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**2016 ROAD & BRIDGE STANDARDS**

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# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219 2000

**Stephen Brich**  
Commissioner

October 10, 2018

## MEMORANDUM

To: All Users of the Virginia Department of Transportation's Road and Bridge Standards

The Location & Design Division has issued a revision to 2016 edition of the Road and Bridge Standards. The standards are accessible via the 2016 Road and Bridge Standards website shown below:

[http://www.virginiadot.org/business/locdes/vdot\\_road\\_and\\_bridge\\_standards.asp](http://www.virginiadot.org/business/locdes/vdot_road_and_bridge_standards.asp)

The new and revised standards are required for projects with the following advertisement dates and all subsequent advertisements: Tier 1 projects January 22, 2019, Tier 2 projects May 7, 2019. These standards may be used prior to the required date on any project. Insertable sheets are not required in the plan assemblies for the revised or new standards.

Summarized below are the changes made.

### **Section 1300:**

- |         |   |
|---------|---|
| 1302.24 | DELETED PREVIOUS NOTE 11. ADDED NEW NOTE 11 ELIMINATING HANDHOLES AT THE TOP OF THE POLE UNLESS THE POLE IS A COMBINATION POLE (POLE WITH BOTH MAST AND LUMINAIRE ARMS).  |
| 1302.31 | TOP OF CONCRETE FOUNDATION IS ALLOWED TO BE INCLUDED WITHIN 5' MINIMUM WIDTH OF SIDEWALK/PEDESTRIAN PATH IF IT IS FLUSH WITH AND AT THE SAME GRADE AS THE SIDEWALK/PATH. CLARIFIED WIDTH IS MEASURED TO EDGE OF TRANSFORMER BASE. |
| 1307.10 | CHANGED "PEDESTRIAN PUSH BUTTON" REFERENCE TO "ACCESSIBLE PEDESTRIAN SIGNAL (APS) UNIT". CHANGED MIN. AND MAX. MOUNTING HEIGHTS FOR BUTTONS.  |

- 1307.11 ADDED ST'D PA-3 BACK INTO THE ROAD & BRIDGE STANDARDS. STANDARD PA-4 MOVED TO SHEET 1307.12. ST'D PA-3 MODIFIED FROM VERSION IN 2008 ROAD & BRIDGE STANDARDS TO SHOW APS UNITS, WITH UPDATED MIN AND MAX MOUNTING HEIGHT.
- 1307.12 NEW SHEET WITH STANDARD PA-4. LENGTH OF PEDESTAL SHORTENED FROM 6'0" TO 5'0". ALLOW OUTSIDE DIAMETER TO BE 4.0" INSTEAD OF 4.5". FOUNDATION WIDTH SHRUNK FROM 24" TO 18". ALLOW PREAPPROVED BAG MIX TO BE USED INSTEAD OF CLASS A3 CONCRETE. CHANGED "PEDESTRIAN PUSH BUTTON" REFERENCE TO "ACCESSIBLE PEDESTRIAN SIGNAL (APS) UNIT". PEDESTAL TUBE ALLOWED TO BE SCHEDULE 40 INSTEAD OF SCHEDULE 80 ELIMINATED REFERENCES TO USE OF STAINLESS STEEL BANDS FOR ATTACHING BUTTON AND SIGNS TO POLES. CHANGED MIN AND MAX MOUNTING HEIGHTS FOR BUTTONS.
- 1311.10 ADDED VIBRATION DAMPENERS.
- 1318.10 REVISED LOCATOR TAPE REQUIREMENTS IN NOTE 1 CLARIFIED DEPTH DIMENSIONS TO TOP OF CONDUIT IN ALL SECTION VEIWS
- 1321.40 – 1321.49 NEW FOUR INCH SQUARE TUBE SIGN POST STANDARD
- 1324.10 ADDED REFERENCE TO NOTE 13 FOR POLE-MOUNTED CABINET AND CCTV CAMERA CALLOUTS
- 1324.11 SIGNIFICANT REVISIONS TO VERTICAL CLEARANCE REQUIREMENTS IN NOTE #5. ADDED NOTE 13.
- 1324.12 OSS-1 STANDARDS EXPANDED TO 7 SHEETS
- 1324.13 OSS-1 STANDARDS EXPANDED TO 7 SHEETS
- 1324.14 REVISE DISTANCE BETWEEN SAFETY SWITCH AND CONTACTOR FROM 24" MAX TO 6" MAX. ADDED NOTES BENEATH PE CONTROL AND CONTACTOR CALLOUTS.
- 1324.15 SHEETS 6 AND 7 OF 7 REORGANIZED SO THAT ALL SIGN HANGER DETAILS ARE ON SHEET 6 AND ALL SIGN LIGHTING DETAILS ARE ON SHEET 7. ELIMINATED REQUIREMENT TO TILT THE SIGN FACE 3 DEGREES DOWNWARD. ADDED NOTES REFERENCING WHERE ISOLATION MATERIALS BETWEEN DISSIMILAR METALS ARE REQUIRED.

- 1324.16 SHEETS 6 AND 7 OF 7 REORGANIZED SO THAT ALL SIGN HANGER DETAILS ARE ON SHEET 6 AND ALL SIGN LIGHTING DETAILS ARE ON SHEET 7. EMPHASIZED THAT LUMINAIRE RETRIEVAL SYSTEMS SHALL ONLY BE INSTALLED WHERE REQUIRED ON THE PLANS. ELIMINATED REFERENCES TO PROPRIETARY "LUMI-TRAK" SYSTEM. ADDED DETAILS FOR INSTALLATION OF LUMINAIRES WITHOUT A RETRIEVAL SYSTEM. ELIMINATED THE REQUIREMENT TO INSTALL HORIZONTAL LUMINAIRE ARMS FOR STRUCTURES THAT WILL NOT BE ILLUMINATED. CLARIFIED THAT HORIZONTAL ARMS ARE "LUMINAIRE", NOT "SIGN", HANGER ARMS TO DISTINGUISH THEM FROM THE (VERTICAL) SIGN HANGERS.
- 1325.10 CHANGED DISTANCE BETWEEN VERTICAL SPLICES FROM 2' MIN. 5' MAX, TO 4' MIN.
- 1325.11 ADDED ASTERISKED NOTE CLARIFYING WHERE DIMENSIONS "c" AND "d" ARE MEASURED TO.

If you have any questions or comments regarding the 2016 Road & Bridge Standards, please contact Charles Patterson, P.E., at (804) 786-1805, of the Standards and Special Design Section.

Sincerely,

\_\_\_\_\_  
Signature on file Date: 10/10/2018

Susan H. Keen, P.E.  
State Location & Design Engineer



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219 2000

**Charles A. Kilpatrick, P.E.**  
Commissioner

September 26, 2017

## MEMORANDUM

To: All Users of the Virginia Department of Transportation's Road and Bridge Standards

The Location & Design Division has issued a revision to 2016 edition of the Road and Bridge Standards. The standards are accessible via the 2016 Road and Bridge Standards website shown below:

[http://www.virginiadot.org/business/locdes/vdot\\_road\\_and\\_bridge\\_standards.asp](http://www.virginiadot.org/business/locdes/vdot_road_and_bridge_standards.asp)

The new and revised standards are required for projects with the following advertisement dates and all subsequent advertisements: Tier 1 projects December 26, 2017, Tier 2 projects April 10, 2018. These standards may be used prior to the required date on any project. Insertable sheets are not required in the plan assemblies for the revised or new standards.

Summarized below are the changes made within each section.

### **Section 500:**

- 506.06 REVISED THE STARTING LOCATION OF A GR-MGS4 TO THE SAME LOCATION AS THE GR-MGS1.
- 506.07 REVISED THE BEGINNING OF THE 50' DIMENSION FOR THE TERMINAL TO THE CENTER OF THE FIRST POST.
- 506.08 REVISED THE BEGINNING OF THE 50' DIMENSION FOR THE TERMINAL TO THE CENTER OF THE FIRST POST.
- 506.11 REVISED THE STARTING LOCATION OF A GR-MGS2 TO THE SAME LOCATION AS THE GR-MGS1. REVISED NOTES TO CLARIFY W-BEAM SECTIONS USED IN THE HEIGHT TRANSITION. ADDED NOTE CLARIFYING BLOCKOUT SIZES USED WITH TERMINALS.

506.08            ADDED DETAIL FOR TRANSITION FROM GR-MGS1  
                         TO WEAK POST GUARDRAIL.

If you have any questions or comments regarding the 2016 Road & Bridge Standards, please contact Charles Patterson, P.E., at (804) 786-1805, of the Standards and Special Design Section.

Sincerely,

\_\_\_\_\_ Signature on file                      Date: \_\_\_\_\_ 9/26/17

Susan H. Keen, P.E.  
State Location & Design Engineer



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219 2000

**Charles A. Kilpatrick, P.E.**  
Commissioner

August 31, 2017

## MEMORANDUM

To: All Users of the Virginia Department of Transportation's Road and Bridge Standards

The Location & Design Division has issued a revision to 2016 edition of the Road and Bridge Standards. The standards are accessible via the 2016 Road and Bridge Standards website shown below:

[http://www.virginiadot.org/business/locdes/vdot\\_road\\_and\\_bridge\\_standards.asp](http://www.virginiadot.org/business/locdes/vdot_road_and_bridge_standards.asp)

The new and revised standards are required for projects with the following advertisement dates and all subsequent advertisements: Tier 1 projects December 26, 2017, Tier 2 projects April 10, 2018. These standards may be used prior to the required date on any project. Insertable sheets are not required in the plan assemblies for the revised or new standards.

Summarized below are the changes made within each section.

### **Section 100:**

- |        |  |
|--------|--|
| 103.11 | B-1, B-2 ADJUSTED DIMENSIONS TABLE TO INCLUDE 108", 120", 126", AND 144" PRECAST BASE UNITS. |
| 113.19 | EC-15 REVISED NOTES 2 & 3.   |

### **Section 200:**

- |        |   |
|--------|---|
| 201.07 | MC-3B REMOVED REFERENCES TO SPECIFIC GUARDRAIL TYPES AND ADDED NOTE 6.  |
| 201.08 | MC-4 REMOVED REFERENCES TO SPECIFIC GUARDRAIL TYPES, ADDED EXPANDED DETAILS FOR PAVING UNDER DIFFERENT TERMINALS, REVISED ALLOWABLE DEPTHS OF ASPHALT FOR USE IN PAVING UNDER GUARDRAIL AND ADDED NOTE 5. |

## **Section 1300:**

Revised index pages 1300.01, 1300.02, 1300.03, & 1300.04

- 1302.20 MP-2 CHANGE LUMINAIRE CALLOUT FROM “TRUSS TYPE LUMINAIRE ARM” TO “LUMINAIRE ARM”
- 1302.24 MP-3 CHANGE LUMINAIRE CALLOUT FROM “TRUSS TYPE LUMINAIRE ARM” TO “LUMINAIRE ARM”. CHANGED DIMENSION FROM TOP OF POLE TO CENTER OF ARM FROM 12” TO 12” MIN.
- 1302.27 MP-3 CHANGE “CASE X LOADING” CALLOUT TO “LOADING CASE X”
- 1302.50 AB-1 REVISED NOTE 4
- 1302.60 VS-1 REVISED NOTE 6
- 1307.11 PA-4 REMOVED PA-3 DETAIL FROM THE STANDARDS
- 1310.20 LF-1 REVISED NOTE 8
- 1311.10 LP-1, 2 CHANGED “BRACKET ARM LENGTH” TO “LUMINAIRE ARM LENGTH”. SHOW BOTH LP-1 AND LP-2 STRUCTURES ON TRANSFORMER BASES; CLARIFY IN NOTES THAT STRUCTURES SHALL BE ON EITHER BREAKAWAY OR NON-BREAKAWAY TRANSFORMER BASES; REVISIONS TO NOTES REGARDING TRANSFORMER BASE INSTALLATION. DELETED NOTE REGARDING WIRE SUPPORT J-HOOKS FOR HAND HOLES MORE THAN 4 FEET UP THE STRUCTURE.
- 1317.10 JB-R1, R2 CLARIFICATION REGARDING NUMBER OF PLACEMENT OF REQUIRED J-HOOKS; MINOR DRAFTING IMPROVEMENTS; REVISED REQUIREMENTS FOR PLACEMENT OF AGGREGATE UNDERNEATH THE JUNCTION BOX AND COMPACTED EARTH ON SIDES OF JUNCTION BOX; CONDUIT ENTRANCE DEPTH REVISED TO READ 18”-24” INSTEAD OF 18”; DELETION OF NOTES THAT ARE DUPLICATES OF REQUIREMENTS IN THE SPECIFICATIONS.
- 1317.11 JB-R1, R2 MINOR REVISIONS TO NOTES
- 1317.20 JB-S1, S2, S3, S4 ADDITION OF 48” X 48” JB-S4 STANDARD; DELETION OF REQUIREMENT THAT JB’S BE ONE- OR TWO-PIECE IN DESIGN; CLARIFICATION OF AGGREGATE AND COMPACTED SOIL PLACEMENT UNDERNEATH AND AROUND BOX; REVISION TO NOTE REGARDING ACCEPTABLE METHODS OF LABELING BOXES; CLARIFICATION REGARDING NUMBER OF PLACEMENT OF REQUIRED J-HOOKS; CONDUIT ENTRANCE DEPTH REVISED TO READ 18”-24” INSTEAD OF 18”; CORRECTED ERROR IN PREVIOUS STANDARD REGARDING LABELING OF DIMENSIONS “A” AND “B”
- 1317.21 JB-S4 NEW SHEET WITH DETAILS FOR 48” X 48” JB-S4 JUNCTION BOX
- 1320.10 WSP-1 STANDARDS EXPANDED TO 7 SHEETS
- 1320.11 WSP-1 STANDARDS EXPANDED TO 7 SHEETS
- 1320.12 WSP-1 STANDARDS EXPANDED TO 7 SHEETS
- 1320.13 WSP-1 SOME DETAILS MOVED TO SHEET 5



**Section 1300:**

- 1320.14 WSP-1 SQUARE TUBE POST DESIGN TABLE MOVED TO SHEET 6. SHEET 5 NOW ENCOMPASSES DETAILS FOR SIGN PANEL ATTACHMENTS TO POSTS, INCLUDING NEW ALTERNATE ATTACHMENT DETAILS AND NEW DETAILS FOR MOUNTING OF BACK-TO-BACK SIGNS.
- 1320.15 WSP-1 SQUARE TUBE POST DESIGN TABLE MOVED FROM SHEET 5.
- 1320.16 WSP-1 NEW SHEET WITH SPLICE AND CORNER BOLT DETAILS PREVIOUSLY INCLUDED ON SHEET 6. ORIENTATION OF CORNER BOLTS CHANGED SO THAT ALL CORNER BOLT HEADS ARE ON LEFT SIDE.
- 1321.10 STP-1 SINGLE POST MEDIAN INSTALLATION DETAIL MOVED FROM SHEET 12; ADDED NOTES 9 AND 10.
- 1321.17 STP-1 CORRECTED CALLOUT FOR DRIVE TUBE FOUNDATION MATERIALS TO REQUIRE 3/16", NOT 1", STEEL PLATE.
- 1321.19 STP-1 SOME DETAILS MOVED TO SHEET 12 OF 12
- 1321.20 STP-1 INCREASED ALLOWABLE MAXIMUM WIDTH OF SIGN ON A SINGLE POST FROM 5 FEET TO 6 FEET
- 1321.21 STP-1 DETAILS REGARDING SIGN MOUNTING HEIGHT/PLACEMENT FOR INTERCHANGE OFF-RAMPS MOVED TO NEW STANDARD ISD-1. SIGN BRACING DETAILS MOVED FROM SHEET 10 TO SHEET 12. NEW DETAILS WITH ALTERNATE SIGN PANEL MOUNTING DETAILS, AND NEW DETAILS SHOWING HOW TO ATTACH BACK-TO-BACK SIGN PANELS ON THE SAME POST.
- 1329.10 ISD-1 NEW STANDARD SHOWING SPECIAL SIGN PLACEMENT AND MOUNTING HEIGHT REQUIREMENTS FOR CERTAIN SIGNS ON INTERCHANGE OFF-RAMPS.

Any questions related to Section 1300 should be directed to the Traffic Engineering Division.

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If you have any questions or comments regarding the 2016 Road & Bridge Standards, please contact Charles Patterson, P.E., at (804) 786-1805, of the Standards and Special Design Section.

Sincerely,

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Signature on file                      Date: 8/31/17

Susan H. Keen, P.E.  
State Location & Design Engineer



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219 2000

**Charles A. Kilpatrick, P.E.**  
Commissioner

February 16, 2017

## MEMORANDUM

To: All Users of the Virginia Department of Transportation's Road and Bridge Standards

The Location & Design Division has issued a revision to 2016 edition of the Road and Bridge Standards. The standards are accessible via the 2016 Road and Bridge Standards website shown below:

[http://www.virginiadot.org/business/locdes/vdot\\_road\\_and\\_bridge\\_standards.asp](http://www.virginiadot.org/business/locdes/vdot_road_and_bridge_standards.asp)

The new and revised standards will be required for all projects going to Advertisement on September 12, 2017 and all subsequent advertisements. These standards may be used prior to the required date on any project. Insertable sheets will not be required in the plan assemblies for the revised or new standards.

Summarized below are the changes made within each section.

### **Section 100:**

EC-5 – Revised post dimensions and clarified post lengths.

### **Section 500:**

Revised index page 500.03 to add MGS guardrail standards

Added new 31" MGS guardrail standards:

MGS-HDW, GR-MGS1, 1A, GR-MGS2, GR-MGS3, GR-MGS4, and GR-MGS-INS

Note that this new guardrail standard may impact right of way and cross sections.

### **Section 1300:**

OSS-1 – Revised "shall" to "may" in note 2 sheet 1324.11

Any questions related to this section should be directed to the Traffic Engineering Division.

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The following Special Design sheets were added to the Central Office Environment on Falcon DMS and the FTP Server.

RSS Reinforced Soil Slope (Sheets 1-2)

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If you have any questions or comments regarding the 2016 Road & Bridge Standards, please contact Charles Patterson, P.E., at (804) 786-1805, of the Standards and Special Design Section.

Sincerely,

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Signature on File                      Date:                      2/16/17

B. A. Thrasher, P.E.  
State Location & Design Engineer