



TRANSPORTATION CABINET


Frankfort, Kentucky 40622
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Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

DESIGN MEMORANDUM NO. 01-14

TO: Chief District Engineers
Design Engineers
Design Consultants

FROM: William Gulick, P.E. 
Acting Director, Division of Highway Design

DATE: January 10, 2014

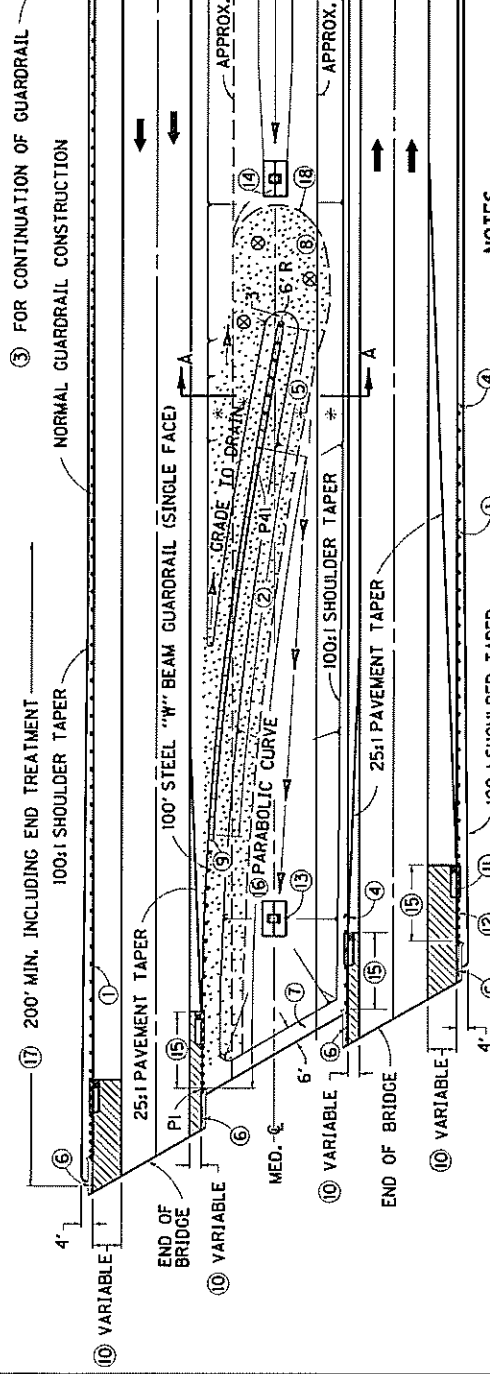
SUBJECT: Revision to Standard Drawing "Guardrail And Bridge End Drainage for Twin Structures" (RBB-002-08)

This Design Memo is notification of a revised drawing that has been issued in lieu of RBB-002-08, "Guardrail and Bridge End Drainage for Twin Structures" (see attachment). The intent for this revision is to address the situation where curb and/or a drainage box is placed on the trailing end of a bridge without the use of guardrail. This situation may present a potential hazard. The intent of this revision to the drawing is to require the use of guardrail when curb is used for bridge end drainage on high-speed facilities. This sepia will take effect with the March, 2014 Letting.

WSG/pcl

c w/a: Ryan Griffith
Nancy Albright
Jeff Wolfe

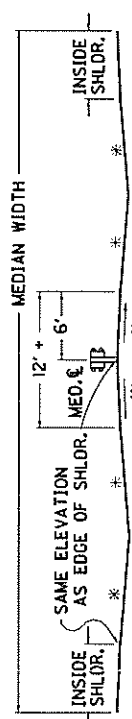




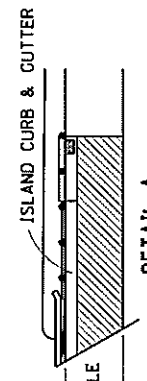
NOTES

- ① NO ANGLES PERMITTED IN NORMAL GUARDRAIL ALIGNMENT.
- ② TO TERMINATE GUARDRAIL INSTALLATION:
 - A. ALL FILLS; ALSO SOLID ROCK CUTS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL, USE END TREATMENT TYPE 1.
 - B. SOLID ROCK CUTS WITHOUT ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL, USE END TREATMENT TYPE 2A.
 - C. EARTH CUTS AND SOFT ROCK CUTS, USE END TREATMENT TYPE 3.
 - D. ALL FILLS; ALSO SOLID ROCK CUTS WITH ADEQUATE VEHICLE RECOVERY ZONE BEHIND GUARDRAIL, USE END TREATMENT TYPE 4A.
- ③ USE ROADWAY OR BORROW EXCAVATION, OR EMBANKMENT IN PLACE.
- ④ WHEN THIS DIMENSION IS 6' OR GREATER USE CONCRETE PAVEMENT (8" JOINTED PLAIN CONCRETE PAVEMENT WHEN MAINLINE DESIGN IS FLEXIBLE, SAME THICKNESS AS MAINLINE WHEN RIGID DESIGN). WHEN THIS DIMENSION IS LESS THAN 6' USE ISLAND CURB AND GUTTER AND SAME PAVEMENT AS SHOWN ON MAINLINE DESIGN, (SEE DETAIL A).
- ⑤ FLATTEN SLOPES AND ELIMINATE INLET WHEN MEDIAN SLOPES AWAY FROM BRIDGE.
- ⑥ LOCATE AS CLOSE TO GUARDRAIL AS SLOPE WILL PERMIT.
- ⑦ VARIABLE LENGTH, SEE APPLICABLE "BRIDGE END CONNECTOR" DRAWING (RBC SERIES).
- ⑧ SEE STD. DWG. RBB-003, CURRENT EDITION, FOR MEDIAN GUARDRAIL POST ALIGNMENT.
- ⑨ SHOWN FOR FILL CONDITION. REDUCE LENGTH SHOULD FIELD CONDITIONS WARRANT.
- ⑩ ROUND SLOPES IN ACCORDANCE WITH CURRENT STD. DWG. RGX-001.

ITEM	STD. DWG. NO. (CURRENT EDITION)
① STEEL W BEAM GUARDRAIL (SINGLE FACE)	RBR-SERIES
② 137'-6" STEEL W BEAM GUARDRAIL (DOUBLE FACE)	RBE-SERIES
③ END TREATMENT TYPE 1, 2A, 3 OR 4A	RBC-SERIES
④ END TREATMENT TYPE 2A	RBC-SERIES
⑤ CRASH CUSHION TYPE IX-A	RBC-SERIES
⑥ BRIDGE END CONNECTORS	RBC-SERIES
⑦ 6' EARTH DIKE	RBC-SERIES
⑧ GUARDRAIL EARTH BERM	RBC-SERIES
⑨ TERMINAL SECTION NO. 1	RBR-SERIES
DRAINAGE ITEMS (WHEN REQUIRED)	
⑩ BRIDGE END DRAINAGE AREA (TYPICAL)	RDB-SERIES
⑪ CURB BOX INLET TYPE B	RPM-SERIES
⑫ ISL. INTERCAL CURB OR ISL. CURB AND GUTTER	ROB-SERIES
⑬ DROP BOX INLET (SEE PLANS FOR TYPE)	
⑭ DROP BOX INLET (SEE PLANS FOR TYPE)	



* SLOPES 12:1 DESIRABLE, 6:1 MINIMUM
 ⊗ SLOPES 12:1 OR FLATTER REQUIRED



ACTIVE SENSITIZED FILM REPRODUCIBLES
(FOR PLAN USE IN LIEU OF STANDARD DRAWINGS)

DATE 1-10-14

SHEET 1 OF 3

DRAWING NO.	DATE	EFFECTIVE LETTING DATE	DRAWING NAME	REMARKS
001	10-28-04	06-15-12	Delineators at Narrow Shoulder Bridges	Revised Pay Item descriptions and notes.
002	12-01-99	06-15-12	Delineators for Guardrail	Revised Pay Item descriptions and notes.
003	12-01-99	08-21-00	Treatment of Open Sinkholes	See Design Memo No. 07-92 Design Change
004 RBM-020-08	04-15-08	07-13-12	Delineators for Concrete Barriers	Revised Notes, Pay Item Descriptions and Details. Added New Bid Code
005 RGX-005-05	11-21-07	06-15-12	Right-of-Way Monuments	Added Type 3 Monument Detail.
006 BHS-008-01	12-02-11	06-15-12	Rail System Type 3	Changed Drill Hole Centerline Dimension in Elevation A-A.
007 RBR-025-04	12-02-11	06-15-12	Guardrail End Treatment Type 2A	Added Details "A" and "B". Revised Notes.
008 RBR-005-10	12-01-99	06-15-12	Guardrail Components	Removed Cable Assembly Type 3.

*Depicts New or Revised Drawing

ACTIVE SENSITIZED FILM REPRODUCIBLES
 (FOR PLAN USE IN LIEU OF STANDARD DRAWINGS)

DATE 1-10-14

SHEET 2 OF 3

DRAWING NO.	DATE	EFFECTIVE LETTING DATE	DRAWING NAME	REMARKS
009 RBE-100-09	8-24-11	10-19-12	Crash Cushion Type VI-BT	Removed Class CT and Associated Notes from Drawing.
010 TPM-150-01	12-02-11	3-22-13	Centerline Rumble Strips	Removed "Major/Minor" Designation from Drawing.
011 NEW DRAWING	10-23-12	3-22-13	Shoulder Rumble strips	
012 RBR-001-11	11-21-07	3-22-13	Steel Beam Guardrail ("W" BEAM)	ADDED Note 7 and removed drawing and references to Back-up Plates
013 RBR-015-04	12-01-99	9-27-13	Guardrail Posts	ADDED Note 2 specifying that the 2 holes 7" from top are REQUIRED.
014 RBC-003-07	11-21-07	9-27-13	Guardrail Connector To Bridge End Type A and A-1 Components	ADDED Note 1 specifying that the 2 holes 7" from top are REQUIRED.
015 RBC-100-03	12-01-99	9-27-13	Guardrail Connector To Concrete Median Barrier Wall	Corrected dimensions on Sections A-A & B-B.

*Depicts New or Revised Drawing

ACTIVE SENSITIZED FILM REPRODUCIBLES
(FOR PLAN USE IN LIEU OF STANDARD DRAWINGS)

DATE 1-10-14

SHEET 3 OF 3

DRAWING NO.	DATE	EFFECTIVE LETTING DATE	DRAWING NAME	REMARKS
016 RDX-225	11-21-07	10-25-13	Silt Trap Type B	Revised Note 2 to remove Geotextile Fabric. Also removed Detail "A".
017 TTC-100	12-2-11	12-13-13	LANE CLOSURE TWO-LANE HIGHWAY	Revised Note 1 to include definition of Freeway and Expressway. Original note 8 was removed and Note 7 was revised.
018 NEW DRAWING	8-29-12	12-13-13	FLEXIBLE DELINEATOR POST ARRANGEMENTS FOR HORIZONTAL CURVES	
019 NEW DRAWING	8-29-12	12-13-13	FLEXIBLE DELINEATOR POST ARRANGEMENTS FOR INTERCHANGE RAMPS AND CROSSOVERS	
020* RBB-002	12-2-02	3-28-14	GUARDRAIL AND BRIDGE END DRAINAGE FOR TWIN STRUCTURES	Added Guardrail, Bridge End Connector and End Treatment Type 2A to inside Shoulder of trailing end of bridge. Also shown in Detail "A".

*Depicts New or Revised Drawing