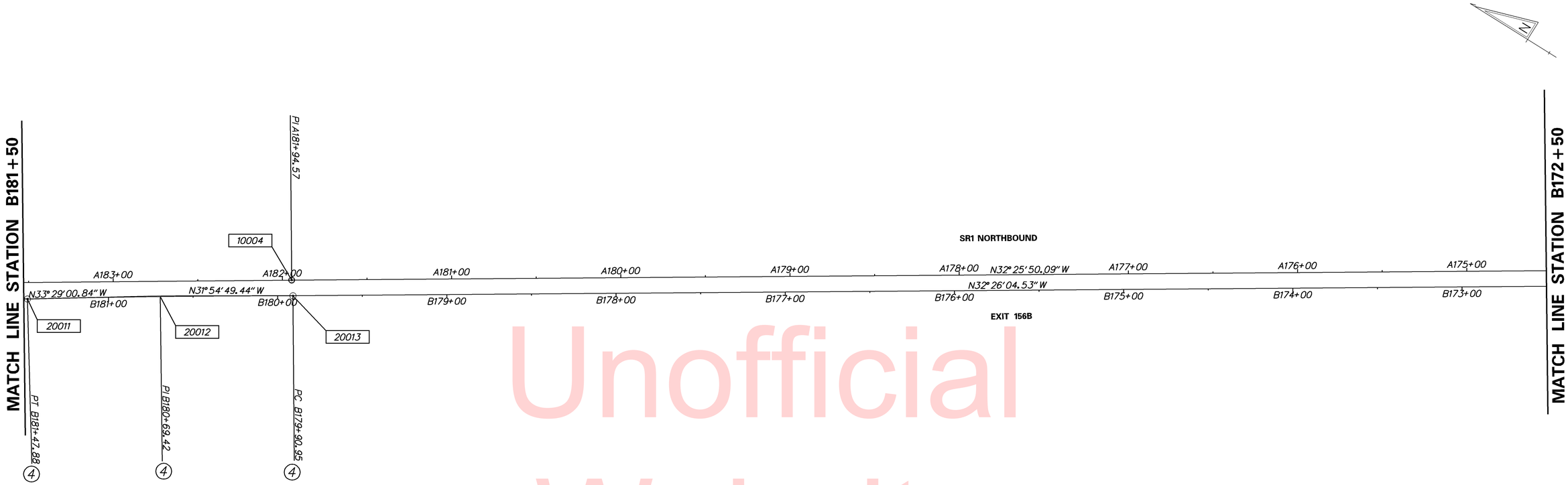
**SR1 MEDIAN BARRIER REPLACEMENT**

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

**HORIZONTAL AND VERTICAL CONTROL**

SHEET NO. 7
TOTAL SHTS. 26

W:\MSV8\CELLS\PROJDEV\SB.CEL




Unofficial Website Copy

## CIRCULAR CURVE NO. 4

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PC (20011) | B181+47.88 | 590428.6210 | 591598.5464 |
| PI (20012) | B180+69.42 | 590363.1742 | 591641.8377 |
| CC( ) | | 587268.7277 | 586821.4922 |
| PT (20013) | B179+90.95 | 590296.5659 | 591683.3199 |

| | |
|---|---|
| Radius: | 5727.58 |
| Delta: | 1° 34' 11.4040" Right |
| Degree of Curvature(Arc): | 1° 00' 01.2558" |
| Length: | 156.93 |
| Tangent: | 78.47 |
| Chord: | 156.92 |
| Middle Ordinate: | 0.54 |
| External: | 0.54 |
| Tangent Direction: | S 33° 29' 00.8410" E |
| Radial Direction: | S 56° 30' 59.1590" W |
| Chord Direction: | S 32° 41' 55.1390" E |
| Radial Direction: | S 58° 05' 10.5631" W |
| Tangent Direction: | S 31° 54' 49.4370" E |

## CIRCULAR CURVE NO. 5

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PC (20017) | B167+70.97 | 589267.9691 | 592339.3136 |
| PI (20018) | B166+11.11 | 589132.5906 | 592425.6269 |
| CC ( ) | | 588192.9172 | 590653.1441 |
| PCC(20019) | B164+50.55 | 588985.1752 | 592489.2354 |

| | |
|---|---|
| Radius: | 1999.73 |
| Delta: | 9° 10' 50.1156" Right |
| Degree of Curvature(Arc): | 2° 51' 54.6536" |
| Length: | 320.42 |
| Tangent: | 160.55 |
| Chord: | 320.08 |
| Middle Ordinate: | 6.41 |
| External: | 6.43 |
| Tangent Direction: | S 32° 31' 13.3700" E |
| Radial Direction: | S 57° 28' 46.6299" W |
| Chord Direction: | S 27° 55' 48.3122" E |
| Radial Direction: | S 66° 39' 36.7457" W |
| Tangent Direction: | S 23° 20' 23.2544" E |

## CONSTRUCTION ALIGNMENT CONTROL

| POINT | STATION | OFFSET | NORTHING | EASTING |
|---|---|---|---|---|
| 10004 | A181+94.57 | 0.00 | 590302.1301 | 591690.7659 |

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

W:\MSV8\CELLS\PROJDEV\SB.CEL

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

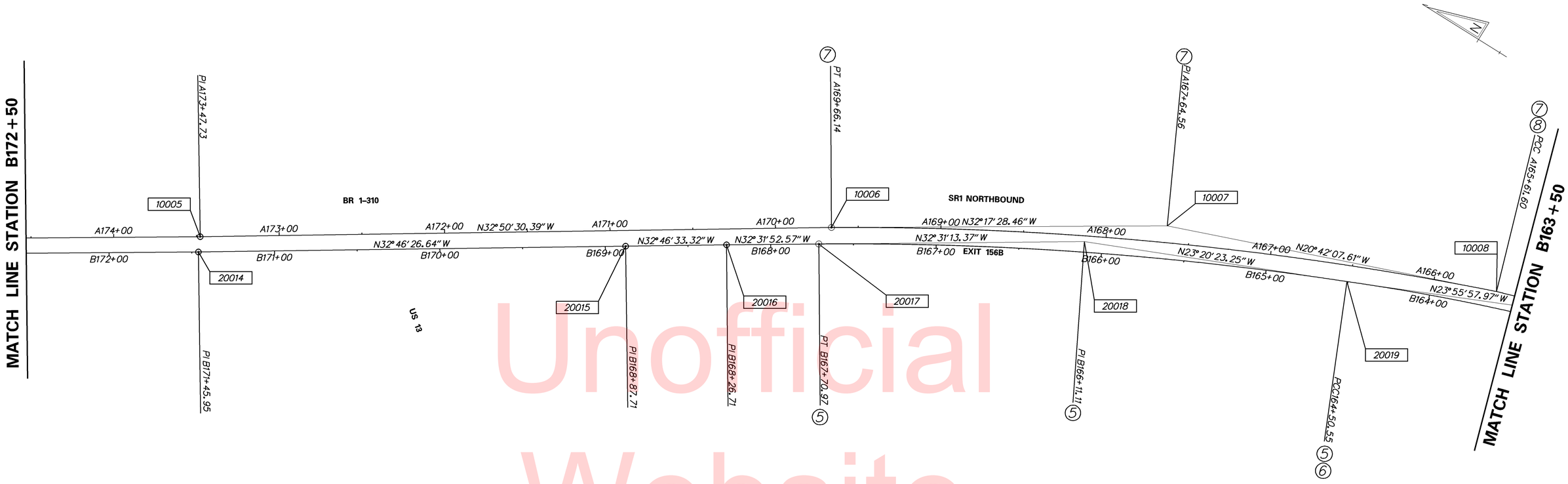
SCALE 0 30 60 90 FEET

**SR1 MEDIAN BARRIER REPLACEMENT**

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

**HORIZONTAL AND VERTICAL CONTROL**

SHEET NO. 8
TOTAL SHTS. 26




Unofficial Website Copy

## CONSTRUCTION ALIGNMENT CONTROL

| POINT | STATION | OFFSET | NORTHING | EASTING |
|---|---|---|---|---|
| 10005 | A173+47.73 | 0.00 | 589587.3639 | 592144.9056 |
| 20014 | B171+45.95 | 0.00 | 589583.3823 | 592136.5242 |
| 20015 | B168+87.71 | 0.00 | 589366.2485 | 592276.3183 |
| 20016 | B168+26.71 | 0.00 | 589314.9640 | 592309.3384 |

## CIRCULAR CURVE NO. 6

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PCC(20019) | B164+50.55 | 588985.1726 | 592489.2365 |
| PI (20020) | B163+03.94 | 588849.9094 | 592549.2695 |
| CC ( ) | | 588478.2033 | 591346.9594 |
| PCC(20021) | B161+55.95 | 588704.3660 | 592576.0507 |
| Radius: | | 1249.73 | |
| Delta: | | 13° 30' 23.4564" Right | |
| Degree of Curvature(Arc): | | 4° 35' 04.8026" | |
| Length: | | 294.60 | |
| Tangent: | | 147.99 | |
| Chord: | | 293.92 | |
| Middle Ordinate: | | 8.67 | |
| External: | | 8.73 | |
| Tangent Direction: | | S 23° 55' 57.9693" E | |
| Radial Direction: | | S 66° 04' 02.0307" W | |
| Chord Direction: | | S 17° 10' 46.2410" E | |
| Radial Direction: | | S 79° 34' 25.4872" W | |
| Tangent Direction: | | S 10° 25' 34.5127" E | |

## CIRCULAR CURVE NO. 7

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PC (10006) | A169+66.14 | 589266.7589 | 592351.8525 |
| PI (10007) | A167+64.56 | 589095.1873 | 592460.2788 |
| CC ( ) | | 588198.3127 | 590661.1654 |
| PCC(10008) | A165+61.00 | 588905.3315 | 592532.0273 |
| Radius: | | 2000.00 | |
| Delta: | | 11° 35' 20.8441" Right | |
| Degree of Curvature(Arc): | | 2° 51' 53.2403" | |
| Length: | | 404.54 | |
| Tangent: | | 202.96 | |
| Chord: | | 403.85 | |
| Middle Ordinate: | | 10.22 | |
| External: | | 10.27 | |
| Tangent Direction: | | S 32° 17' 28.4570" E | |
| Radial Direction: | | S 57° 42' 31.5428" W | |
| Chord Direction: | | S 26° 29' 48.0352" E | |
| Radial Direction: | | S 69° 17' 52.3869" W | |
| Tangent Direction: | | S 20° 42' 07.6131" E | |

## CIRCULAR CURVE NO. 8

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PC (10008) | A165+61.60 | 589266.7589 | 592351.8525 |
| PI (10000) | A164+58.94 | 589095.1873 | 592460.2788 |
| CC ( ) | | 588198.3127 | 590661.1654 |
| PCC(10008) | A163+56.10 | 588905.3315 | 592532.0273 |
| Radius: | | 2000.00 | |
| Delta: | | 11° 35' 20.8441" Right | |
| Degree of Curvature(Arc): | | 2° 51' 53.2403" | |
| Length: | | 404.54 | |
| Tangent: | | 202.96 | |
| Chord: | | 403.85 | |
| Middle Ordinate: | | 10.22 | |
| External: | | 10.27 | |
| Tangent Direction: | | S 32° 17' 28.4570" E | |
| Radial Direction: | | S 57° 42' 31.5428" W | |
| Chord Direction: | | S 26° 29' 48.0352" E | |
| Radial Direction: | | S 69° 17' 52.3869" W | |
| Tangent Direction: | | S 20° 42' 07.6131" E | |

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

W:\MSV8\CELLS\PROJDEV\SB.CEL

| | | | | | | |
|---|---|---|---|---|---|---|
| DELAWARE DEPARTMENT OF TRANSPORTATION | ADDENDUMS / REVISIONS | SCALE 0 30 60 90 FEET | SR1 MEDIAN BARRIER REPLACEMENT | CONTRACT T201611003 / COUNTY NEW CASTLE | BRIDGE NO. 1-310 / DESIGNED BY: APS / CHECKED BY: JKL | HORIZONTAL AND VERTICAL CONTROL | SHEET NO. 9 / TOTAL SHTS. 26 |

## CIRCULAR CURVE NO. 8

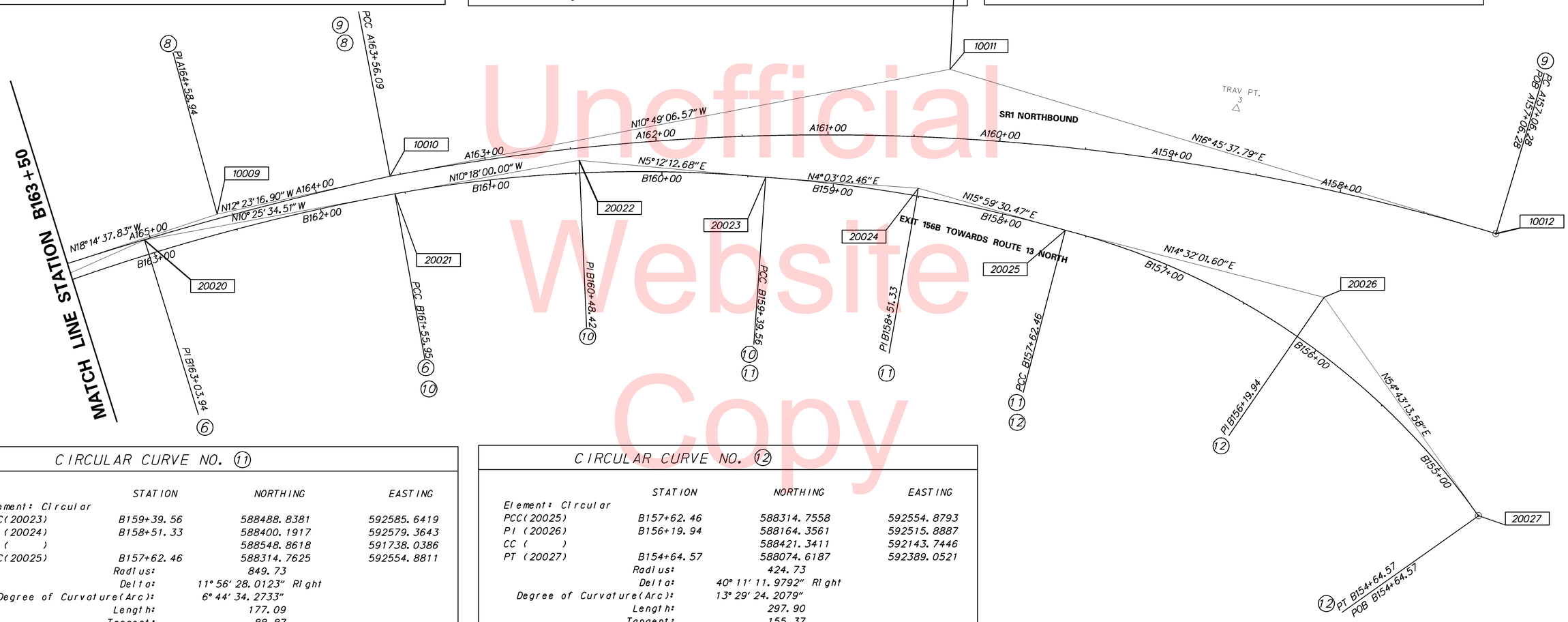
| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PC (10008) | A165+61.60 | 589266.7589 | 592351.8525 |
| PI (10000) | A164+58.94 | 589095.1873 | 592460.2788 |
| CC ( ) | | 588198.3127 | 590661.1654 |
| PCC(10008) | A163+56.10 | 588905.3315 | 592532.0273 |
| Radius: | | 2000.00 | |
| Delta: | | 11° 35' 20.8441" Right | |
| Degree of Curvature(Arc): | | 2° 51' 53.2403" | |
| Length: | | 404.54 | |
| Tangent: | | 202.96 | |
| Chord: | | 403.85 | |
| Middle Ordinate: | | 10.22 | |
| External: | | 10.27 | |
| Tangent Direction: | | S 32° 17' 28.4570" E | |
| Radial Direction: | | S 57° 42' 31.5428" W | |
| Chord Direction: | | S 26° 29' 48.0352" E | |
| Radial Direction: | | S 69° 17' 52.3869" W | |
| Tangent Direction: | | S 20° 42' 07.6131" E | |

## CIRCULAR CURVE NO. 9

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PCC(10010) | A163+56.10 | 588707.2115 | 592586.2861 |
| PI (10011) | A160+37.61 | 588381.7710 | 592648.4760 |
| CC ( ) | | 588453.8188 | 591260.2800 |
| PT (10012) | A157+06.28 | 588064.5170 | 592552.9300 |
| Radius: | | 1350.00 | |
| Delta: | | 27° 34' 44.3667" Right | |
| Degree of Curvature(Arc): | | 4° 14' 38.8745" | |
| Length: | | 649.81 | |
| Tangent: | | 331.33 | |
| Chord: | | 643.56 | |
| Middle Ordinate: | | 38.91 | |
| External: | | 40.06 | |
| Tangent Direction: | | S 10° 49' 06.5729" E | |
| Radial Direction: | | S 79° 10' 53.4272" W | |
| Chord Direction: | | S 2° 58' 15.6106" W | |
| Radial Direction: | | N 73° 14' 22.2061" W | |
| Tangent Direction: | | S 16° 45' 37.7938" W | |

## CIRCULAR CURVE NO. 10

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PCC(20021) | B161+55.95 | 588704.3666 | 592576.0506 |
| PI (20022) | B160+48.42 | 588597.2579 | 592595.5155 |
| CC ( ) | | 588561.3738 | 591789.2122 |
| PCC(20023) | B159+39.56 | 588488.8436 | 592585.6423 |
| Radius: | | 799.73 | |
| Delta: | | 15° 30' 12.6783" Right | |
| Degree of Curvature(Arc): | | 7° 09' 51.9353" | |
| Length: | | 216.40 | |
| Tangent: | | 108.86 | |
| Chord: | | 215.74 | |
| Middle Ordinate: | | 7.31 | |
| External: | | 7.38 | |
| Tangent Direction: | | S 10° 17' 59.9999" E | |
| Radial Direction: | | S 79° 41' 59.9999" W | |
| Chord Direction: | | S 2° 32' 53.6608" E | |
| Radial Direction: | | N 84° 47' 47.3218" W | |
| Tangent Direction: | | S 5° 12' 12.6783" W | |




## CIRCULAR CURVE NO. 11

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PCC(20023) | B159+39.56 | 588488.8381 | 592585.6419 |
| PI (20024) | B158+51.33 | 588400.1917 | 592579.3643 |
| CC ( ) | | 588548.8618 | 591738.0386 |
| PCC(20025) | B157+62.46 | 588314.7625 | 592554.8811 |
| Radius: | | 849.73 | |
| Delta: | | 11° 56' 28.0123" Right | |
| Degree of Curvature(Arc): | | 6° 44' 34.2733" | |
| Length: | | 177.09 | |
| Tangent: | | 88.87 | |
| Chord: | | 176.77 | |
| Middle Ordinate: | | 4.61 | |
| External: | | 4.63 | |
| Tangent Direction: | | S 4° 03' 02.4580" W | |
| Radial Direction: | | N 85° 56' 57.5420" W | |
| Chord Direction: | | S 10° 01' 16.4641" W | |
| Radial Direction: | | N 74° 00' 29.5298" W | |
| Tangent Direction: | | S 15° 59' 30.4703" W | |

## CIRCULAR CURVE NO. 12

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| Element: Circular | | | |
| PCC(20025) | B157+62.46 | 588314.7558 | 592554.8793 |
| PI (20026) | B156+19.94 | 588164.3561 | 592515.8887 |
| CC ( ) | | 588421.3411 | 592143.7446 |
| PT (20027) | B154+64.57 | 588074.6187 | 592389.0521 |
| Radius: | | 424.73 | |
| Delta: | | 40° 11' 11.9792" Right | |
| Degree of Curvature(Arc): | | 13° 29' 24.2079" | |
| Length: | | 297.90 | |
| Tangent: | | 155.37 | |
| Chord: | | 291.83 | |
| Middle Ordinate: | | 25.85 | |
| External: | | 27.53 | |
| Tangent Direction: | | S 14° 32' 01.5997" W | |
| Radial Direction: | | N 75° 27' 58.4003" W | |
| Chord Direction: | | S 34° 37' 37.5893" W | |
| Radial Direction: | | N 35° 16' 46.4211" W | |
| Tangent Direction: | | S 54° 43' 13.5789" W E | |

## HORIZONTAL / VERTICAL CONTROL DATA

| POINT | STATION | OFFSET | NORTHING | EASTING | ELEVATION |
|---|---|---|---|---|---|
| 3 | A158+67.80 | 36.07 | 588215.3393 | 592625.6783 | 49.80 |

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

Unofficial Website Copy

W:\MSV8\CELLS\PROJDEV\SB.CEL

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

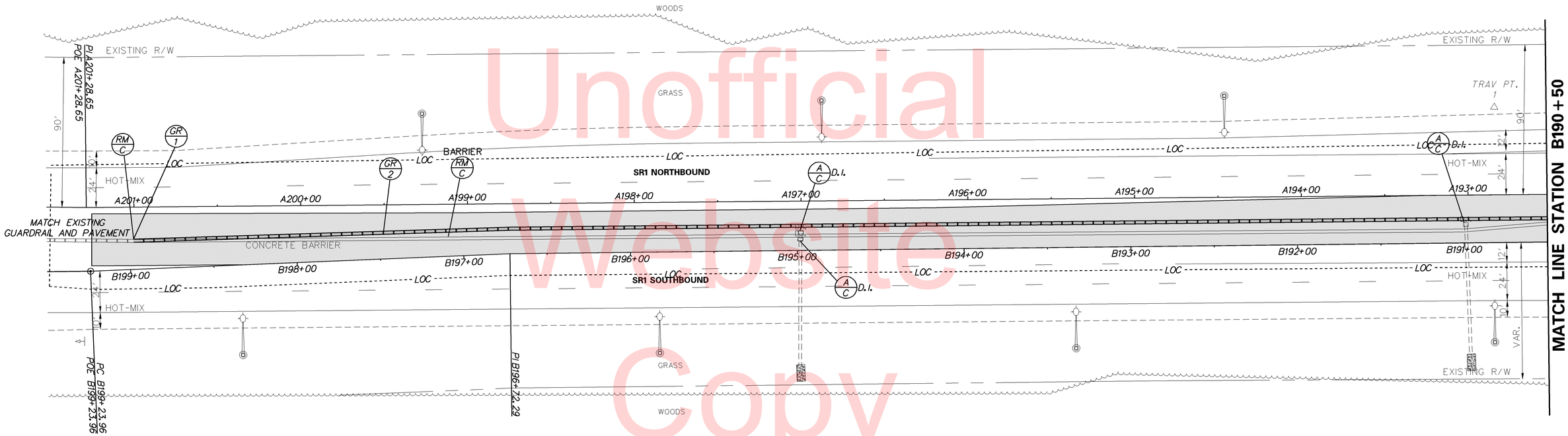
SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. 1-310 |
|---|---|
| T201611003 | DESIGNED BY: APS |
| COUNTY | |
| NEW CASTLE | CHECKED BY: JKL |

HORIZONTAL AND VERTICAL CONTROL

SHEET NO. 10

TOTAL SHTS. 26




Unofficial Website Copy

| GUARDRAIL SCHEDULE | | | | |
|---|---|---|---|---|
| NO. | ITEM DESCRIPTION / TYPE | BEGIN STA. | OFFSET | LENGTH |
| 1 | TRANSITION SECTION, W BEAM TO THRIE BEAM | B198+97.44 | 16.18' | 7.29' |
| 2 | THRIE-BEAM GUARDRAIL, TYPE 3 | B198+90.15 | VARIES | 840.15' |

| GUARDRAIL CONTROL | |
|---|---|
| STATION | OFFSET |
| A198+75 | -15.0' |
| A194+50 | -14.5' |

*OFFSET MEASURED TO CENTER POST OF GUARDRAIL

W:\MSV8\CELLS\PROJDEV\SB.CEL

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

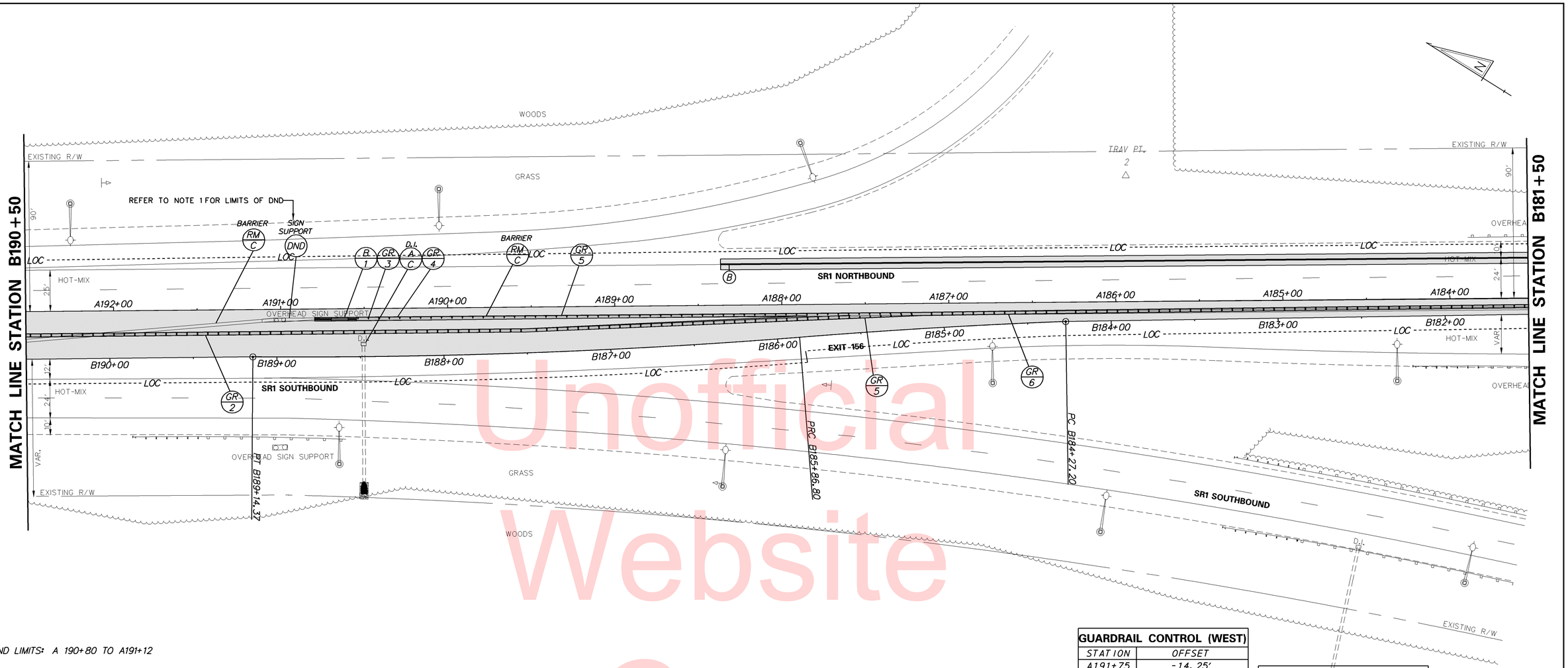
SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

CONSTRUCTION PLAN

SHEET NO. 11

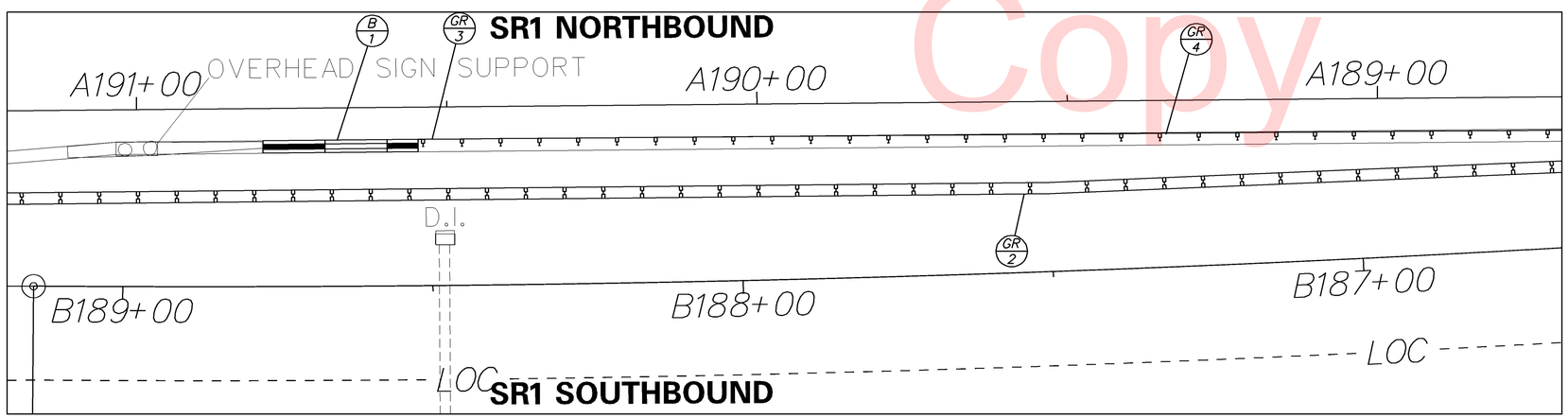
TOTAL SHTS. 26




Unofficial Website Copy

NOTE:

1. DND LIMITS: A 190+80 TO A191+12




NOT TO SCALE

**GUARDRAIL CONTROL (WEST)**

| STATION | OFFSET |
|---|---|
| A191+75 | -14.25' |
| A189+50 | -13.75' |
| A188+50 | -10.5' |
| A187+50 | -7.25' |
| A186+50 | -6.0' |
| A185+50 | -5.5' |
| A183+75 | -5.0' |

**GUARDRAIL CONTROL (EAST)**

| STATION | OFFSET |
|---|---|
| A190+00 | -6.0' |
| A189+00 | -6.0' |
| A188+00 | -6.0' |
| A187+50 | -6.0' |

*OFFSET MEASURED TO CENTER POST OF GUARDRAIL

**BARRIER SCHEDULE**

| NO. | ITEM DESCRIPTION / TYPE | LENGTH |
|---|---|---|
| 1 | TRANSITION MEDIAN BARRIER | 25.00' |

*INCIDENTAL TO THRIE-BEAM TO BARRIER CONNECTION - ITEM 725504

**PAVEMENT MARKINGS LEGEND**

| SYMBOL | ITEM | QUANTITY |
|---|---|---|
| (B) | EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548) | 485 LF |

**GUARDRAIL SCHEDULE**

| NO. | ITEM DESCRIPTION / TYPE | BEGIN STA. | OFFSET | LENGTH |
|---|---|---|---|---|
| 2 | THRIE BEAM GUARDRAIL, TYPE 3 | B190+50.00 | VARIES | 492.61' |
| 3 | THRIE BEAM TO BARRIER CONNECTION, TYPE 1 | A190+54.63 | VARIES | 27.83' |
| 4 | THRIE BEAM GUARDRAIL, TYPE 1 | A190+26.80 | VARIES | 309.80' |
| 5 | THRIE BEAM GUARDRAIL, TYPE 1 | B185+57.39 | VARIES | 43.00' |
| 6 | THRIE BEAM GUARDRAIL, TYPE 3 | A187+17.00 | VARIES | 363.50' |

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

SR1 MEDIAN BARRIER REPLACEMENT

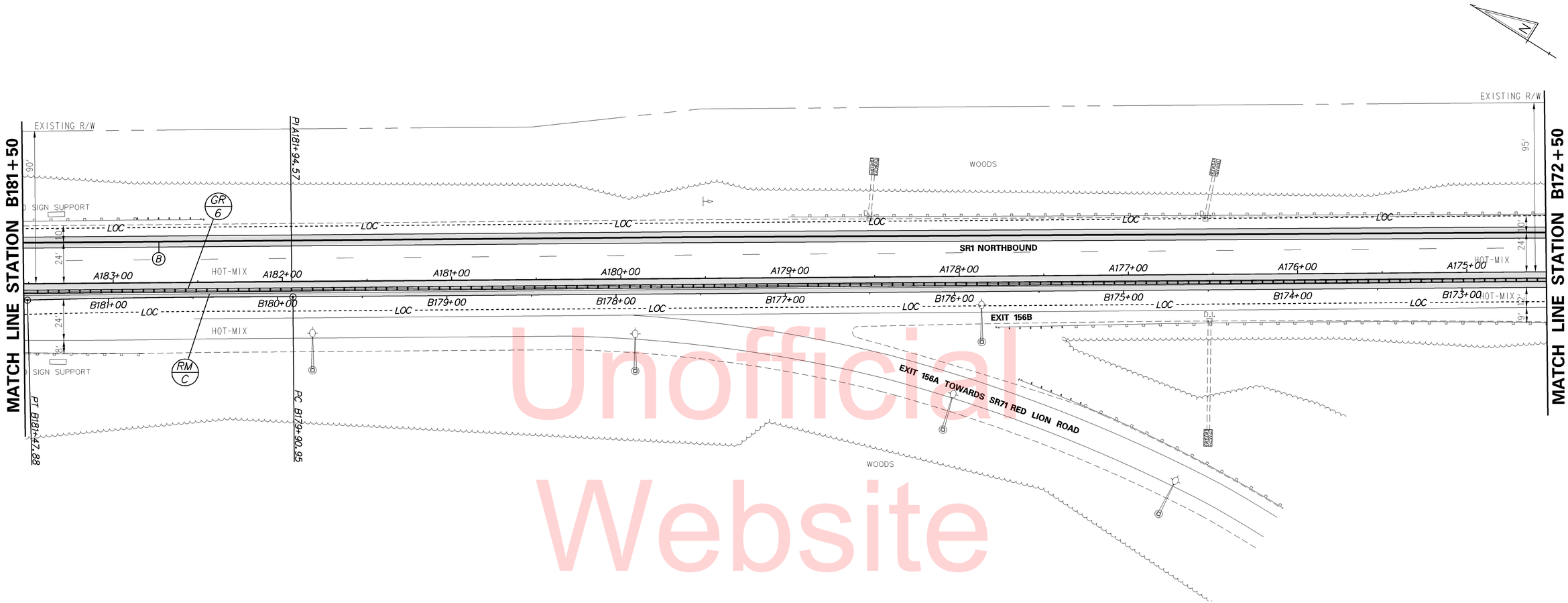
| CONTRACT | BRIDGE NO. 1-310 |
|---|---|
| T201611003 | DESIGNED BY: APS |
| COUNTY | CHECKED BY: JKL |
| NEW CASTLE | |

CONSTRUCTION PLAN

SHEET NO. 12

TOTAL SHTS. 26

W:\MSV8\CELLS\PROJDEV\SB.CEL




Unofficial Website Copy

| GUARDRAIL CONTROL | |
|---|---|
| STATION | OFFSET |
| A181+50 | -5.0' |
| A179+00 | -4.75' |
| A175+50 | -4.75' |

*OFFSET MEASURED TO CENTER POST OF GUARDRAIL

| PAVEMENT MARKINGS LEGEND | | |
|---|---|---|
| SYMBOL | ITEM | QUANTITY |
| Ⓑ | EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548) | 900 LF |

| GUARDRAIL SCHEDULE | | | | |
|---|---|---|---|---|
| NO. | ITEM DESCRIPTION / TYPE | BEGIN STA. | OFFSET | LENGTH |
| 6 | THRIE-BEAM GUARDRAIL, TYPE 3 | B181+50 | VARIES | 900.00' |

W:\MSV8\CELLS\PROJDEV\SB.CEL

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

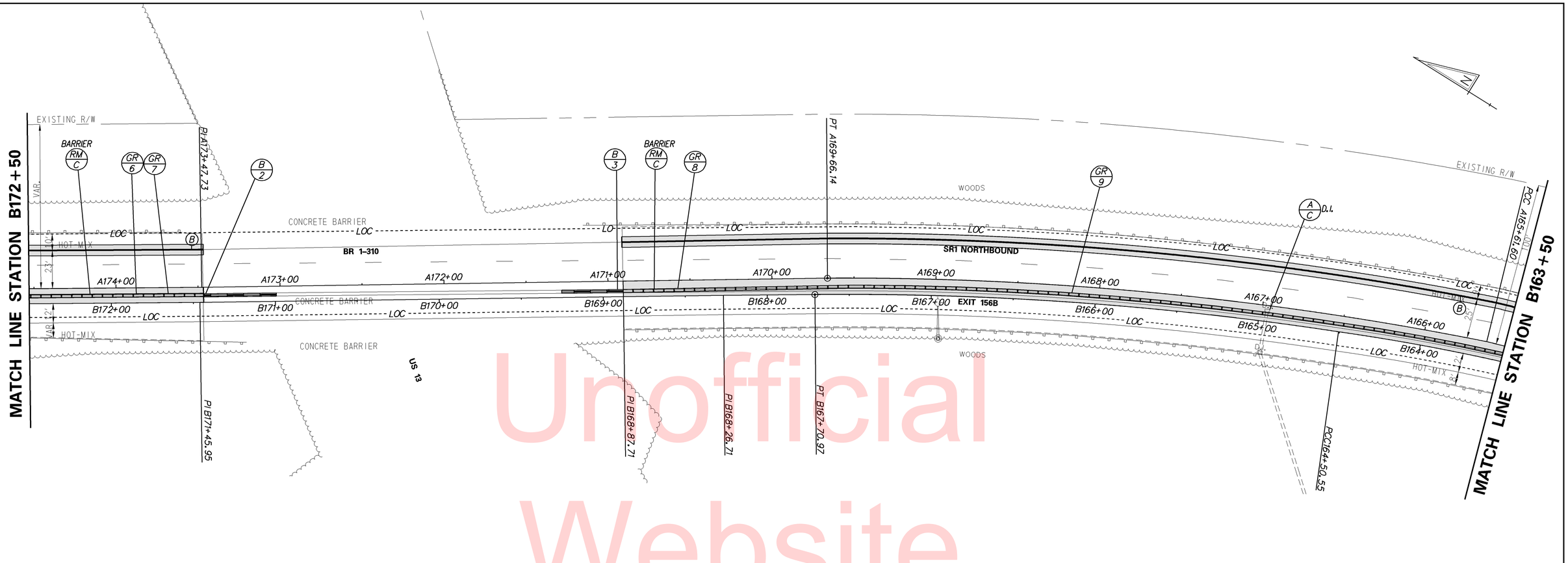
SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

CONSTRUCTION PLAN

SHEET NO. 13

TOTAL SHTS. 26




Unofficial Website Copy

| GUARDRAIL CONTROL | |
|---|---|
| STATION | OFFSET |
| A173+50 | -4.75' |
| A170+50 | -6.0' |
| A169+50 | -5.3' |
| A168+50 | -5.0' |
| A167+50 | -5.0' |
| A166+50 | -5.0' |

*OFFSET MEASURED TO CENTER POST OF GUARDRAIL

| BARRIER SCHEDULE | | |
|---|---|---|
| NO. | ITEM DESCRIPTION / TYPE | LENGTH |
| 2 | TRANSITION MEDIAN BARRIER | 44.00' |
| 3 | TRANSITION MEDIAN BARRIER | 44.00' |

*NOTES: 1) INCIDENTAL TO THRIE-BEAM TO BARRIER CONNECTION - ITEM 725504
2) ADDITIONAL LENGTH OF BARRIER OVER 25' SPECIFIED IN DETAIL WILL BE PAID UNDER ITEM - 720512

| GUARDRAIL SCHEDULE | | | | |
|---|---|---|---|---|
| NO. | ITEM DESCRIPTION / TYPE | BEGIN STA. | OFFSET | LENGTH |
| 6 | THRIE-BEAM GUARDRAIL, TYPE 3 | B172+50.00 | 4.50' | 78.88' |
| 7 | THRIE BEAM TO BARRIER CONNECTION TYPE 3 | B171+71.12 | 4.50' | 27.83' |
| 8 | THRIE BEAM TO BARRIER CONNECTION TYPE 3 | B168+87.71 | 4.50' | 27.83' |
| 9 | THRIE-BEAM GUARDRAIL, TYPE 3 | B168+59.88 | VARIES | 509.88' |

| PAVEMENT MARKINGS LEGEND | | |
|---|---|---|
| SYMBOL | ITEM | QUANTITY |
| (B) | EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548) | 630 LF |

W:\MSV8\CELLS\PROJDEV\SB.CEL

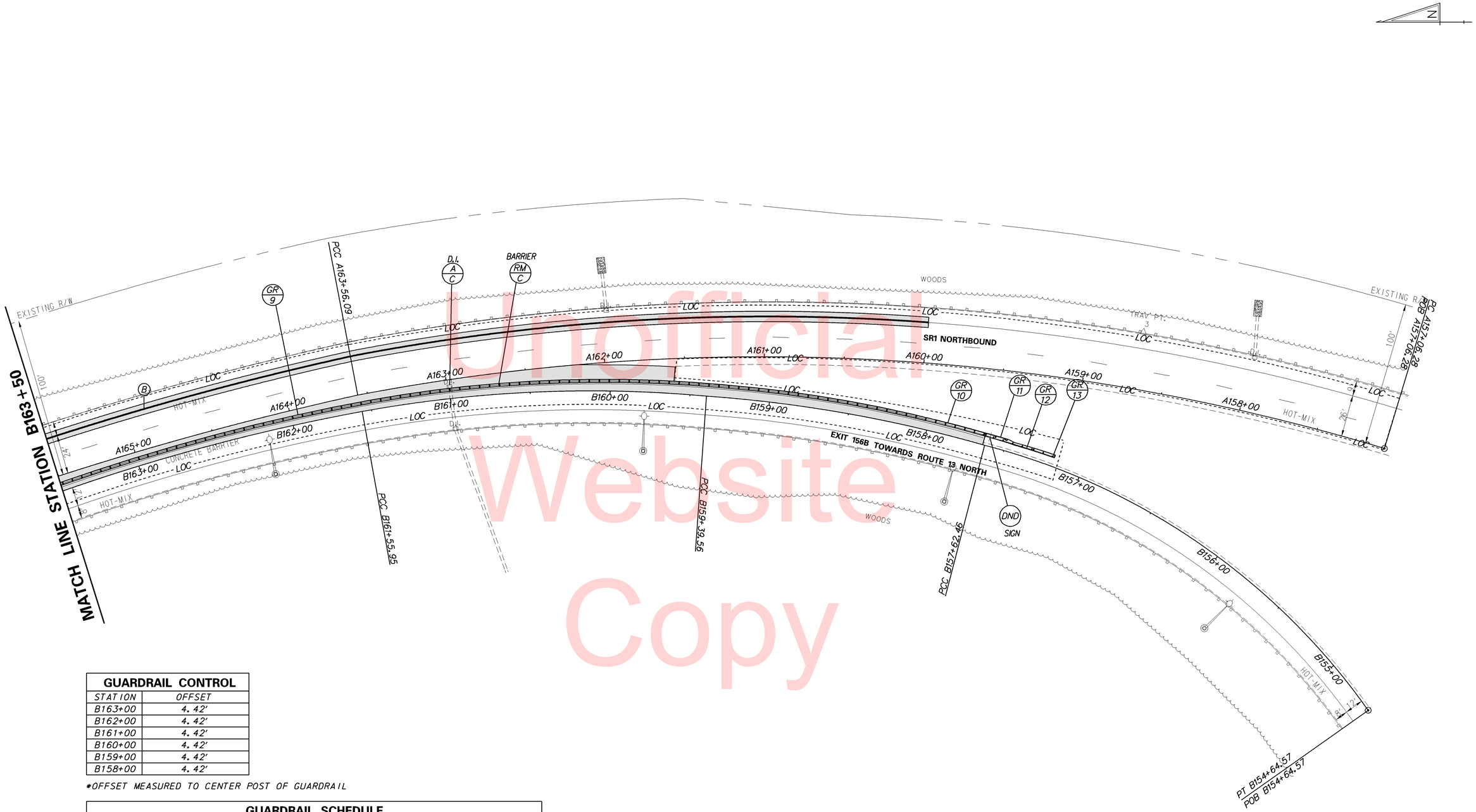
DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. 1-310 | CONSTRUCTION PLAN | SHEET NO. |
|---|---|---|---|
| T201611003 | DESIGNED BY: APS | | 14 |
| COUNTY | | | TOTAL SHTS. |
| NEW CASTLE | CHECKED BY: JKL | | 26 |




Unofficial Website Copy

| GUARDRAIL CONTROL | |
|---|---|
| STATION | OFFSET |
| B163+00 | 4.42' |
| B162+00 | 4.42' |
| B161+00 | 4.42' |
| B160+00 | 4.42' |
| B159+00 | 4.42' |
| B158+00 | 4.42' |

*OFFSET MEASURED TO CENTER POST OF GUARDRAIL

| GUARDRAIL SCHEDULE | | | | |
|---|---|---|---|---|
| NO. | ITEM DESCRIPTION / TYPE | BEGIN STA. | OFFSET | LENGTH |
| 9 | THRIE-BEAM GUARDRAIL, TYPE 3-31 | B163+50.00 | VARIES | 566.70' |
| 10 | TRANSITION SECTION, THRIE-BEAM TO W BEAM | B157+83.30 | 4.42' | 7.29' |
| 11 | END ANCHORAGE, TYPE 31 | B157+76.01 | 4.42' | 12.50' |
| 12 | W BEAM GUARDRAIL, TYPE 1-31 | B157+76.01 | 4.42' | 30.00' |
| 13 | END ANCHORAGE, TYPE 31 | B157+46.01 | 4.42' | 12.50' |

| PAVEMENT MARKINGS LEGEND | | |
|---|---|---|
| SYMBOL | ITEM | QUANTITY |
| (B) | EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548) | 500 LF |

W:\MSV8\CELLS\PROJDEV\SB.CEL

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

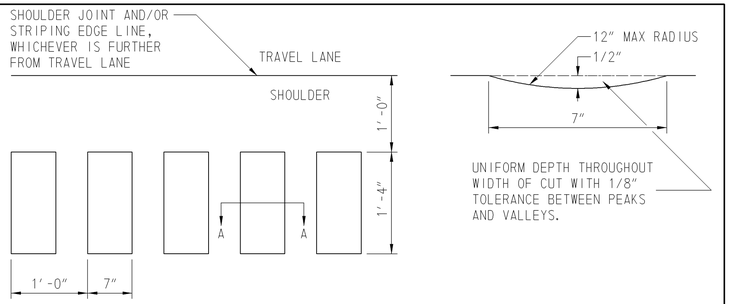
SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

CONSTRUCTION PLAN

SHEET NO. 15

TOTAL SHTS. 26




PLAN




SECTION A-A

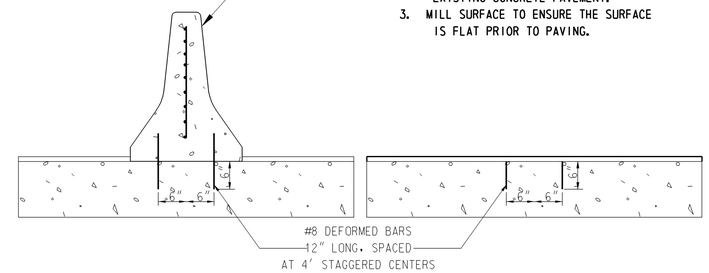
## EDGELINE RUMBLE STRIPS DETAIL

NOT TO SCALE

NOTES:

- ALL WORK REQUIRED TO COMPLETE THE INSTALLATION OF EDGELINE RUMBLE STRIPS SHALL BE INCIDENTAL TO ITEM 760016 - RUMBLE STRIPS, HOT MIX.
- EDGELINE RUMBLE STRIPS SHALL BE INSTALLED ALONG ALL INSIDE SHOULDERS, AS PER THIS DETAIL, THROUGHOUT THE PROJECT EXCEPT FOR ON BR 1-310 BRIDGE DECK.

1. REMOVE EXISTING P.C.C. BARRIER TO TOP OF EXISTING CONCRETE PAVEMENT.
2. CUT REBAR TO ENSURE THAT NO REBAR EXTENDS ABOVE THE SURFACE OF THE EXISTING CONCRETE PAVEMENT.
3. MILL SURFACE TO ENSURE THE SURFACE IS FLAT PRIOR TO PAVING.

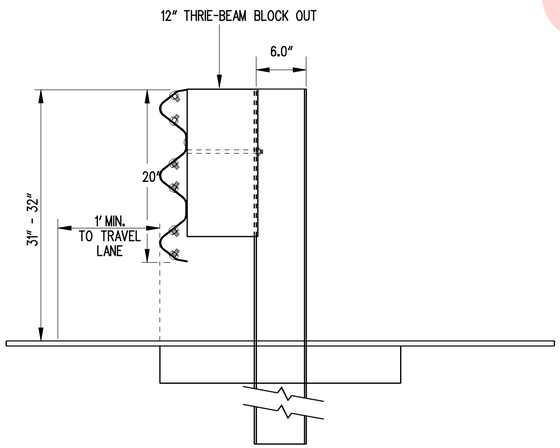



EXISTING PROPOSED

## REMOVAL OF P.C.C. BARRIER

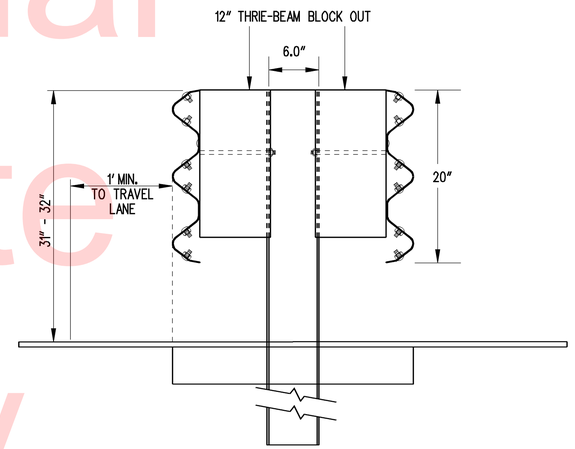
*CUTTING/GRINDING OF REBAR INCIDENTAL TO REMOVAL OF CONCRETE BARRIER (ITEM 211523)

**DETAIL ONLY APPLIES IN AREAS WHERE NEW GUARDRAIL ALIGNMENT VARIES FROM EXISTING PCC BARRIER ALIGNMENT.



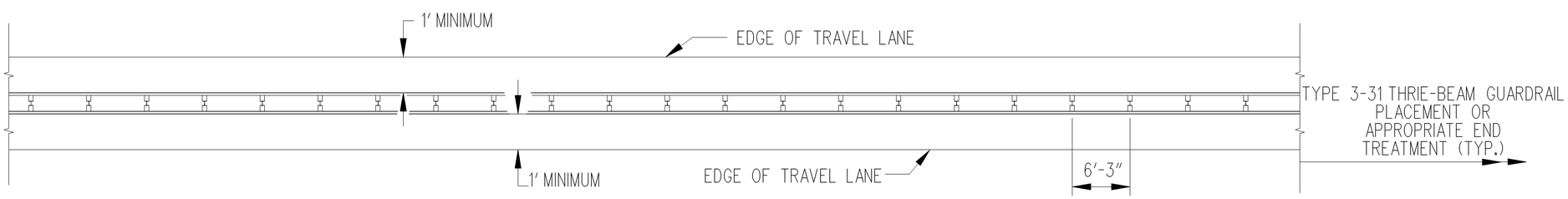

GUARDRAIL SECTION TYPE 1-31

EDGE APPLICATION




GUARDRAIL SECTION TYPE 3-31

MEDIAN APPLICATION




## TYPE 3-31 GUARDRAIL

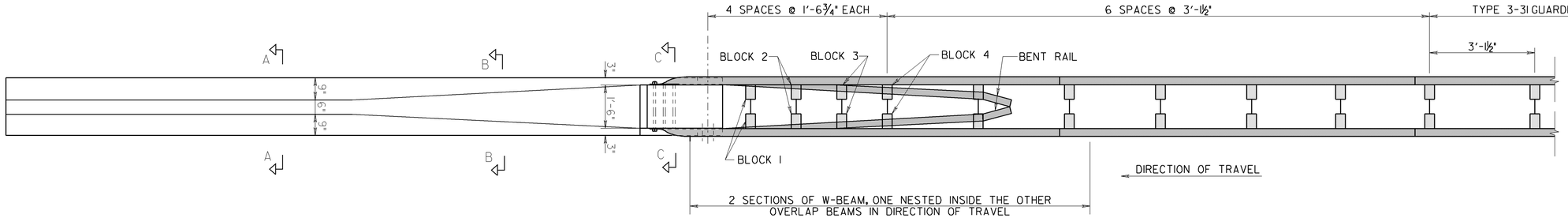
TYPICAL MEDIAN GUARDRAIL TREATMENT

NOTE : 1). PLACE GUARDRAIL DELINEATORS AT THE INTERVALS SPECIFIED IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Unofficial Website Copy

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DELAWARE DEPARTMENT OF TRANSPORTATION | ADDENDUMS / REVISIONS | NOT TO SCALE | SR1 MEDIAN BARRIER REPLACEMENT | CONTRACT T201611003 | BRIDGE NO. 1-310 | CONSTRUCTION DETAILS | SHEET NO. 16 |
| | | | | COUNTY NEW CASTLE | DESIGNED BY: APS | | TOTAL SHTS. 26 |
| | | | | | CHECKED BY: JKL | | |

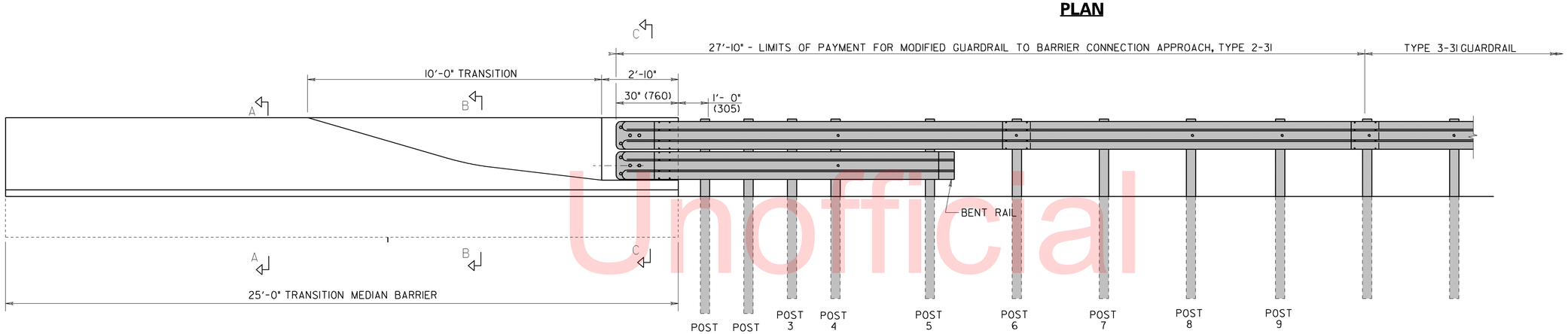
W:\MSV8\CELLS\PROJDEV\SB.CEL




## PLAN

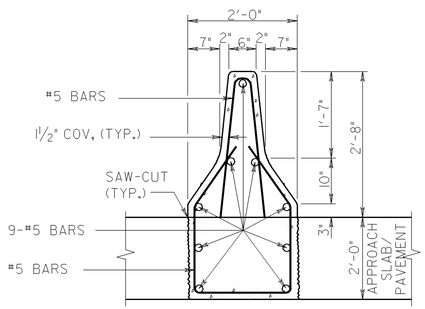
**NOTES:**

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION'S STANDARD CONSTRUCTION DETAIL, GUARDRAIL TO BARRIER CONNECTION, APPROACH, TYPE 2-31.
2. SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION'S STANDARD CONSTRUCTION DETAIL, GUARDRAIL TO BARRIER CONNECTION, APPROACH, TYPE 2-31.

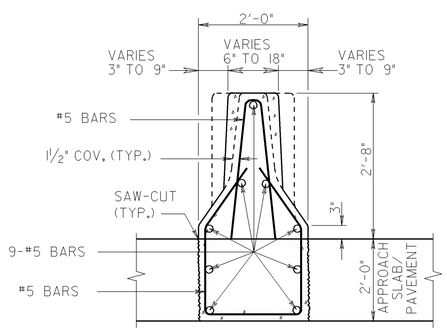



## ELEVATION

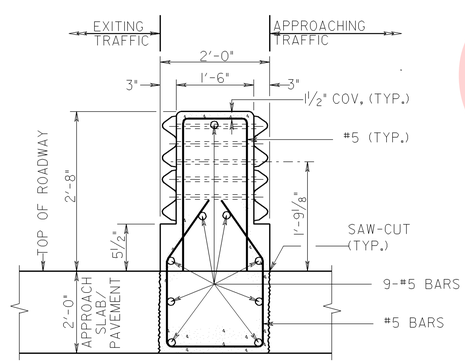
**MODIFIED GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2-31**



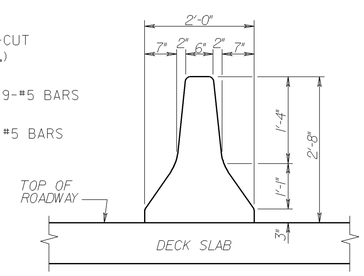

## SECTION: A–A



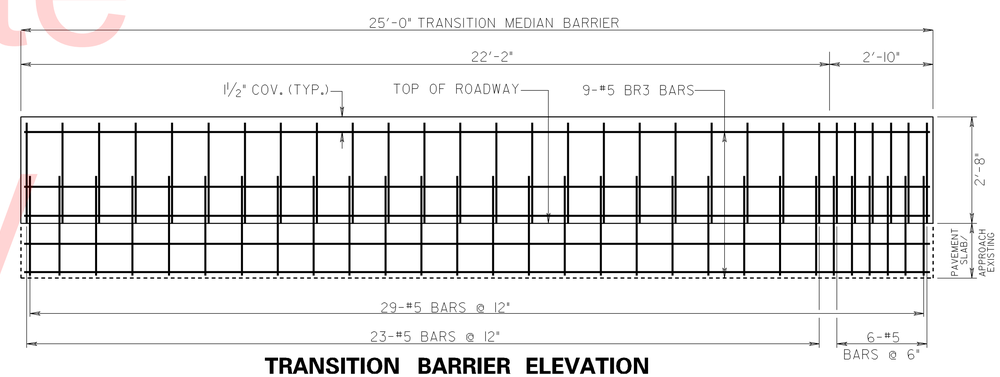

## SECTION: B–B




## SECTION: C–C



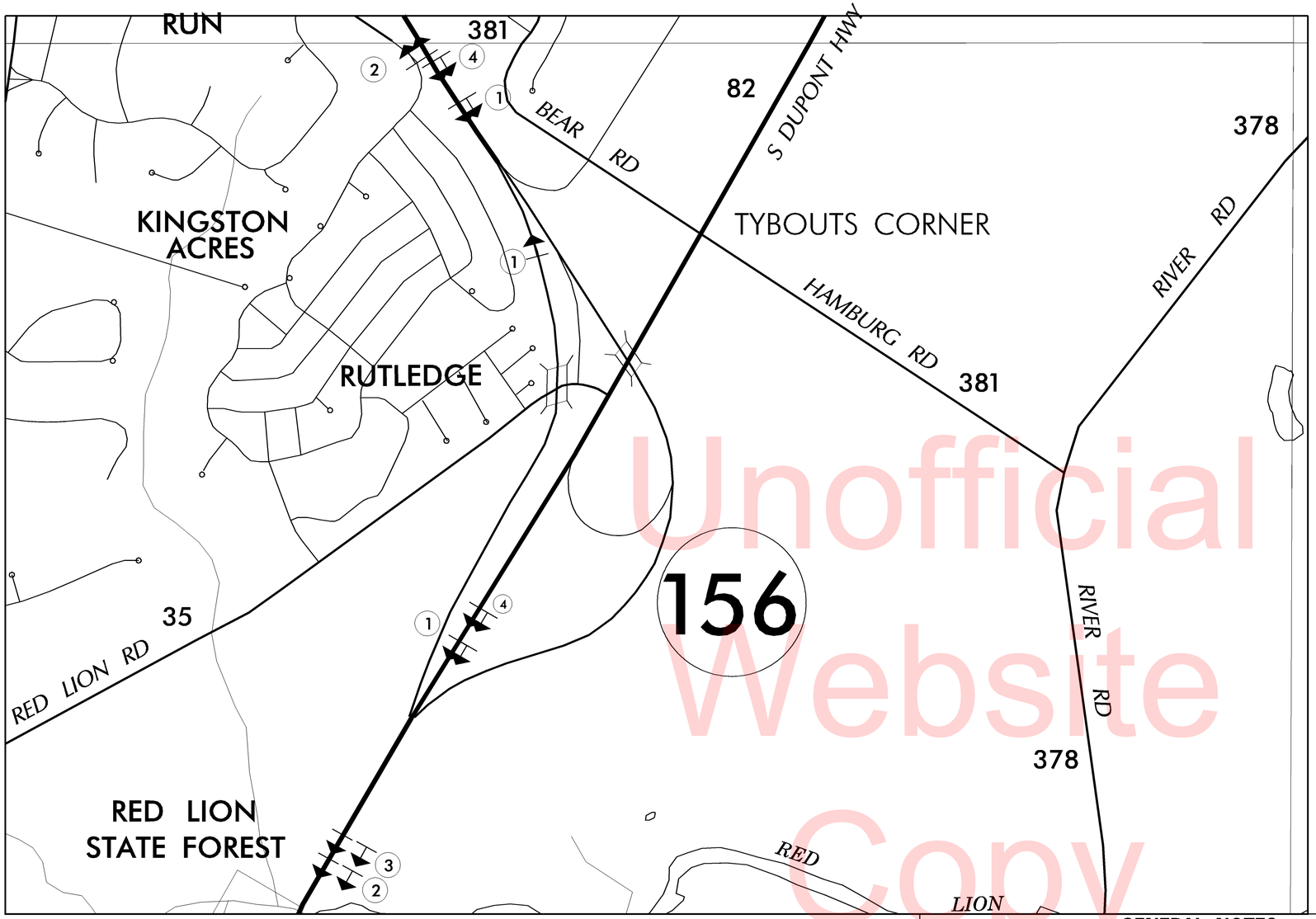

## SECTION: E–E




## TRANSITION BARRIER ELEVATION

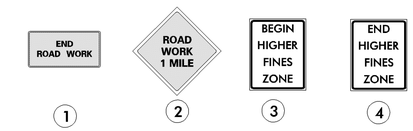
Unofficial Website Copy

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DELAWARE DEPARTMENT OF TRANSPORTATION | ADDENDUMS / REVISIONS | NOT TO SCALE | SR1 MEDIAN BARRIER REPLACEMENT | CONTRACT T201611003 | BRIDGE NO. 1-310 | CONSTRUCTION DETAILS | SHEET NO. 17 |
| | | | | COUNTY NEW CASTLE | DESIGNED BY: APS | | TOTAL SHTS. 25 |
| | | | | | CHECKED BY: JKL | | |




Unofficial Website Copy

# LEGEND




**CONSTRUCTION PHASING & M.O.T**

CONSTRUCTION WARNING SIGN LOCATION

## MAINTENANCE OF TRAFFIC NOTES

1. MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE DELAWARE MUTCD: TA (33) DURING LANE CLOSURES, TA (35, 35D, 35E) DURING MOBILE OPERATIONS, AND TA (36) DURING LANE SHIFTS.
2. THIS PROJECT IS CONSIDERED A SIGNIFICANT PROJECT AS DEFINED BY DELDOT'S WORK ZONE MOBILITY PROCEDURES AND GUIDELINES. A MODIFIED TYPE B TRANSPORTATION MANAGEMENT PLAN (TMP) HAS BEEN PREPARED AND IS AVAILABLE FOR VIEWING BY CONTACTING THE DEPARTMENT'S SAFETY PROGRAMS MANAGER AT (302)659-4060. ALL MONITORING REQUIREMENTS OF THE TMP SHALL BE CONDUCTED BY DELDOT FORCES UNLESS OTHERWISE DIRECTED BY THE ENGINEER. MODIFICATIONS TO THE TMP SHALL BE COMPLETED BY THE CONTRACTOR IF CHANGES TO THE TIME RESTRICTIONS OR THE TRAFFIC CONTROL PLAN ARE DESIRED. THE MODIFIED TMP SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF DELAWARE.
3. A TYPE II TRUCK MOUNTED ATTENUATOR (TMA) SHALL BE REQUIRED ON THIS PROJECT DURING THE FOLLOWING PAVEMENT OPERATIONS: TEMPORARY/PERMANENT PAVEMENT MARKINGS, ROADSIDE SPRAYING, PATCHING, MILLING, SWEEPING, TEMPORARY TRAFFIC BARRIER PLACEMENT OR AS DIRECTED BY THE ENGINEER. THE ROLL AHEAD DISTANCE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE TMA SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6F OF THE DELAWARE MUTCD. THIS WILL BE PAYED UNDER ITEM 743010.
4. FLAGGERS ARE PROHIBITED FROM THIS PROJECT.
5. CONTRACTOR SHALL NOT ACCESS THE WORK AREA AT THE BEGINNING OF THE BARRIER WALL ON NORTHBOUND SR 1. CONTRACTOR SHALL ACCESS THE WORK AREA IN THE DIRECTION OF TRAFFIC FLOW AT ALL OTHER LOCATIONS.
6. AFTER THE LANE SHIFTS AND TEMPORARY BARRIER ARE IN PLACE, THE CONTRACTOR SHALL PROVIDE THREE TRAFFIC OFFICERS FOR A FOUR-HOUR PERIOD EVERY TWO WEEKS FOR THE DURATION OF THE PROJECT TO PERFORM SPEED ENFORCEMENT ALONG SR1 NORTHBOUND WITHIN THE PROJECT LIMITS. AT THE END OF THE DAY'S ENFORCEMENT ACTIVITY, THE TRAFFIC OFFICERS SHALL PROVIDE A REPORT TO THE CONTRACTOR IDENFITYING THE NUMBER OF VEHICLES STOPPED, NUMBER AND TYPE OF CITATIONS GIVEN AND THE RANGE OF SPEEDS OF THOSE VEHICLES STOPPED. ENFORCEMENT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

## EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL DRAINAGE INLETS SHOWN ON THE CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLANS.
2. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES FOLLOWING FINAL VEGETATIVE STABILIZATION OF ENTIRE DISTURBED AREA AND UPON THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.

## GENERAL NOTES

1. NORTHBOUND THRU LANES SHALL BE SHIFTED USING TA-36. SEE PLAN SHEETS 23 AND 24 FOR ADDITIONAL DETAILS.
2. EXIT 156 SHALL BE CLOSED IN ACCORDANCE WITH TA - 33.
3. DRUM SPACING IN TANGENT SECTIONS SHALL NOT EXCEED 50'.
4. CONTRACTOR SHALL INSTALL TWO VMS BOARDS ON NORTHBOUND DE 1 FOR PUBLIC NOTIFICATION. LOCATION AND MESSAGE SHALL BE COORDINATED AND APPROVED BY DISTRICT TRAFFIC SAFETY OFFICER. CONTRACTOR SHALL COORDINATE WITH THE TRANSPORTATION MANAGEMENT CENTER TO PLACE MESSAGE ON STATIC VMS BOARD LOCATED ON NORTHBOUND DE 1 AT DE 72.
5. CONTRACTOR SHALL MAINTAIN MINIMUM 11' LANE WIDTH THROUGH THE LANE SHIFT AND LANE CLOSURE.
6. THE ENGINEER RESERVES THE RIGHT TO MODIFY THE TRAFFIC CONTROL AS FIELD CONDITIONS DICTATE.
7. ALL LANE CLOSURES MAY ONLY OCCUR DURING ACCEPTABLE LANE CLOSURE HOURS IN ACCORDANCE WITH THE LANE CLOSURE MATRIX.

## LANE CLOSURES MATRIX FOR NORTHBOUND AND SOUTHBOUND SR1

| HOUR | SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | | |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |

LANE CLOSURES NOT PERMITTED

LANE CLOSURES PERMITTED

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

**NOT TO SCALE**

**SR1 MEDIAN BARRIER REPLACEMENT**

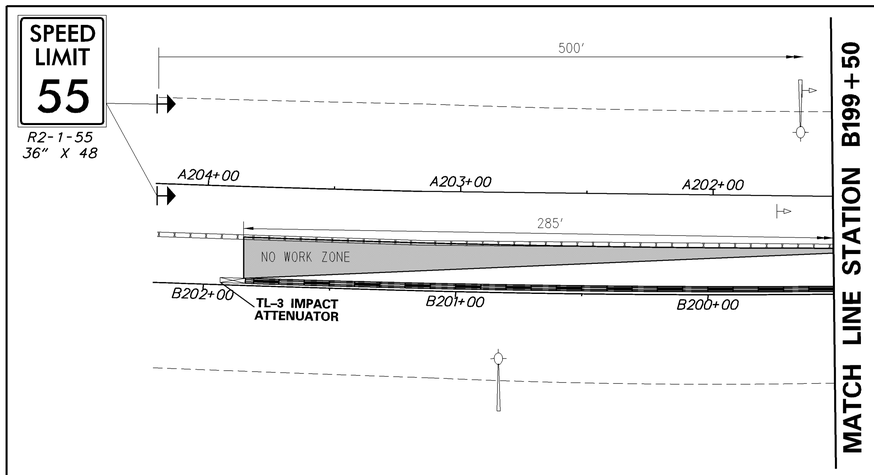
| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | CHECKED BY: JKL | |
| NEW CASTLE | | |

**CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN**

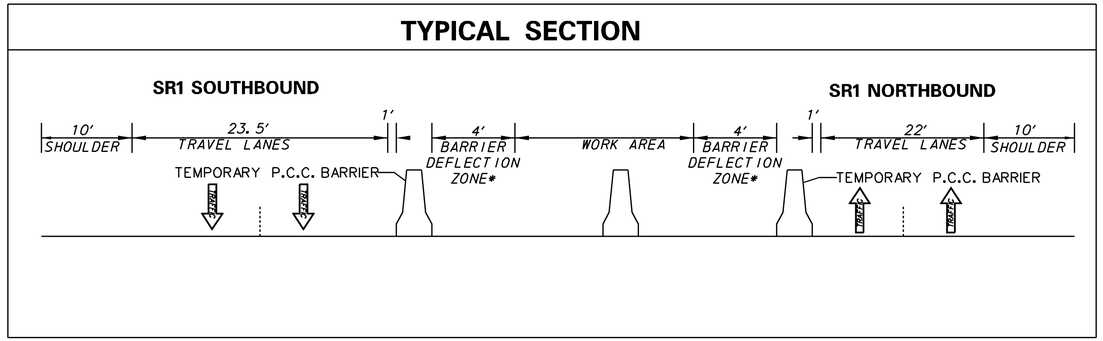
SHEET NO. 18

TOTAL SHTS. 26

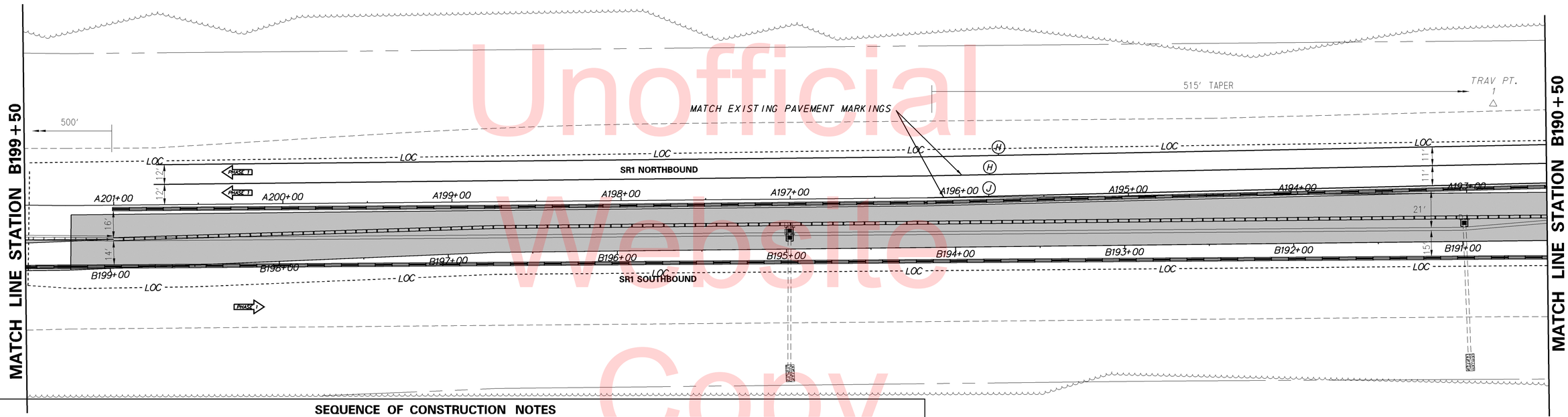
W:\MSV8\CELLS\PROJDEV\SB.CEL




## TYPICAL SECTION




* NO STORAGE OF EQUIPMENT OR MATERIALS AND NO WORKERS IN THIS AREA




Unofficial Website Copy

## SEQUENCE OF CONSTRUCTION NOTES

PHASE 1

1. COVER RECESSED PAVEMENT MARKERS USING ITEM 748550 AND EXISTING RUMBLE STRIPS USING ITEM 760006 TO THE LIMITS SHOWN. INSTALL 2" OVERLAY IN MILLED AREA.
2. INSTALL ALL TEMPORARY PAVEMENT MARKING TAPE. INSTALL BLACK OUT TAPE TO COMPLETELY COVER CONFLICTING EXISTING PAVEMENT MARKINGS.

PHASE 2

1. INSTALL ALL TEMPORARY TRAFFIC AND EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON PLANS. CLOSE EXIT 156 FROM SB SR1 AND IMPLEMENT DETOUR. CLOSE ON RAMP FROM BEAR ROAD TO NB SR1 AND IMPLEMENT DETOUR.
2. REMOVE EXISTING CONCRETE MEDIAN BARRIER TO TOP OF CONCRETE PAVEMENT.
3. MILL HOT MIX PAVEMENT AT PROPOSED GUARDRAIL LOCATION TO INSIDE SHOULDER.
4. SAWCUT AND EXCAVATE CONCRETE PAVEMENT (2' WIDTH) AND FILL TO TOP OF CONCRETE WITH GABC, AS SHOWN ON CONSTRUCTION PLANS.
5. INSTALL P.C.C. MEDIAN BARRIER/TRANSITIONS
6. INSTALL 2" OVERLAY IN MEDIAN TO LIMITS SHOWN ON PLANS.
7. INSTALL THRIE-BEAM GUARDRAIL, W-BEAM GUARDRAIL, AND BARRIER CONNECTIONS. INSTALL RUMBLE STRIPS ON ALL INSIDE SHOULDERS.
8. REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES WHEN WORK FOR THIS PHASE IS COMPLETED.

PHASE 3

1. REMOVE ALL TEMPORARY TAPE AND RESTORE ROADWAY STRIPING TO EXISTING CONDITIONS. INSTALL RUMBLE STRIPS ALONG NORTHBOUND SR1.
2. REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES AND EROSION AND SEDIMENT CONTROL DEVICES WHEN WORK IS COMPLETED.

## TEMPORARY PAVEMENT MARKINGS LEGEND

| SYMBOL | ITEM | QUANTITY |
|---|---|---|
| H | 4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 1,650 LF |
| J | 4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 366 LF |
| R | 6" BLACKOUT TAPE (ITEM 748518) | 665 LF |

## EROSION & SEDIMENT CONTROL

| | |
|---|---|
| | INLET SEDIMENT CONTROL |
| SCE | STABILIZED CONSTRUCTION ENTRANCE |

## CONSTRUCTION PHASING & M.O.T

| | |
|---|---|
| | BARRICADE, TYPE 3 |
| | CONCRETE SAFETY BARRIER - PORTABLE |
| CSF XXX | CONSTRUCTION SAFETY FENCE / LENGTH |
| —CSF— | CONSTRUCTION SAFETY FENCE |
| | CONSTRUCTION WARNING SIGN LOCATION |
| END ROAD WORK | CONSTRUCTION WARNING SIGN |
| | CRASH CUSHION ARRAY |
| | DRUM - TRAFFIC CONTROL |
| | FLAGGER LOCATION |
| PHASE 1 | PHASING TRAFFIC FLOW ARROW |
| | TEMPORARY CONSTRUCTION |
| | TEMPORARY PAVEMENT MARKING ARROW |
| | TRUCK WITH MOUNTED ATTENUATOR |
| | WORK AREA - ACTIVE PHASE |

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

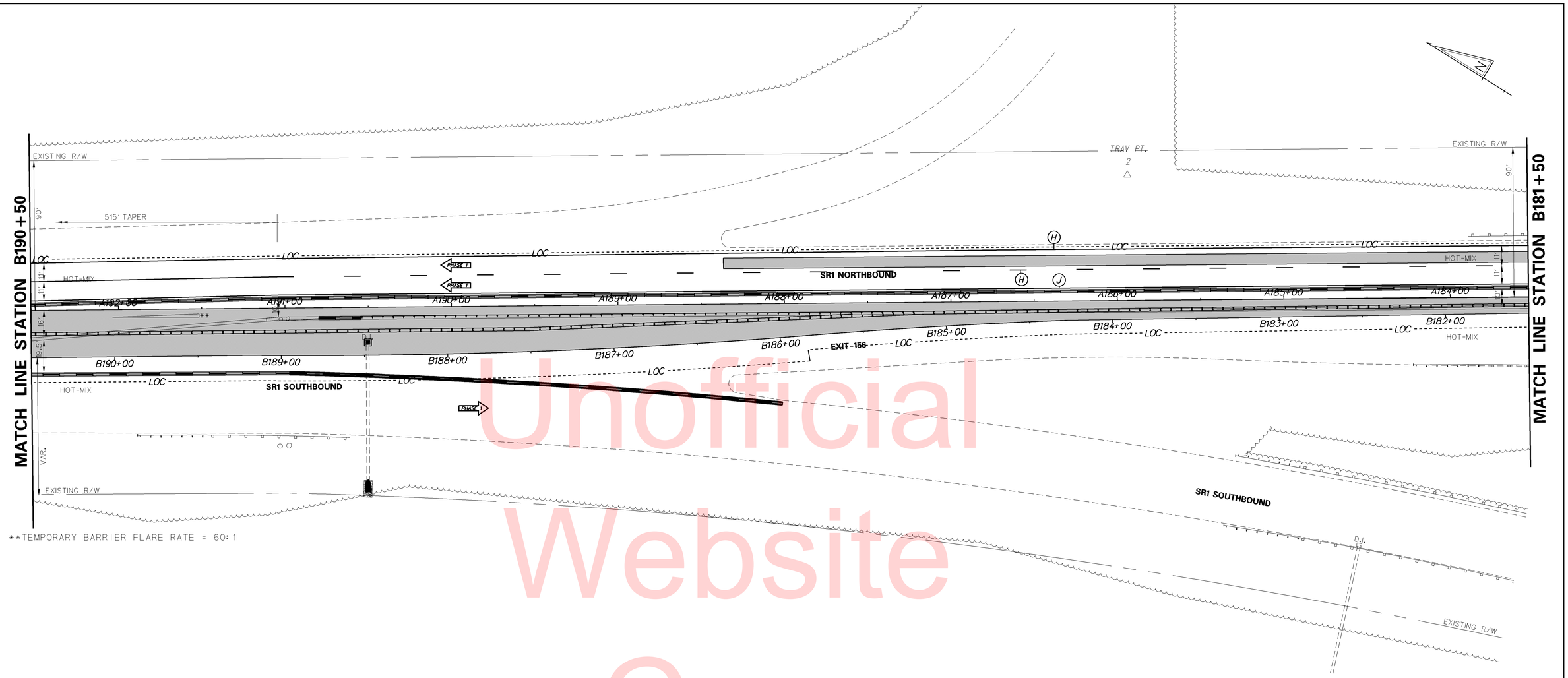
SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

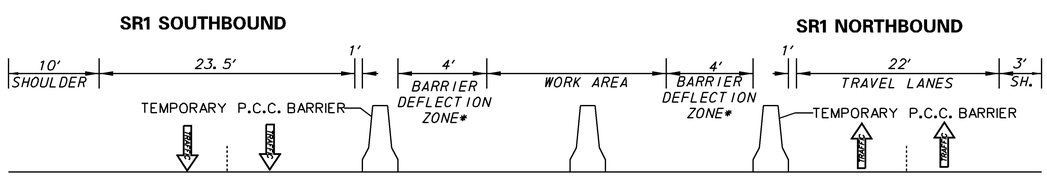
SHEET NO. 19
TOTAL SHTS. 26

W:\MSV8\CELLS\PROJDEV\SB.CEL




Unofficial Website Copy

## TYPICAL SECTION




*NO STORAGE OF EQUIPMENT OR MATERIALS AND NO WORKERS IN THIS AREA

## TEMPORARY PAVEMENT MARKINGS LEGEND

| SYMBOL | ITEM | QUANTITY |
|---|---|---|
| (H) | 4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 1,240 LF |
| (J) | 4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 900 LF |
| (R) | 6" BLACKOUT TAPE (ITEM 748518) | 875 LF |

## CONSTRUCTION PHASING & M.O.T

| | |
|---|---|
| | BARRICADE, TYPE 3 |
| | CONCRETE SAFETY BARRIER - PORTABLE |
| | CONSTRUCTION SAFETY FENCE / LENGTH |
| —CSF— | CONSTRUCTION SAFETY FENCE |
| | CONSTRUCTION WARNING SIGN LOCATION |
| END ROAD WORK | CONSTRUCTION WARNING SIGN |
| | CRASH CUSHION ARRAY |
| | DRUM - TRAFFIC CONTROL |
| | FLAGGER LOCATION |
| PHASE | PHASING TRAFFIC FLOW ARROW |
| | TEMPORARY CONSTRUCTION |
| | TEMPORARY PAVEMENT MARKING ARROW |
| | TRUCK WITH MOUNTED ATTENUATOR |
| | WORK AREA - ACTIVE PHASE |
| **EROSION & SEDIMENT CONTROL** | |
| | INLET SEDIMENT CONTROL |

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

SR1 MEDIAN BARRIER REPLACEMENT

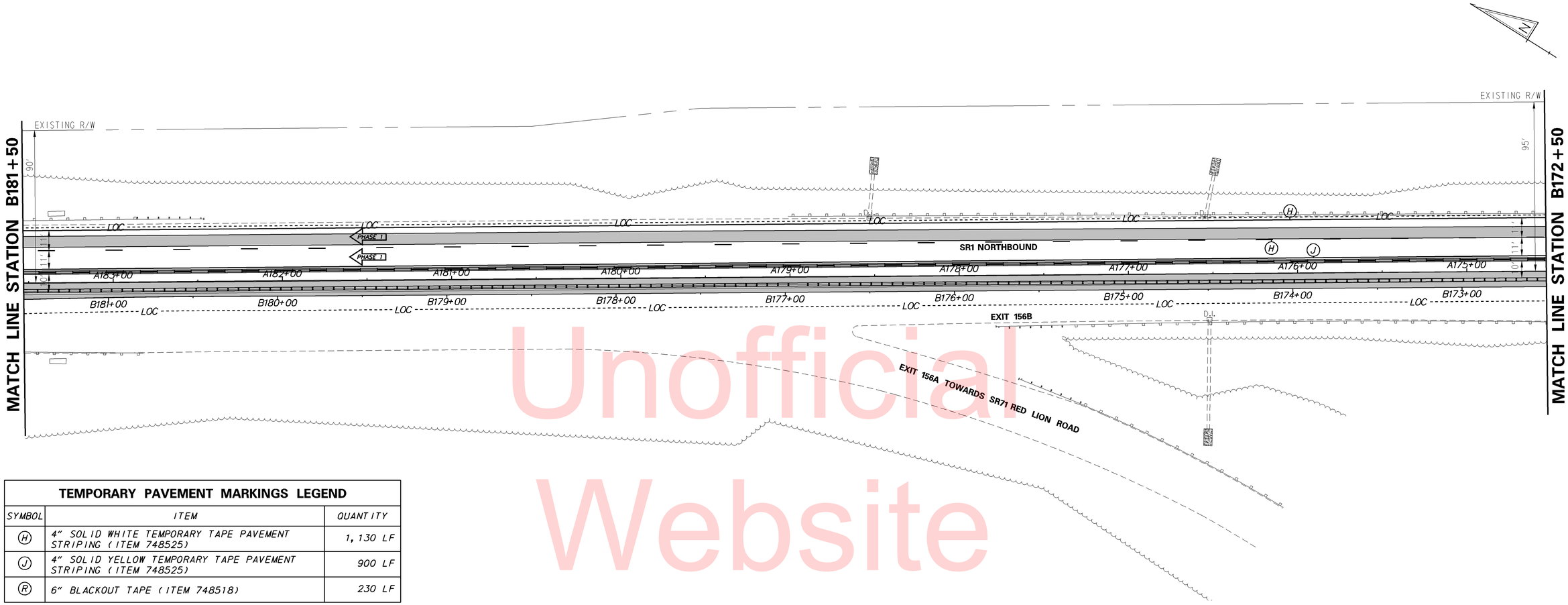
| CONTRACT | BRIDGE NO. 1-310 |
|---|---|
| T201611003 | DESIGNED BY: APS |
| COUNTY | CHECKED BY: JKL |
| NEW CASTLE | |

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SHEET NO. 20

TOTAL SHTS. 26

W:\MSV8\CELLS\PROJDEV\SB.CEL

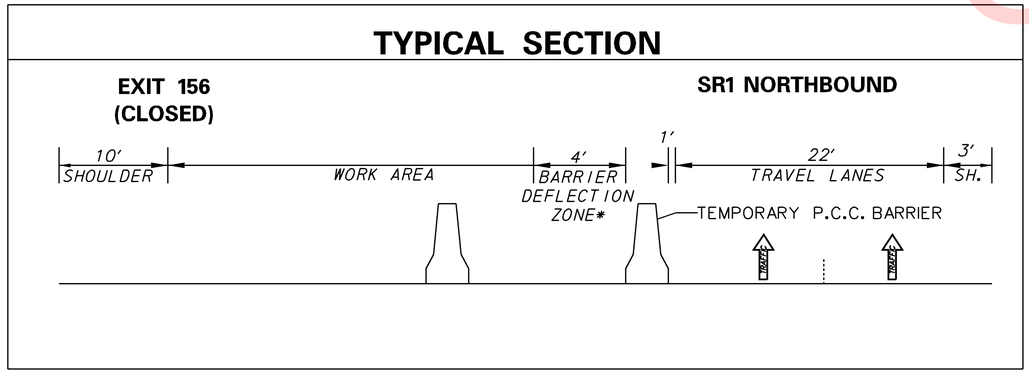



Unofficial Website Copy

## TEMPORARY PAVEMENT MARKINGS LEGEND

| SYMBOL | ITEM | QUANTITY |
|---|---|---|
| (H) | 4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 1,130 LF |
| (J) | 4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 900 LF |
| (R) | 6" BLACKOUT TAPE (ITEM 748518) | 230 LF |

## TYPICAL SECTION




*NO STORAGE OF EQUIPMENT OR MATERIALS AND NO WORKERS IN THIS AREA

| CONSTRUCTION PHASING & M.O.T | |
|---|---|
| | BARRICADE, TYPE 3 |
| | CONCRETE SAFETY BARRIER - PORTABLE |
| CSF XXX | CONSTRUCTION SAFETY FENCE / LENGTH |
| —CSF— | CONSTRUCTION SAFETY FENCE |
| | CONSTRUCTION WARNING SIGN LOCATION |
| END ROAD WORK | CONSTRUCTION WARNING SIGN |
| | CRASH CUSHION ARRAY |
| | DRUM - TRAFFIC CONTROL |
| | FLAGGER LOCATION |
| | PHASING TRAFFIC FLOW ARROW |
| | TEMPORARY CONSTRUCTION |
| | TEMPORARY PAVEMENT MARKING ARROW |
| | TRUCK WITH MOUNTED ATTENUATOR |
| | WORK AREA - ACTIVE PHASE |
| **EROSION & SEDIMENT CONTROL** | |
| | INLET SEDIMENT CONTROL |

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

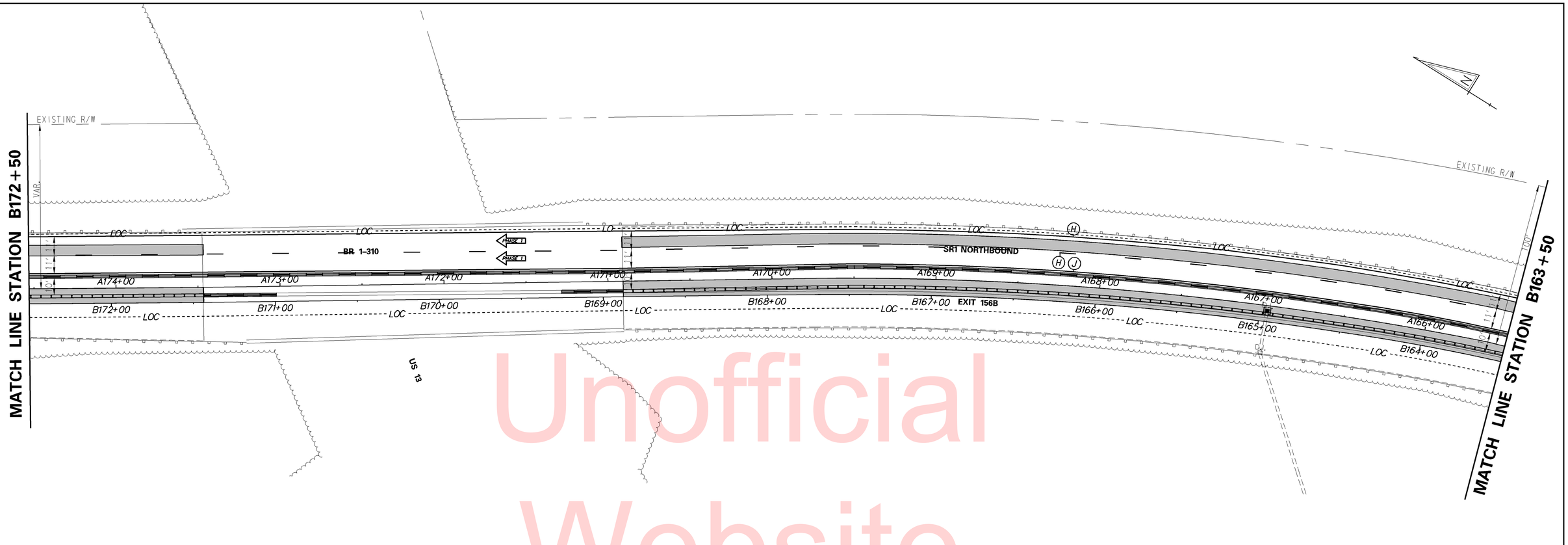
SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | BRIDGE NO. | 1-310 |
|---|---|---|
| T201611003 | DESIGNED BY: APS | |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: JKL | |

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

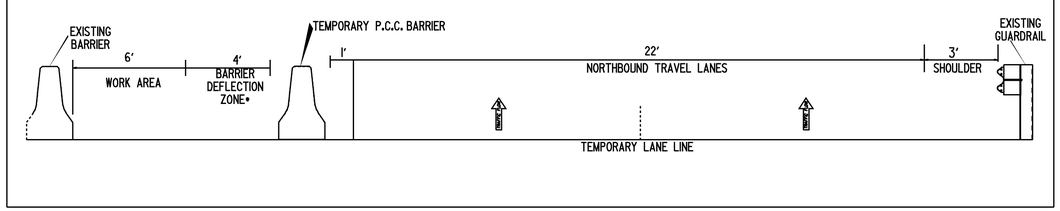
SHEET NO. 21
TOTAL SHTS. 26

W:\MSV8\CELLS\PROJDEV\SB.CEL




Unofficial Website Copy

## TYPICAL SECTION




*NO STORAGE OF EQUIPMENT OR MATERIALS AND NO WORKERS IN THIS AREA

## TEMPORARY PAVEMENT MARKINGS LEGEND

| SYMBOL | ITEM | QUANTITY |
|---|---|---|
| (H) | 4" SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 1,120LF |
| (J) | 4" SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 900 LF |
| (R) | 6" BLACKOUT TAPE (ITEM 748518) | 500 LF |

## CONSTRUCTION PHASING & M.O.T

| | |
|---|---|
| | BARRICADE, TYPE 3 |
| | CONCRETE SAFETY BARRIER - PORTABLE |
| | CONSTRUCTION SAFETY FENCE / LENGTH |
| —CSF— | CONSTRUCTION SAFETY FENCE |
| | CONSTRUCTION WARNING SIGN LOCATION |
| END ROAD WORK | CONSTRUCTION WARNING SIGN |
| | CRASH CUSHION ARRAY |
| | DRUM - TRAFFIC CONTROL |
| | FLAGGER LOCATION |
| | PHASING TRAFFIC FLOW ARROW |
| | TEMPORARY CONSTRUCTION |
| | TEMPORARY PAVEMENT MARKING ARROW |
| | TRUCK WITH MOUNTED ATTENUATOR |
| | WORK AREA - ACTIVE PHASE |

## EROSION & SEDIMENT CONTROL

| | |
|---|---|
| | INLET SEDIMENT CONTROL |

W:\MSV8\CELLS\PROJDEV\SB.CEL

**DELAWARE DEPARTMENT OF TRANSPORTATION**

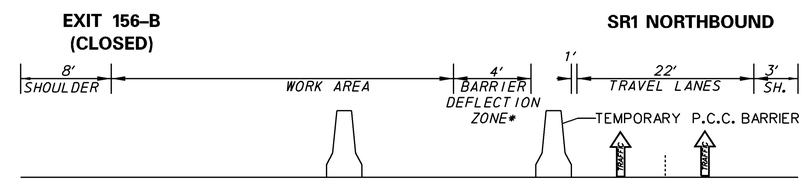
ADDENDUMS / REVISIONS

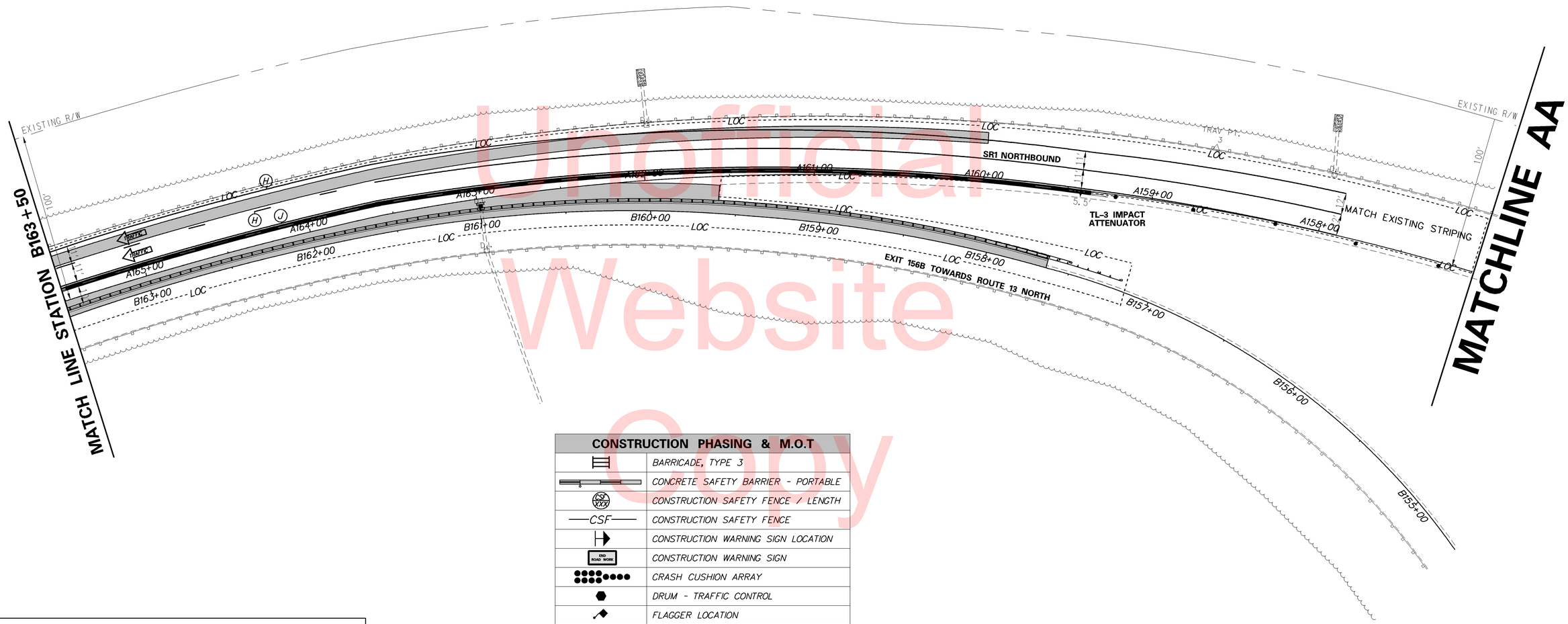
SCALE 0 30 60 90 FEET

**SR1 MEDIAN BARRIER REPLACEMENT**

| CONTRACT | BRIDGE NO. 1-310 | CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN | SHEET NO. 22 |
|---|---|---|---|
| T201611003 | DESIGNED BY: APS | | TOTAL SHTS. 26 |
| COUNTY NEW CASTLE | CHECKED BY: JKL | | |

## TYPICAL SECTION




| CONSTRUCTION PHASING & M.O.T | |
|---|---|
| | BARRICADE, TYPE 3 |
| | CONCRETE SAFETY BARRIER - PORTABLE |
| | CONSTRUCTION SAFETY FENCE / LENGTH |
| —CSF— | CONSTRUCTION SAFETY FENCE |
| | CONSTRUCTION WARNING SIGN LOCATION |
| | CONSTRUCTION WARNING SIGN |
| | CRASH CUSHION ARRAY |
| | DRUM - TRAFFIC CONTROL |
| | FLAGGER LOCATION |
| | PHASING TRAFFIC FLOW ARROW |
| | TEMPORARY CONSTRUCTION |
| | TEMPORARY PAVEMENT MARKING ARROW |
| | TRUCK WITH MOUNTED ATTENUATOR |
| | WORK AREA - ACTIVE PHASE |
| **EROSION & SEDIMENT CONTROL** | |
| | INLET SEDIMENT CONTROL |

| TEMPORARY PAVEMENT MARKINGS LEGEND | | |
|---|---|---|
| SYMBOL | ITEM | QUANTITY |
| (H) | 4″ SOLID WHITE TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 1,395 LF |
| (J) | 4″ SOLID YELLOW TEMPORARY TAPE PAVEMENT STRIPING (ITEM 748525) | 767 LF |
| (R) | 6″ BLACKOUT TAPE (ITEM 748518) | 492 LF |

Unofficial Website Copy

W:\MSV8\CELLS\PROJDEV\SB.CEL

**DELAWARE DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

SCALE 0 30 60 90 FEET

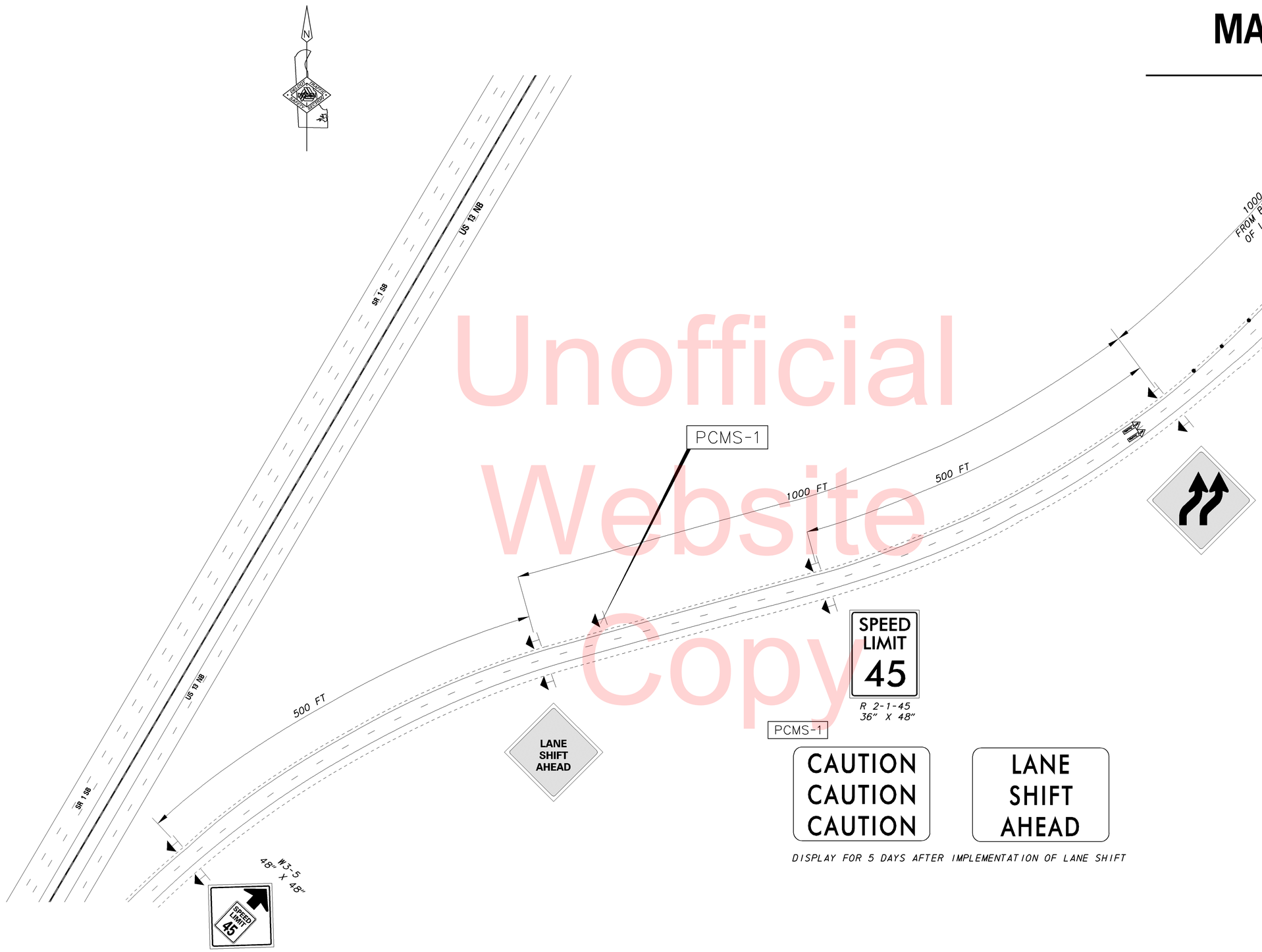
**SR1 MEDIAN BARRIER REPLACEMENT**

| CONTRACT | BRIDGE NO. 1–310 |
|---|---|
| T201611003 | DESIGNED BY: APS |
| COUNTY | |
| NEW CASTLE | CHECKED BY: JKL |

**CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN**

SHEET NO. 23
TOTAL SHTS. 26

# MATCHLINE AA




| CONSTRUCTION PHASING & M.O.T | |
|---|---|
| | BARRICADE, TYPE 3 |
| | CONCRETE SAFETY BARRIER - PORTABLE |
| | CONSTRUCTION SAFETY FENCE / LENGTH |
| —CSF— | CONSTRUCTION SAFETY FENCE |
| | CONSTRUCTION WARNING SIGN LOCATION |
| | CONSTRUCTION WARNING SIGN |
| | CRASH CUSHION ARRAY |
| | DRUM - TRAFFIC CONTROL |
| | FLAGGER LOCATION |
| | PHASING TRAFFIC FLOW ARROW |
| | TEMPORARY CONSTRUCTION |
| | TEMPORARY PAVEMENT MARKING ARROW |
| | TRUCK WITH MOUNTED ATTENUATOR |
| | WORK AREA - ACTIVE PHASE |

Unofficial Website Copy

| | | | | | | |
|---|---|---|---|---|---|---|
| DELAWARE DEPARTMENT OF TRANSPORTATION | ADDENDUMS / REVISIONS | NOT TO SCALE | SR1 MEDIAN BARRIER REPLACEMENT | CONTRACT T201611003 | BRIDGE NO. NA | CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN – PHASE 1 | SHEET NO. 24 |
| | | | | COUNTY NEW CASTLE | DESIGNED BY: APS | | TOTAL SHTS. 26 |
| | | | | | CHECKED BY: JKL | | |

## PORTABLE CHANGEABLE MESSAGE SIGNS

### PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

| EXIT 156 TO CLOSE | STARTING XX/XX/XX |
|---|---|

### DURING DETOUR
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

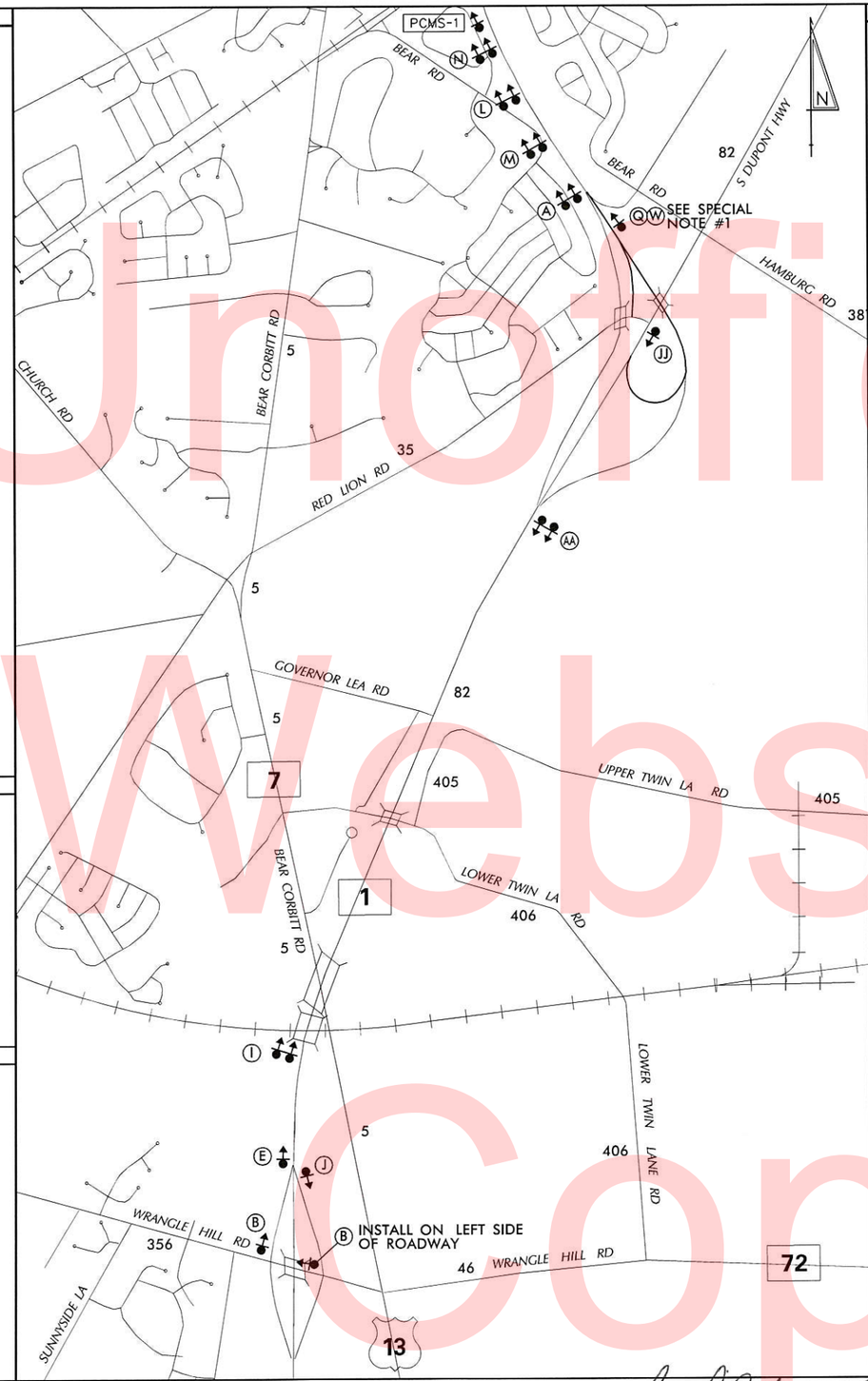
PCMS-1

| EXIT 156 CLOSED | FOLLOW DETOUR EXIT 152 |
|---|---|

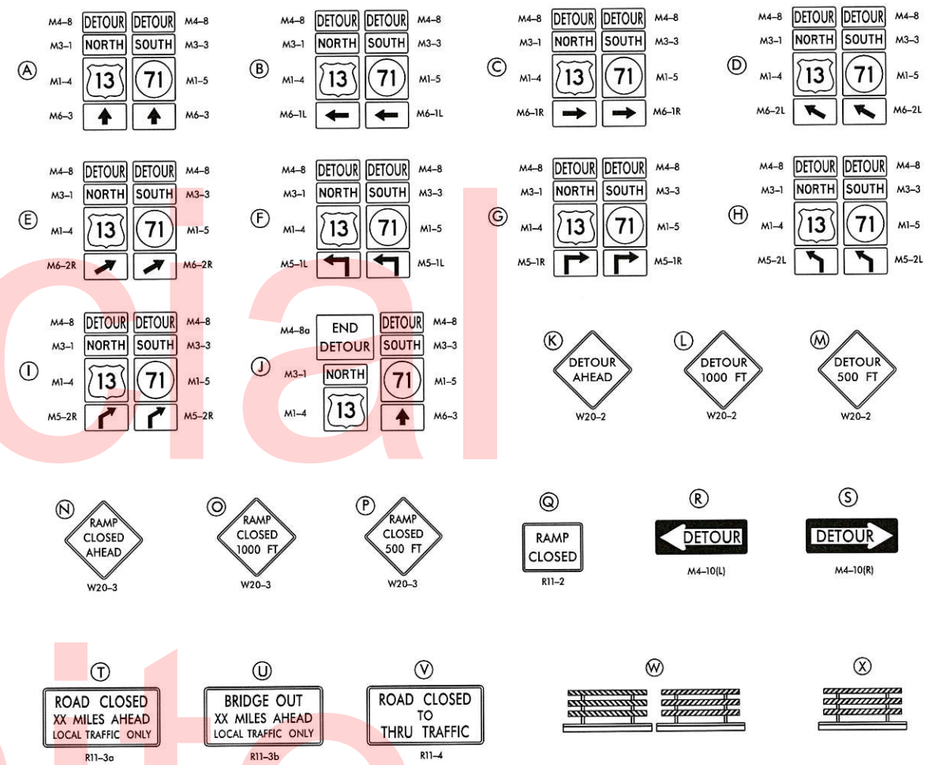
## SPECIAL NOTES

1. CONTRACTOR SHALL COMPLETELY CLOSE DECELERATION LANE FROM SR 1 SOUTHBOUND TO EXIT 156 USING APPROVED TEMPORARY TRAFFIC CONTROL DEVICES.

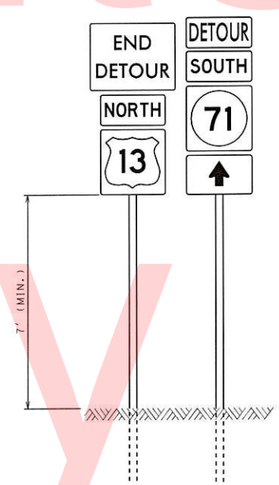
## SPECIAL SIGNS




## LEGEND




## TYPICAL SIGN INSTALLATION




## GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD).
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. THE COLORS, DIMENSIONS, AND CHARACTERISTICS OF ALL INTERSTATE, U.S. ROUTE, AND STATE ROUTE SHIELD SIGNS SHALL BE IN ACCORDANCE WITH SECTION 2D.11 OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
6. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
7. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
8. SIGNS "N" THROUGH "O" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
9. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
10. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
11. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: _____

RECOMMENDED _____ DATE: 6/1/16

APPROVED CHIEF SAFETY OFFICER _____ DATE: 6/13/16

APPROVED TRAFFIC ENGINEER _____ DATE: 6/13/16

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

NOT TO SCALE

SR1 MEDIAN BARRIER REPLACEMENT

| CONTRACT | ROAD NO. | N82 /N85 |
|---|---|---|
| T201611003 | DESIGNED BY: | SWN |
| COUNTY | | |
| NEW CASTLE | CHECKED BY: | ASW |

DETOUR PLAN

SHEET NO. 25

TOTAL SHTS. 26

C:\USERS\SCOTT.NEIDERT\DESKTOP\SR 1SB AT EXIT 156.DGN

Unofficial Website Copy

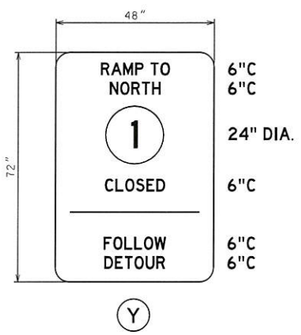
## PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

| RAMP TO SR 1 NORTH | TO CLOSE STARTING XX/XX/XX |
|---|---|

## SPECIAL SIGNS

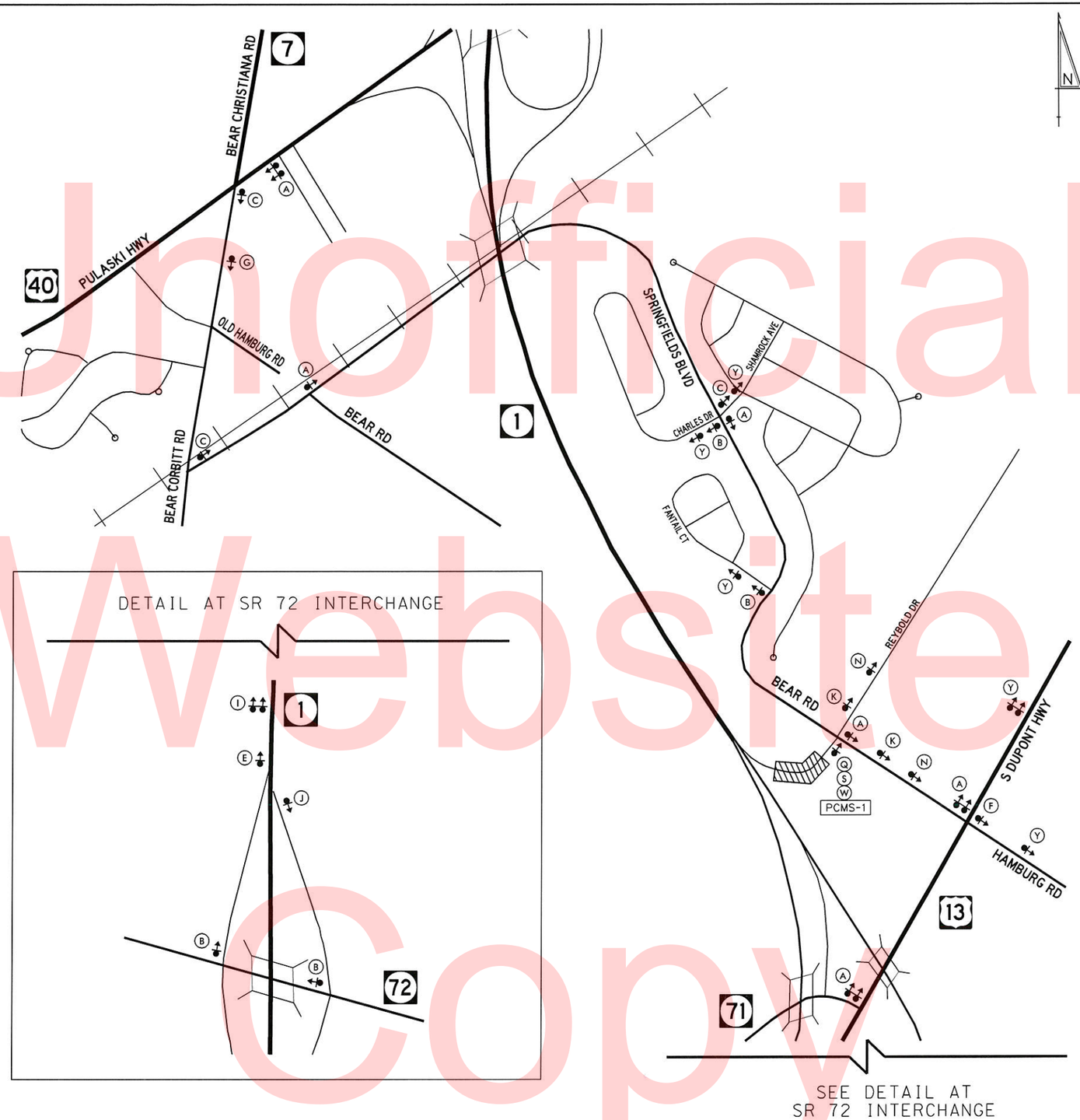



SIGN SHALL BE BLACK LEGEND ON RETROREFLECTIVE FLUORESCENT PRISMATIC ORANGE

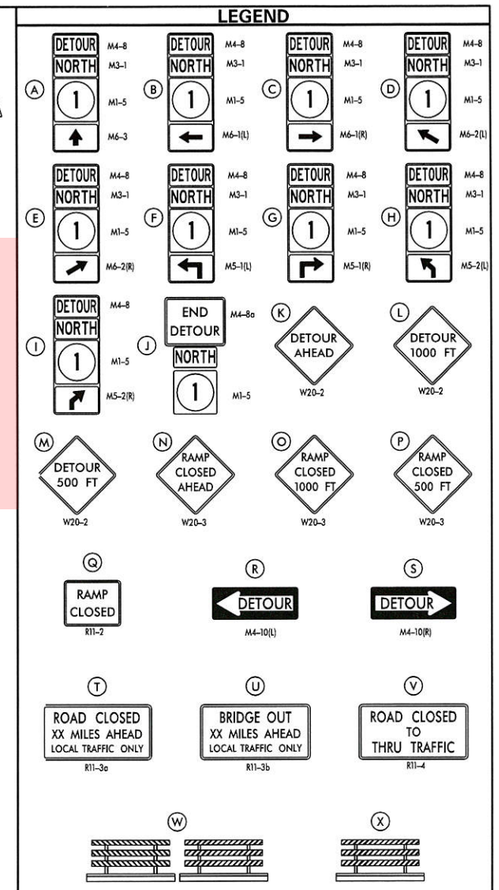
ROUTE SHIELD SHALL BE BLACK LEGEND ON WHITE BACKGROUND IN ACCORDANCE WITH THE DEMUTCD

## SPECIAL NOTES

1. CONTRACTOR SHALL COMPLETELY CLOSE ALL TURN LANES ON BEAR ROAD APPROACHING THE RAMP IN ACCORDANCE WITH THE DEMUTCD.




## LEGEND




## GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. THE COLORS, DIMENSIONS, AND CHARACTERISTICS OF ALL INTERSTATE, U.S ROUTE, AND STATE ROUTE SHIELD SIGNS SHALL BE IN ACCORDANCE WITH SECTION 2D.11 OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
6. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
7. FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD) WILL PREVAIL.
8. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
9. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
10. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
11. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED _____ DATE: _____ | RECOMMENDED _____ DATE: _____ | RECOMMENDED _____ DATE: _____ | APPROVED CHIEF SAFETY OFFICER _____ DATE: 9-8-16 | APPROVED TRAFFIC ENGINEER _____ DATE: 8/8/16

| DELAWARE DEPARTMENT OF TRANSPORTATION | ADDENDUM / REVISIONS | NOT TO SCALE | SR1 MEDIAN BARRIER REPLACEMENT | CONTRACT T201611003 | PERMIT NO. N82/N85 | DETOUR PLAN | SHEET NO. 26 |
|---|---|---|---|---|---|---|---|
| | | | | COUNTY NEW CASTLE | DESIGNED BY: SWN | | TOTAL SHTS. 26 |
| | | | | | CHECKED BY: ASW | | |

\\DOTFS08\CADD\ACTIVE_DESIGNS\TRAFFIC\SAFETY\CAPITALPROJECTS\NEWCASTLE\SCOTT\2 CANAL\T201611003 - SR 1 MEDIAN BARRIER REPLACEMENT\BEAR RD RAMP.DGN

Unofficial Website Copy