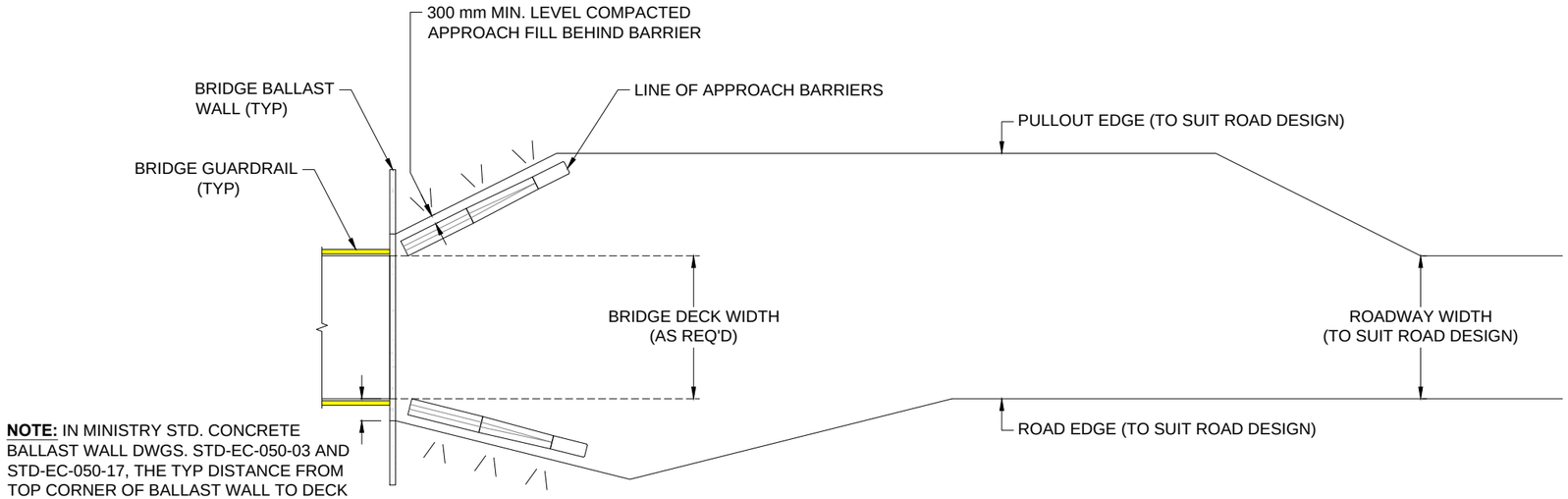
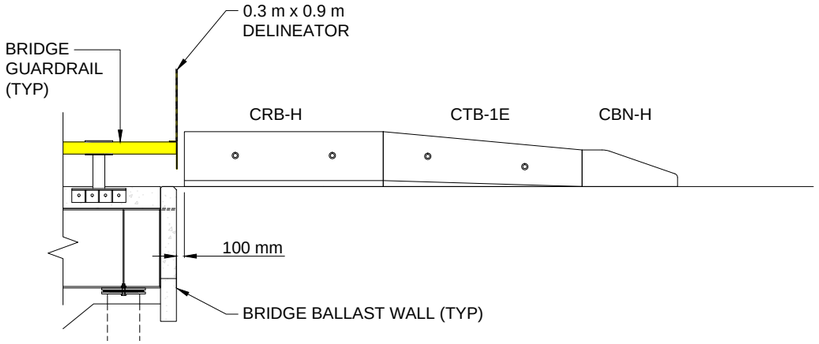
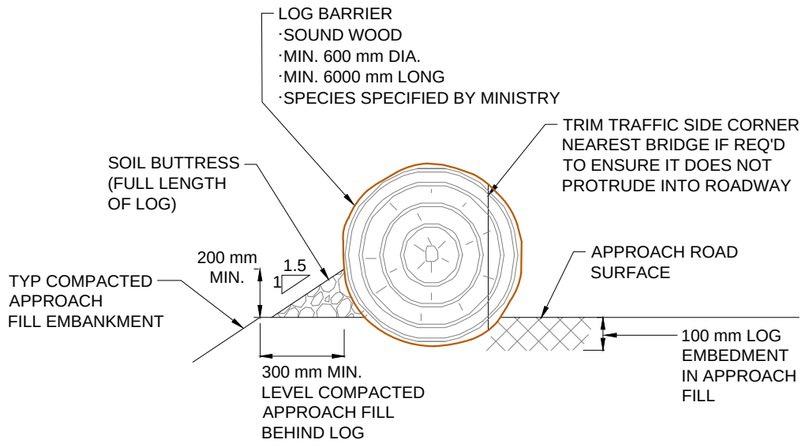


NOTE: IN MINISTRY STD. CONCRETE BALLAST WALL DWGS. STD-EC-050-03 AND STD-EC-050-17, THE TYP DISTANCE FROM TOP CORNER OF BALLAST WALL TO DECK EDGE IS 750 mm. BALLAST WALL DESIGN SHALL BE MODIFIED BY P. ENG. WHERE LARGER DISTANCE REQ'D.

PLAN - CONCRETE BARRIER OPTION (LOG BARRIER OPTION SIMILAR)
N.T.S



ELEV. CONCRETE BARRIER OPTION
(LOG BARRIER OPTION SIMILAR)
1:75



TYP X-SECTION - LOG BARRIER OPTION
1:20 (SITE SPECIFIC MINISTRY APPROVAL REQ'D FOR USE OF THIS OPTION)

NOTES

1.0 GENERAL

- THIS CONCEPT DWG ILLUSTRATES THE MINIMUM MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT (MINISTRY) STANDARD FOR APPROACH BARRIERS WHERE APPROACH BARRIERS ARE SPECIFIED FOR A FOREST SERVICE ROAD (FSR) BRIDGE SITE.

- THE TWO BARRIER OPTIONS ON THIS DWG ARE NOT PHYSICALLY ANCHORED INTO THE APPROACH ROADWAY FILL AND ARE NOT PHYSICALLY CONNECTED TO THE BRIDGE GUARDRAILS. THESE OPTIONS REFLECT MINIMUM STANDARDS PROVIDING VISUAL GUIDANCE AND WILL PROVIDE SOME LIMITED RESISTANCE TO VEHICLE IMPACTS. THEY ARE NOT CRASH TESTED AND HAVE NOT BEEN ENGINEERED TO RESIST SPECIFIED VEHICLE IMPACT FORCES.

- THE MINISTRY ALSO HAS STANDARD DRAWINGS FOR MORE ROBUST BRIDGE APPROACH BARRIERS: STD-EC-010-17 TO 22 " ANCHORED/CONNECTED BRIDGE APPROACH BARRIERS."

- THIS DRAWING IS FOR REFERENCE FOR THE BRIDGE GENERAL ARRANGEMENT ENGINEER IN PRODUCING PROJECT SPECIFIC DESIGN DRAWINGS FOR WHICH THEY TAKE FULL RESPONSIBILITY. THIS PROFESSIONAL ENGINEER SHALL BE REGISTERED TO PRACTICE IN BRITISH COLUMBIA.

- THE BRIDGE GENERAL ARRANGEMENT ENGINEER SHALL DETERMINE, AND INCORPORATE INTO THEIR DESIGN, THE APPROPRIATE MINISTRY STANDARD BRIDGE APPROACH BARRIER CONCEPT FOR A SPECIFIC SITE BASED ON AN ASSESSMENT OF THE BRIDGE CHARACTERISTICS, ROAD ALIGNMENT, VEHICLE USAGE, SITE CONDITIONS, AND OTHER FACTORS AS APPROPRIATE. THE GENERAL ARRANGEMENT DESIGN SHOULD INCLUDE THE SITE SPECIFIC APPROACH ROAD GEOMETRY AND DIMENSIONS (INCLUDING PULLOUTS AND FLARES) AS WELL AS THE DETAILED APPROACH BARRIER REQUIREMENTS (INCLUDING TYPES, LENGTHS & POSITIONS).

- THE BRIDGE GENERAL ARRANGEMENT ENGINEER SHALL INCLUDE A NOTE ON THEIR DRAWINGS TO ADDRESS THE REQUIREMENT FOR FIELD REVIEWS CONSISTENT WITH THE GUIDELINES PUBLISHED BY ENGINEERS AND GEOSCIENTISTS BRITISH COLUMBIA CALLED, "DOCUMENTED FIELD REVIEWS DURING IMPLEMENTATION OR CONSTRUCTION."

- ALL DIMENSIONS ARE NOMINAL.

- FURTHER GUIDANCE AND CONSIDERATIONS RELATED TO SELECTION AND USE OF FSR BRIDGE APPROACH BARRIERS ARE PROVIDED IN THE FOLLOWING MINISTRY DOCUMENTS:

  "GUIDANCE FOR SELECTING BRIDGE GUARDRAIL CONTAINMENT LEVEL AND DETERMINING NEED FOR BRIDGE APPROACH BARRIERS ON FSRs", AND

  "CONSIDERATIONS FOR USE OF MINISTRY STANDARD DRAWINGS STD-EC-010-05 AND STD-EC-010-17 TO 22 BRIDGE APPROACH BARRIERS FOR FSR BRIDGES"

2.0 MATERIALS & INSTALLATION

- BARRIERS SHALL BE PLACED ON A LEVEL AND COMPACT GRANULAR BASE WITH MINIMAL ANTICIPATED SETTLEMENT IN RELATION TO THE BRIDGE ENDS. SPECIFICATIONS FOR THE BASE SHALL BE DETERMINED BY THE BRIDGE GENERAL ARRANGEMENT ENGINEER, INCLUDING REQUIRED COMPACTION OF FILLS, AND FIELD INSPECTIONS DURING CONSTRUCTION.

- MATERIALS AND FABRICATION OF PRECAST REINFORCED CONCRETE BARRIERS (CRB-H, CTB-1E, CBN-H, AND OTHER BARRIER TYPES IF REQ'D) SHALL BE IN ACCORDANCE WITH THE BC MoTI "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" SECTION 941 "PRECAST REINFORCED CONCRETE BARRIERS."

- IF LINES OF CONCRETE BARRIERS LONGER THAN THOSE SHOWN ON THIS DRAWING ARE NECESSARY, CRB-E PIECES (CONNECTING TO CRB-H PIECES) WILL BE REQ'D. IF ROAD SURFACE DRAINAGE IS REQ'D THROUGH A LONGER LINE OF CONCRETE BARRIERS, A CDB-E BARRIER (TOGETHER WITH EROSION CONTROL MEASURES) MAY BE SPECIFIED.

- IF NOT STATED OTHERWISE BY THE MINISTRY, CONCRETE BARRIERS RATHER THAN LOG BARRIERS SHALL BE USED.

- IF SPECIFIED BY THE MINISTRY FOR A PARTICULAR SITE, LOG APPROACH BARRIERS MAY BE USED IN PLACE OF THE CONCRETE BARRIERS SHOWN IN PLAN AND ELEV ON THIS DWG. ANY PROPOSED ALTERNATE EQUIVALENT METHOD OF LOG BUTTRESSING MUST BE SPECIFIED BY A PROFESSIONAL ENGINEER FOR APPROVAL CONSIDERATION BY THE MINISTRY ON A SITE SPECIFIC BASIS.

ASSUME NOT TO SCALE

NOT FOR CONSTRUCTION

SCALE AS SHOWN

Engineered M.P. Date May, 2019
Checked G.M. Date May, 2019
Approved B.C. Date May, 2019
Drawn N.H. Date May, 2019

REV	DATE	DESCRIPTION	INITALS
1	JAN. 15, 2019	MINOR CHANGES TO REFERENCES	MP

REVISIONS

BRITISH COLUMBIA
Ministry of Forests, Lands, Natural Resource Operations and Rural Development

STANDARD BRIDGE DRAWING

SIMPLE BRIDGE APPROACH BARRIER CONCEPTS

DRAWN: NICOLE HARVEY	CHECKED: GLENN MOORE
ENGINEERED: MIKE PENNER	APPROVED: BRIAN CHOW, CHIEF ENGINEER
FILE NUMBER: FOR-11300-34/APPROACH BAR	DRAWING NUMBER: STD-EC-010-05 | 1

CANCEL PRINTS BEARING PREVIOUS REVISION NUMBER