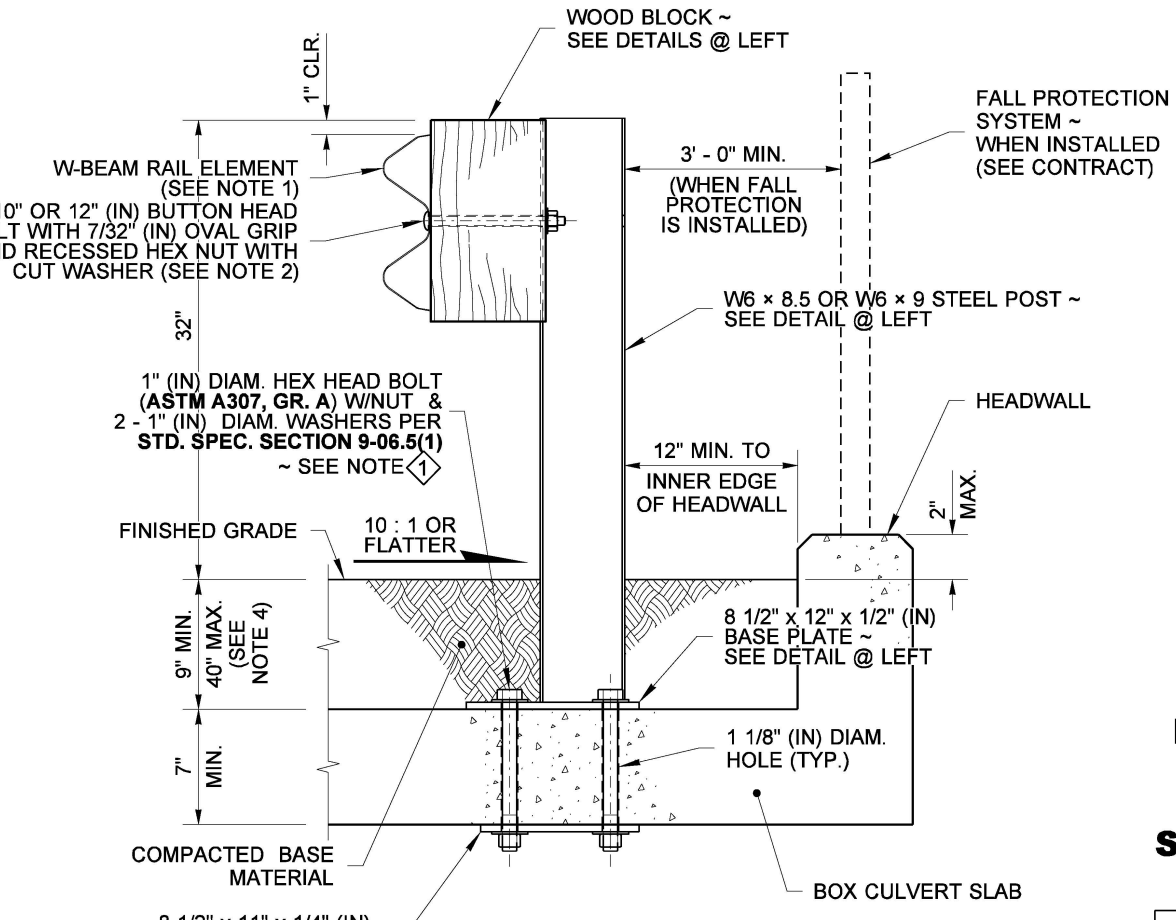
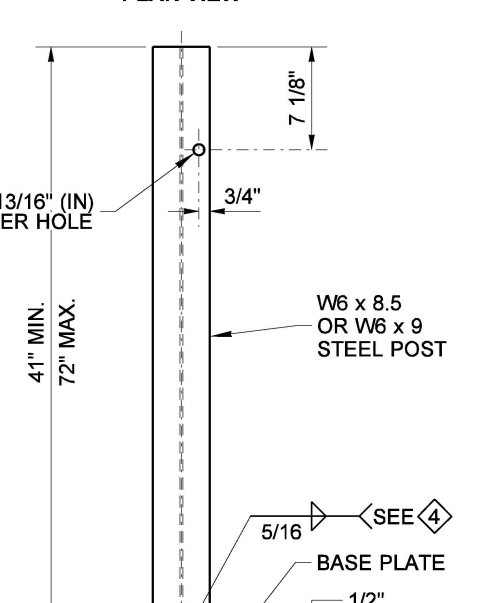
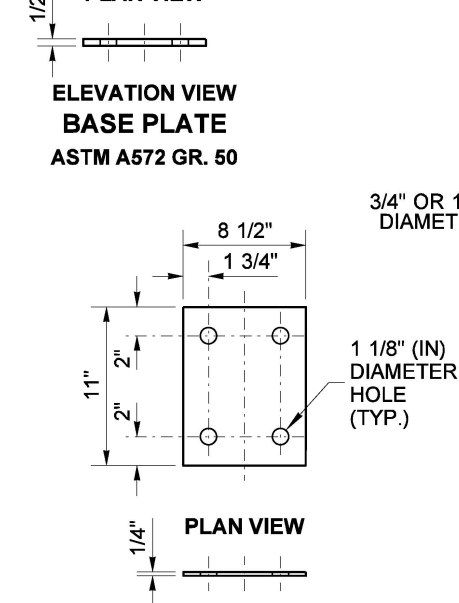
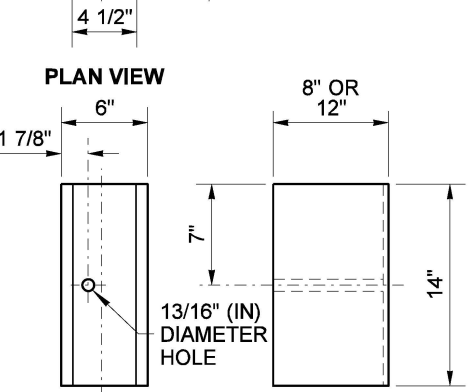
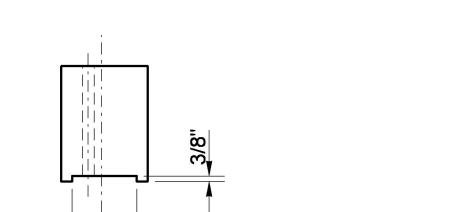
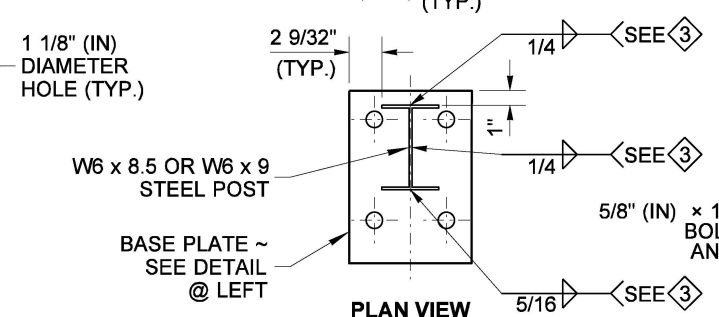
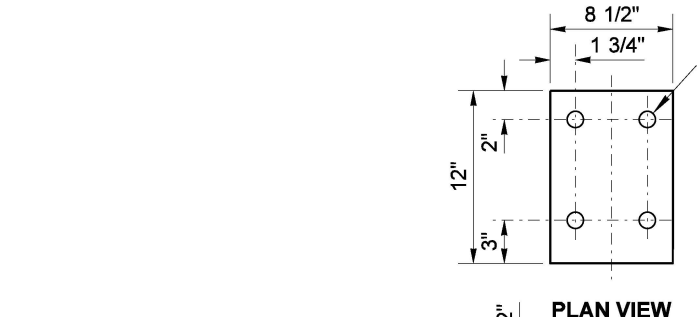
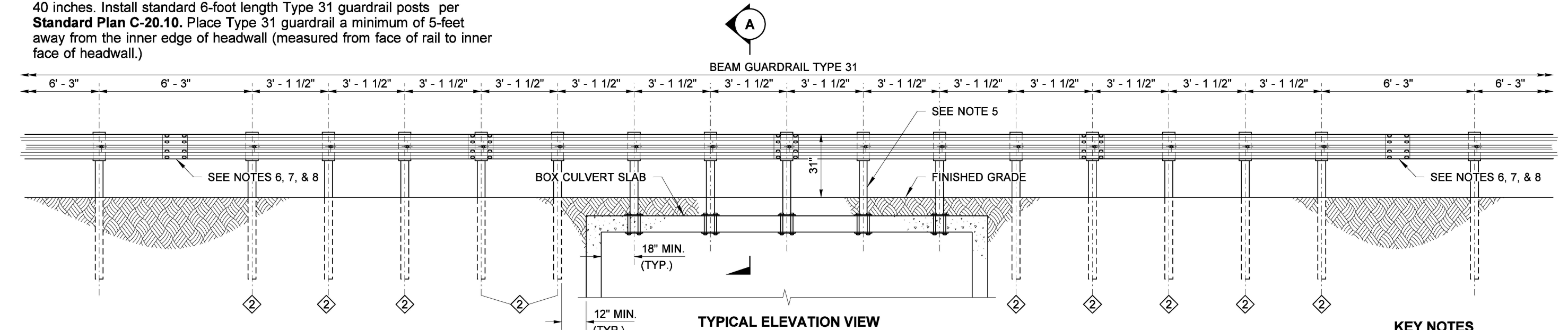


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**NOTES**

- For typical rail element and post details not shown on this plan, refer to **Standard Plans C-20.10** and **C-1b**.
- Wood blocks are shown. Blocks of an approved alternative may be used. See **Standard Specification, Section 9-16.3(2)**.
- Attach blockouts to steel posts using bolt holes on approaching traffic side of post web.
- Box culvert guardrail steel posts are not needed for fill depths greater than 40 inches. Install standard 6-foot length Type 31 guardrail posts per **Standard Plan C-20.10**. Place Type 31 guardrail a minimum of 5-feet away from the inner edge of headwall (measured from face of rail to inner face of headwall.)
- Plan shows 5 box culvert guardrail posts installed on culvert lid. It is acceptable to use a greater or lesser number of box culvert guardrail posts to increase or decrease length of system as needed.
- Install at least 50 - feet of Type 31 guardrail upstream and downstream from 1/2 post spacing guardrail (Terminals and Anchors included in length).
- Install at least 12.5 - feet of Type 31 guardrail from end of 1/2 spacing guardrail before installing Terminal or Anchor.
- Install at least 25 - feet of Type 31 Guardrail from end of 1/2 post spacing guardrail before starting a Taper or Radius Rail Guardrail system.



**KEY NOTES**

- LENGTH OF HEX HEAD BOLT SHALL BE 2 1/2" (IN) LONGER THAN BOX CULVERT SLAB DEPTH
- INSTALL A MINIMUM OF 5 POSTS AT HALF-POST SPACING (3' - 1 1/2") COMING OFF EDGES OF CULVERT
- WELDING SHALL CONFORM TO STD. SPEC. SECTION 6-03.3(25)



Jul 16, 2024

**BOX CULVERT BOLT-THRU ANCHOR GUARDRAIL STEEL POST ~ TYPE 31 STANDARD PLAN C-20.43-01**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

*Mark A. Davies* Jul 18, 2024

STATE DESIGN ENGINEER

