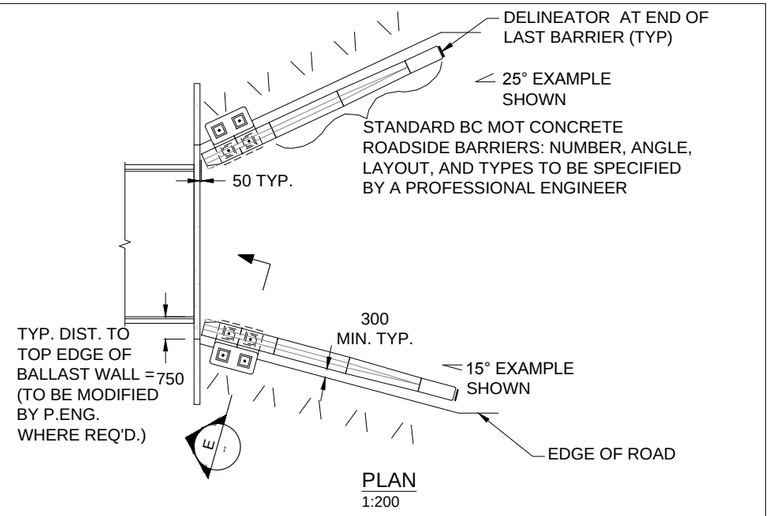
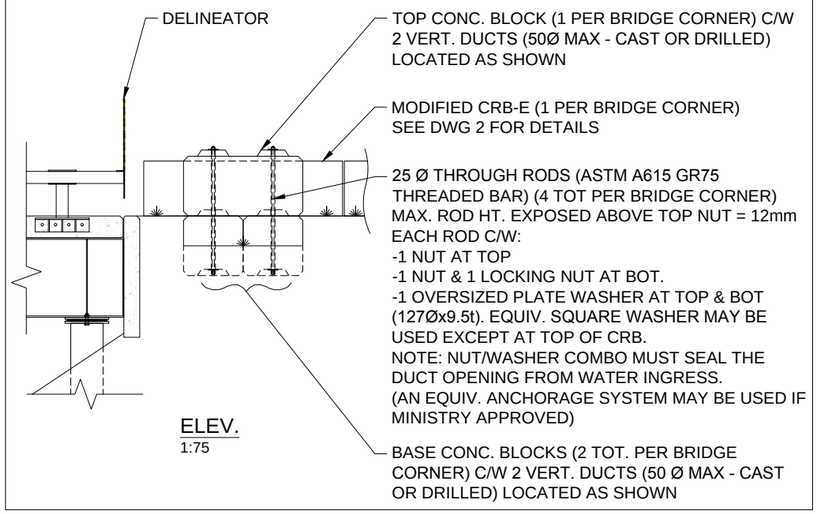
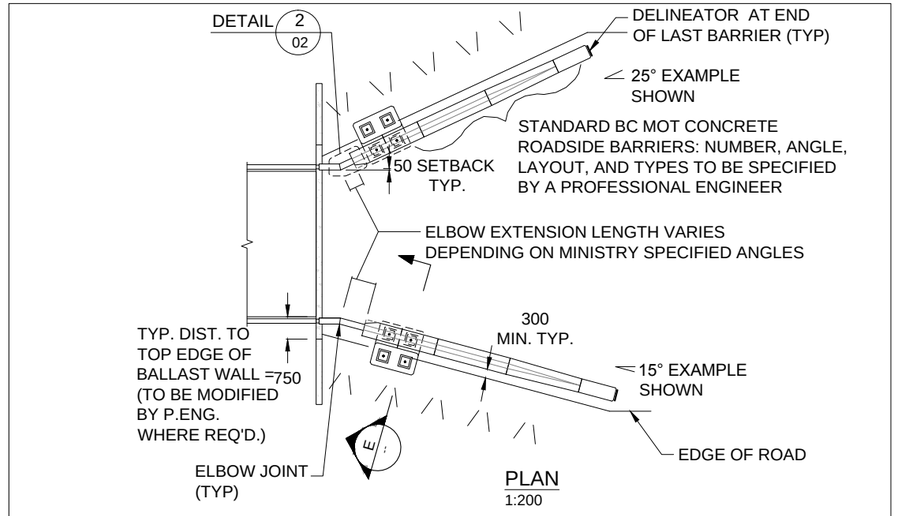


PLAN
1:200



ELEV.
1:75

ANCHORED & UNCONNECTED CONCEPT



PLAN
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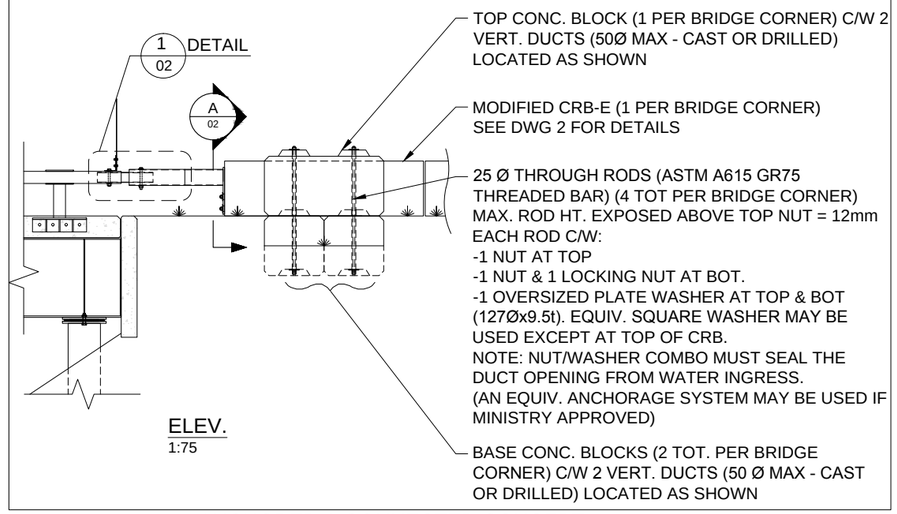
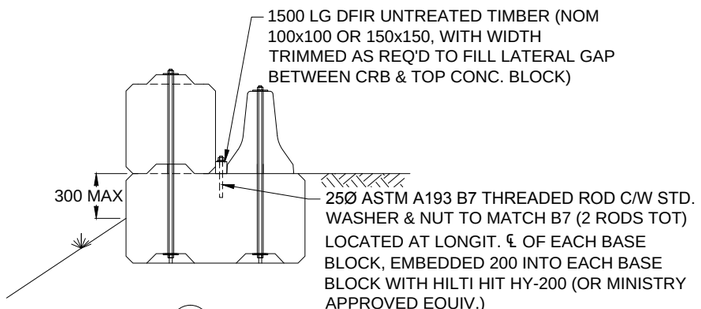


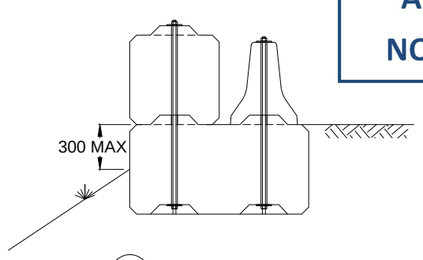
ELEV.
1:75

ANCHORED & CONNECTED CONCEPT



SECTION E 01 : CONC. LAYOUT - OPTION 1
BASE BLOCKS WITH 1/2 KEY & 1/2 FLAT TOP - 1:50

NOTE: ONLY LAYOUT OPTION 1 REQUIRES A GAP FILLING TIMBER



SECTION E 01 : CONC. LAYOUT - OPTION 2
ALL BLOCKS WITH 2 KEYS - 1:50

ASSUME NOT TO SCALE

NOT FOR CONSTRUCTION

NOTES

1.0 GENERAL

- THE PROFESSIONAL ENGINEER RESPONSIBLE FOR PRESCRIBING MINISTRY STANDARD BRIDGE APPROACH BARRIERS, AS SHOWN ON THESE DRAWINGS, MUST EVALUATE THE SUITABILITY OF THEIR USE BASED ON AN ASSESSMENT OF THE SPECIFIC BRIDGE CHARACTERISTICS, ROAD ALIGNMENT AND SITE CONDITIONS.
- WHERE THESE DRAWINGS SHOW CONNECTION BETWEEN BRIDGE GUARDRAIL AND APPROACH BARRIER, THEY SHOULD BE READ TOGETHER WITH STD-EC-010-02 "STANDARD BRIDGE GUARDRAIL-HSS RAIL CL-2", OR STD-EC-010-03 "STANDARD BRIDGE GUARDRAIL-HSS RAIL CL-3", OR STD-EC-010-06 "STANDARD HSS GUARDRAIL FOR PRECAST CONCRETE SLAB BRIDGES CL-3".
- PROFESSIONAL ENGINEERS SHALL REFERENCE THE MINISTRY'S APPROACH BARRIER GUIDELINES IN RELATION TO USE OF THESE DRAWINGS.

2.0 MATERIALS

- HSS: Fy MIN. 345MPa, CSA G40.21M OR ASTM A500 GRADE C
- PLATE: Fy MIN. 300W OR 350W, CSA G40.21M
- BOLTS: ASTM A307
- VERTICAL THROUGH RODS: ASTM A615 GR75 THREADED BAR, C/W NUTS TO MATCH STRENGTH AND THREAD TYPE
- UNTHREADED ROUND BAR: ASTM A36
- NUTS: ASTM A563, UNLESS NOTED OTHERWISE (UNO)
- STANDARD WASHERS: ASTM F844, UNO
- OVERSIZED PLATE WASHERS: MILD STEEL (I.D. ~2MM > BOLT DIAMETER)
- ALL EXPOSED STEEL MATERIALS, INCLUDING HARDWARE, SHALL BE GALVANIZED TO CSA G164, MIN. 610 g/m2, or ASTM A123, UNLESS OTHER COATING SPECIFICATIONS ARE PROVIDED BY THE MINISTRY.
- ALL STEEL TO BE GALVANIZED SHALL MEET CHEMICAL COMPOSITION RECOMMENDATIONS AS SPECIFIED BY THE AMERICAN GALVANIZERS ASSOCIATION (https://www.galvanizeit.org/) TO ENSURE AGAINST EMBRITTLEMENT.
- CONCRETE BLOCKS AND CONCRETE ROADSIDE BARRIERS (CRB) IN ACCORDANCE WITH THE MINISTRY "BRIDGE COMPONENT CONCRETE STANDARD":

http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/resource-roads/bridge-design-construction/brcompconcstd.pdf

- TOP KEYS & BOT. KEY VOIDS OF CONC. BLOCKS, PLUS BOT. KEY VOIDS OF MODIFIED CRB-E, WILL VARY ACCORDING TO SUPPLIER. INTERLOCK PATTERN & GEOMETRY MUST BE APPROVED BY THE MINISTRY.

3.0 FABRICATION AND INSTALLATION

- WELDING IN ACCORDANCE WITH CSA W59 BY COMPANY CERTIFIED TO CSA W47.1 FOR DIVISION 1, 2, OR 3
- MIN. FILLET WELD SIZE=6mm UNO
- BOLT HOLE DIAMETERS: 2mm > BOLT DIAMETER, UNO
- NUTS SHALL BE SNUG-TIGHTENED (THE CONDITION THAT BRINGS THE PLIES INTO FIRM CONTACT COMMONLY ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH, OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH).
- BASE CONCRETE BLOCKS AND THE BARRIERS CONNECTED TO THEM SHALL BE PLACED ON A COMPETENT, FIRM AND LEVEL GRANULAR BASE WITH MINIMAL ANTICIPATED SETTLEMENT IN RELATION TO THE BRIDGE END. SPECIFICATIONS FOR THE BASE SHALL BE DETERMINED BY THE PROFESSIONAL ENGINEER, INCLUDING REQUIRED COMPACTION OF FILLS, AND FIELD INSPECTIONS DURING CONSTRUCTION.
- THE SUPPLIER OF MATERIALS (CONTRACTOR) SHALL ENSURE THAT ALL COMPONENTS WILL ASSEMBLE ACCURATELY AND EFFICIENTLY.

BRITISH COLUMBIA
MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT

SCALE AS SHOWN
Designed M.P. Date SEPT. 15, 2017
Checked G.M. Date SEPT. 15, 2017
Drawn N.H. Date SEPT. 15, 2017

REV	DATE	DESCRIPTION	INITAL	

REVISIONS

STANDARD BRIDGE DRAWING

ANCHORED/CONNECTED BRIDGE APPROACH BARRIER CONCEPTS
DWG. 1 OF 2

ORIGINAL SIGNED and SEALED BY: M. PENNER, P.ENG.
APPROVED BY: B. CHOW, P.ENG., CHIEF ENGINEER

FILE NUMBER:
DRAWING NUMBER: STD-EC-010-15 | 0