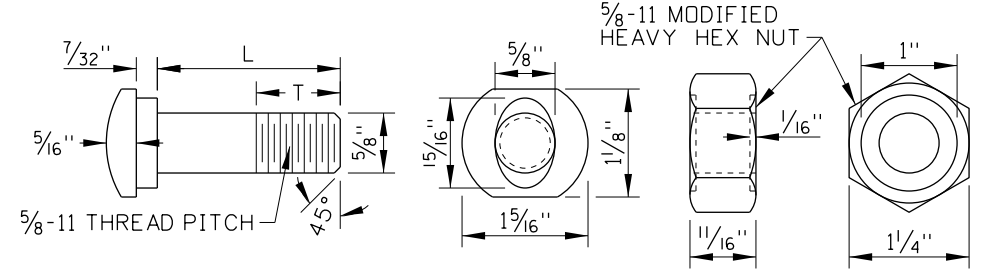
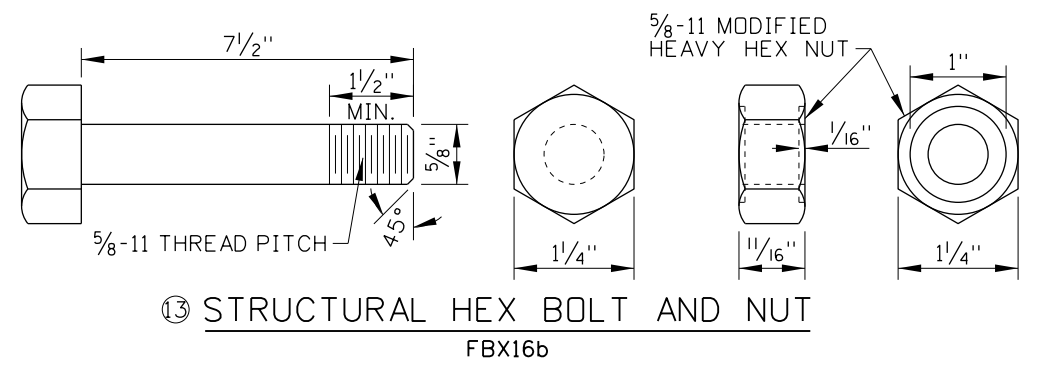
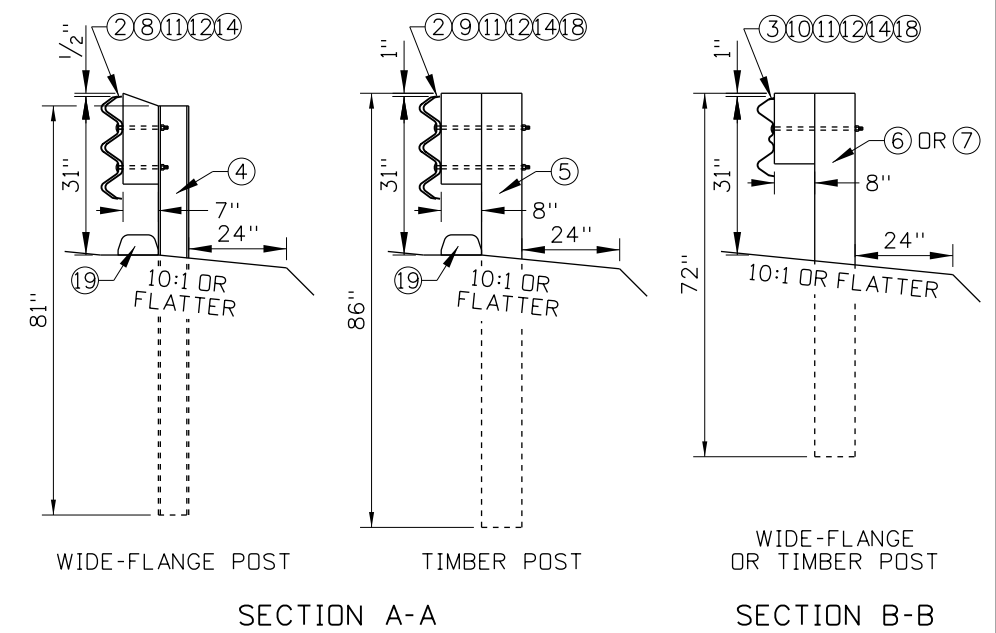
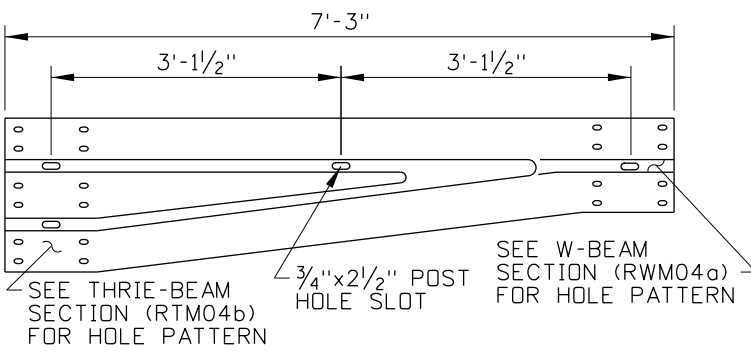
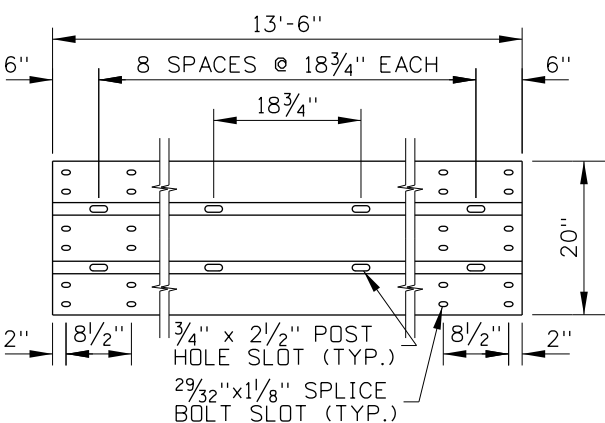
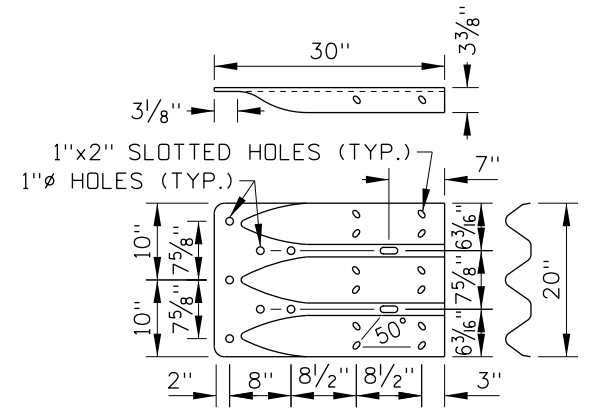


HIGH SPEED GUARDRAIL TRANSITION



| DESIGNATOR | L | T |
|------------|--------|--------|
| FBB01 | 1 1/4" | 1 1/8" |
| FBB03 | 10" | 1 3/4" |
| FBB04 | 18" | 4" |



① THRIE-BEAM TERMINAL CONNECTOR
RTE01b (10 GAUGE)

② 8-SPACE THRIE-BEAM GUARDRAIL
RTM08a DR b (12 or 10 GAUGE)

③ ASYMMETRICAL W-THRIE BEAM TRANSITION SECTION
RWT01b (10 GAUGE)

| REVISIONS | | | | | | | |
|-----------|-------|-----|-----|-------|-----|-----|-------|
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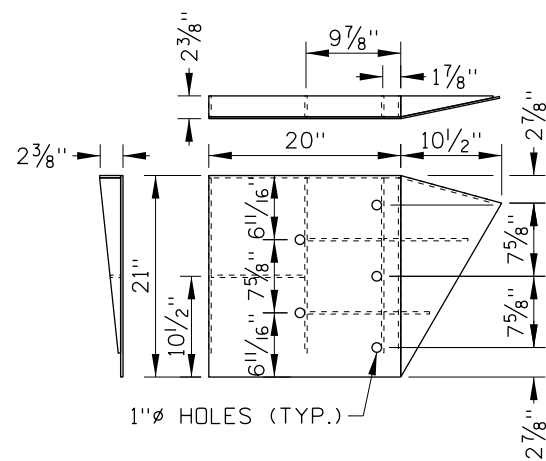
ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
GUARDRAIL TRANSITION HIGH SPEED
REQUIRES SHEETS 2 OF 3, 3 OF 3 & STD. DWG. 615-1

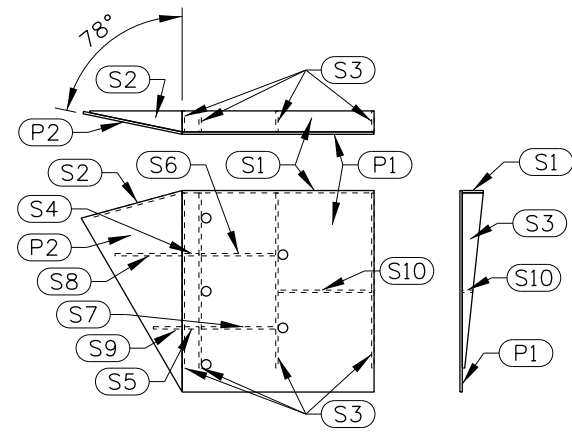
English
STANDARD DRAWING NO.
612-11
SHEET 1 OF 3

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

ORIGINAL SIGNED BY: RYAN D. LANCASTER
DATE ORIGINAL SIGNED: JULY 25, 2017

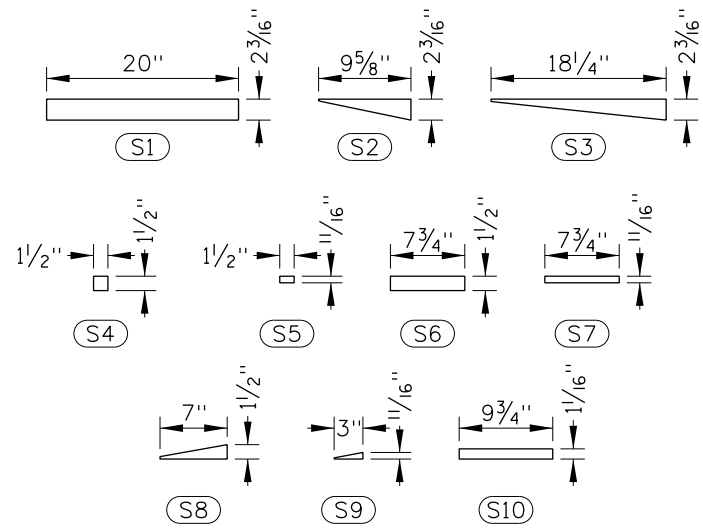


LEFT-HAND VERSION

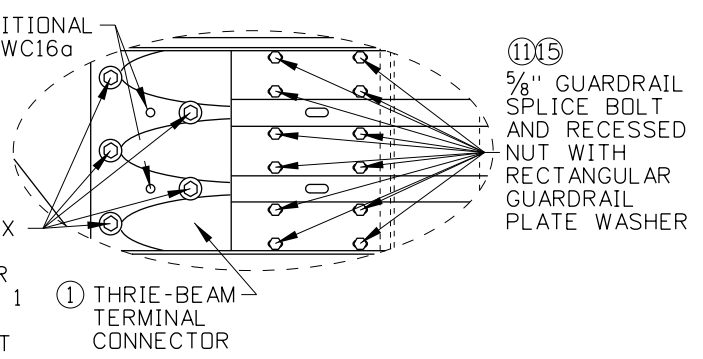


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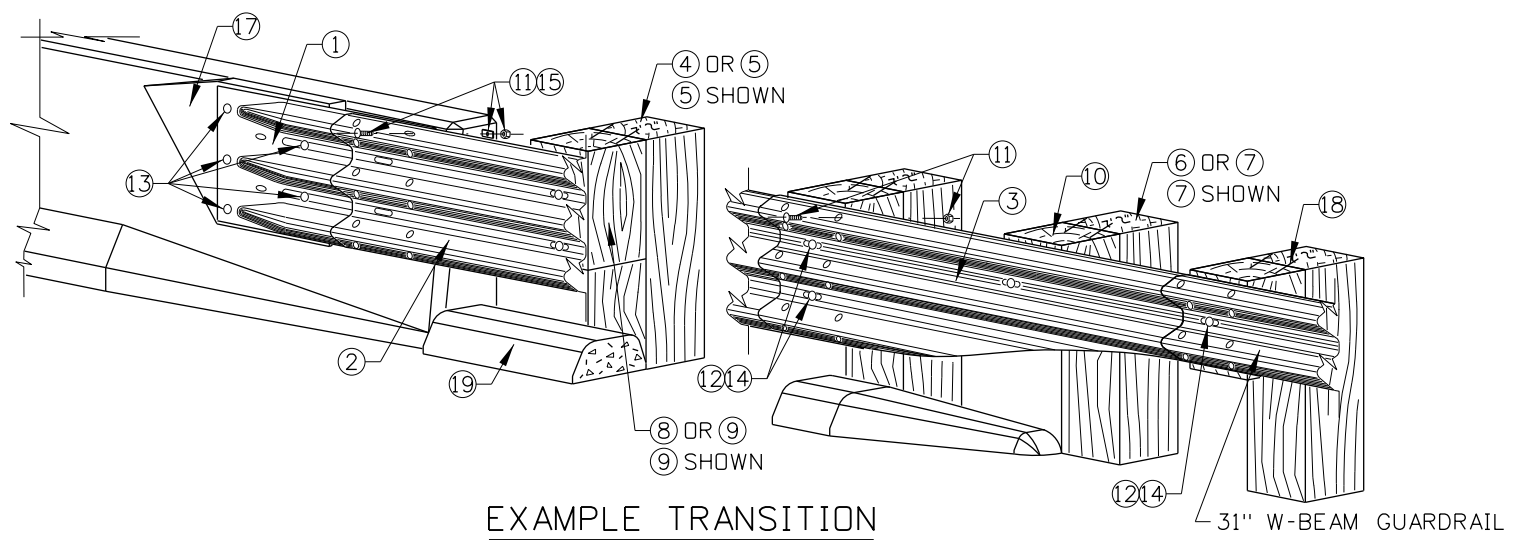
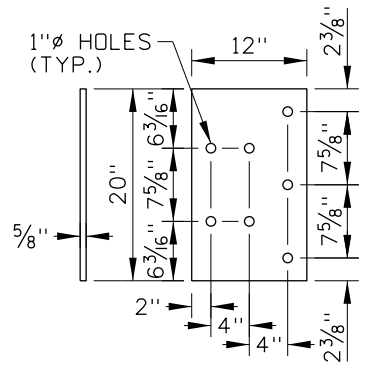
CONCRETE SAFETY SHAPE TO
 ⑰ THRIE-BEAM TERMINAL CONNECTOR PLATE
 FPB--, ASTM A36, SEE NOTE NO. 8



CONNECTOR BOLT DETAIL



⑰ THRIE-BEAM TERMINAL CONNECTOR PLATE
 FPB07



EXAMPLE TRANSITION

| HIGH SPEED GUARDRAIL TRANSITION HARDWARE COMPONENTS TABLE | | | | |
|---|--|------|------------------------|-------------|
| ITEM NO. | COMPONENT DESCRIPTION | QTY. | WIDE-FLANGE POST | TIMBER POST |
| ① | THRIE-BEAM TERMINAL CONNECTOR | 1 | RTE01b | RTE01b |
| ② | 8-SPACE NESTED THRIE-BEAM GUARDRAIL | 2 | RTM08a DR b | RTM08a DR b |
| ③ | ASYMMETRICAL W-THRIE BEAM TRANSITION SECTION | 1 | RWT01b | RWT01b |
| ④ | 81" WIDE-FLANGE GUARDRAIL POST | 7 | PWE-- | - |
| ⑤ | 86" TIMBER GUARDRAIL POST | 7 | - | PDE-- |
| ⑥ | 72" WIDE-FLANGE GUARDRAIL POST | 2 | PWE01 | - |
| ⑦ | 72" TIMBER GUARDRAIL POST | 2 | - | PDE02 |
| ⑧ | THRIE-BEAM WIDE-FLANGE STEEL TUBE BLOCKOUT | 7 | PWB-- | - |
| ⑨ | MODIFIED THRIE-BEAM TIMBER BLOCKOUT | 7 | - | PDB-- |
| ⑩ | W-BEAM BLOCKOUT | 2 | PDB01b OR POLYETHYLENE | PDB01a |
| ⑪ | 5/8" GUARDRAIL SPLICE BOLT AND RECESSED NUT | 32 | FBB01 | FBB01 |
| ⑫ | 5/8" GUARDRAIL BOLT AND RECESSED NUT | 16 | FBB03 | FBB04 |
| ⑬ | 5/8" X 7/2" STRUCTURAL HEX BOLT & NUT | 5 | FBX16b | FBX16b |
| ⑭ | 5/8" PLAIN ROUND WASHER | 21 | FWC16a | FWC16a |
| ⑮ | RECTANGULAR GUARDRAIL PLATE WASHER | 12 | FWR03 | FWR03 |
| ⑯ | THRIE-BEAM TERMINAL CONNECTOR PLATE | 1 | FPB07 | FPB07 |
| ⑰ | CONCRETE SAFETY SHAPE TO THRIE-BEAM TERMINAL CONNECTOR PLATE | 1 | FPB-- | FPB-- |
| ⑱ | 16D GALVANIZED NAIL | 14 | - | N/A |
| ⑲ | CURB | 1 | N/A | N/A |

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STANDARD DRAWING
GUARDRAIL TRANSITION HIGH SPEED
 REQUIRES SHEETS 1 OF 3, 3 OF 3 & STD. DWG. 615-1

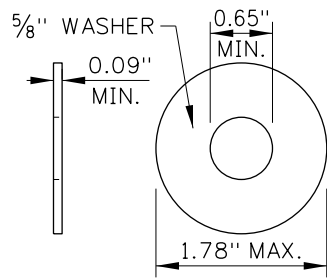
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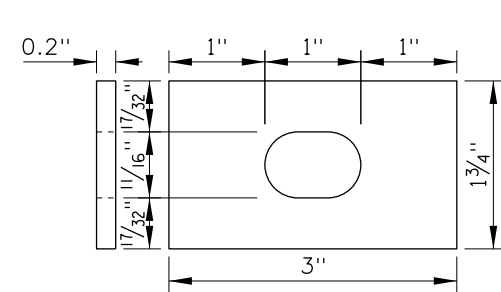
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SHEET 2 OF 3

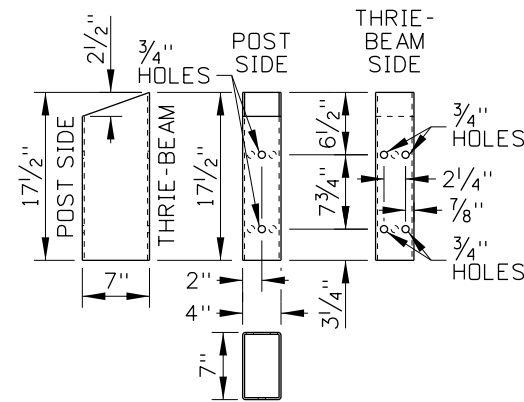
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 RYAN D. LANCASTER
 DATE ORIGINAL SIGNED:
 JULY 25, 2017



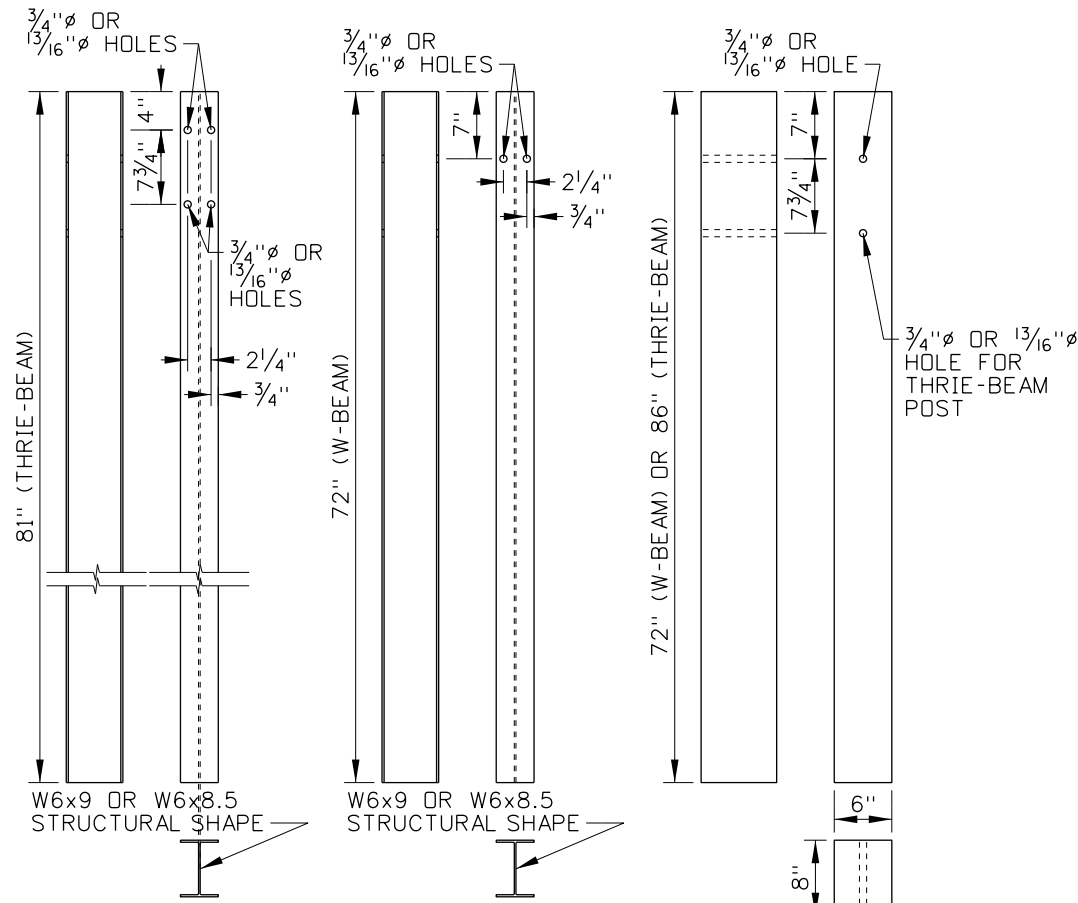
⑭ PLAIN ROUND WASHER
FWC16a



⑮ RECTANGULAR GUARDRAIL
PLATE WASHER
FWR03



⑧ THRIE-BEAM WIDE-FLANGE
STEEL TUBE BLOCKOUT
ASTM A500 GRADE B

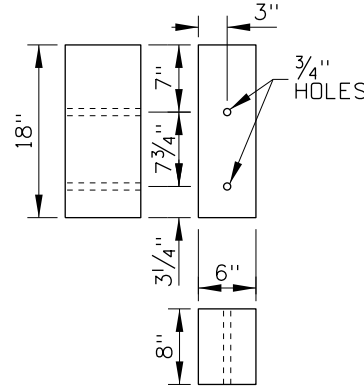


④ WIDE-FLANGE
PWE--

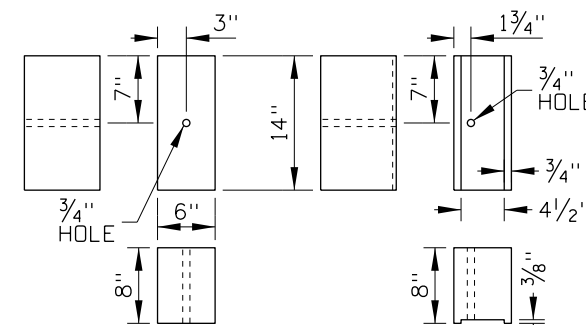
⑥ WIDE-FLANGE
PWE01

⑤⑦ TIMBER
PDE02, PDE--

GUARDRAIL POSTS



⑨ MODIFIED THRIE-BEAM
TIMBER BLOCKOUT



PDB01a

PDB01b

⑩ W-BEAM TIMBER BLOCKOUTS

NOTES

1. THE GUARDRAIL TRANSITION SHOWN IS A TEST LEVEL 3 TRANSITION. USE THE TRANSITION ON HIGHWAYS WHERE THE POSTED SPEED LIMIT IS 45 MPH OR HIGHER AND WHERE A SEMI-RIGID GUARDRAIL, SUCH AS 31" W-BEAM GUARDRAIL, JOINS A RIGID BARRIER, SUCH AS A BRIDGE RAIL OR CONCRETE BARRIER.
2. PROVIDE BARRIER HARDWARE AS SHOWN AND AS SPECIFIED IN THE PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE." WHERE THE GUIDE AND PLANS CONFLICT, PROVIDE HARDWARE COMPONENTS AS SHOWN ON THE PLANS.
3. WIDE-FLANGE OR TIMBER POSTS MAY BE USED UNLESS OTHERWISE INDICATED. USE THE SAME POST MATERIAL AS IN THE ADJOINING 31" W-BEAM GUARDRAIL.
4. IF WIDE-FLANGE POSTS ARE USED, USE STEEL TUBE BLOCKOUTS IN THE THRIE-BEAM SECTION AND TIMBER OR POLYETHYLENE BLOCKOUTS IN THE ASYMMETRICAL W-THRIE BEAM TRANSITION SECTION. IF TIMBER POSTS ARE USED, USE MODIFIED THRIE-BEAM TIMBER BLOCKOUTS IN THE THRIE-BEAM SECTION AND TIMBER BLOCKOUTS IN THE ASYMMETRICAL W-THRIE BEAM TRANSITION SECTION.
5. NAIL TIMBER BLOCKOUTS TO TIMBER POSTS TO RESTRICT BLOCK ROTATION.
6. WHEN WIDE-FLANGE POSTS ARE USED AND WHEN PRACTICAL, INSTALL THE BOLT (FBB03) ON THE UPSTREAM SIDE OF THE POST IN RELATION TO THE ADJACENT TRAFFIC.
7. CONSTRUCT CURB TYPE 5 BENEATH THE THRIE-BEAM AND ASYMMETRICAL W-THRIE BEAM TRANSITION SECTIONS AS SHOWN.
8. THE FOLLOWING APPLY TO THE CONCRETE SAFETY SHAPE TO THRIE-BEAM TERMINAL CONNECTOR PLATE:
 - A. USE ASTM A36 STEEL.
 - B. USE 3/16" THICK STEEL FOR FLAT PLATES P1 AND P2. USE 1/4" THICK STEEL FOR STIFFENERS S1 THROUGH S10.
 - C. WELD COMPONENTS WITH E60 ROD.
 - D. WELD STIFFENERS LOCATED ON THE OUTSIDE EDGES OF THE COVER PLATES WITH 3/16" CONTINUOUS BACK WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
 - E. WELD STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATES WITH 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
 - F. WELD RECTANGULAR AND TRIANGULAR COVER PLATES TOGETHER WITH A 3/16" CONTINUOUS BACK WELD ON BOTH SIDES.
 - G. GALVANIZE CONNECTOR PLATES AFTER PUNCHING AND ASSEMBLY.
9. GALVANIZE THE THRIE-BEAM TERMINAL CONNECTOR PLATE.
10. OVERLAP SPLICES SO THAT THE EXPOSED W-BEAM EDGE IS DOWNSTREAM OF THE ADJACENT TRAFFIC.
11. PROVIDE A MINIMUM OF 50' OF BARRIER BETWEEN THE TRANSITION AND THE END OF A GUARDRAIL TERMINAL OR ANCHOR.
12. INSTALL RECTANGULAR GUARDRAIL PLATE WASHERS UNDER GUARDRAIL NUTS AT THE SPLICE BETWEEN THE THRIE-BEAM GUARDRAIL AND THRIE-BEAM TERMINAL CONNECTOR.
13. DELINEATE THE TRANSITION. SEE THE DELINEATOR STANDARD DRAWING.
14. DRAWING NOT TO SCALE.

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