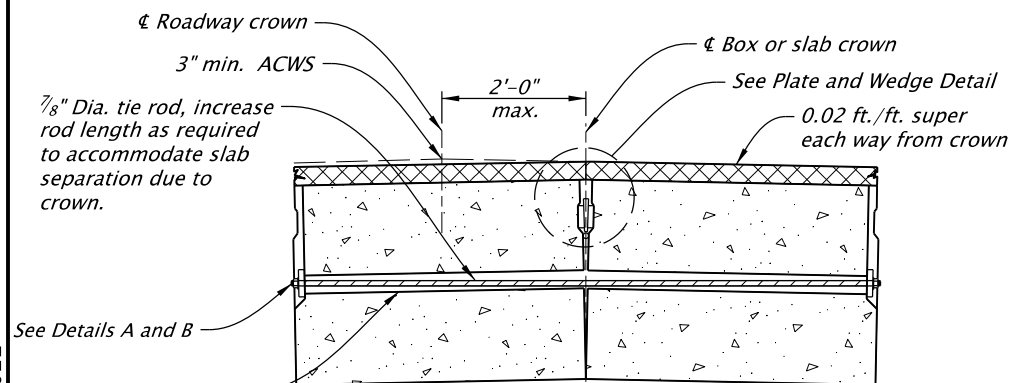
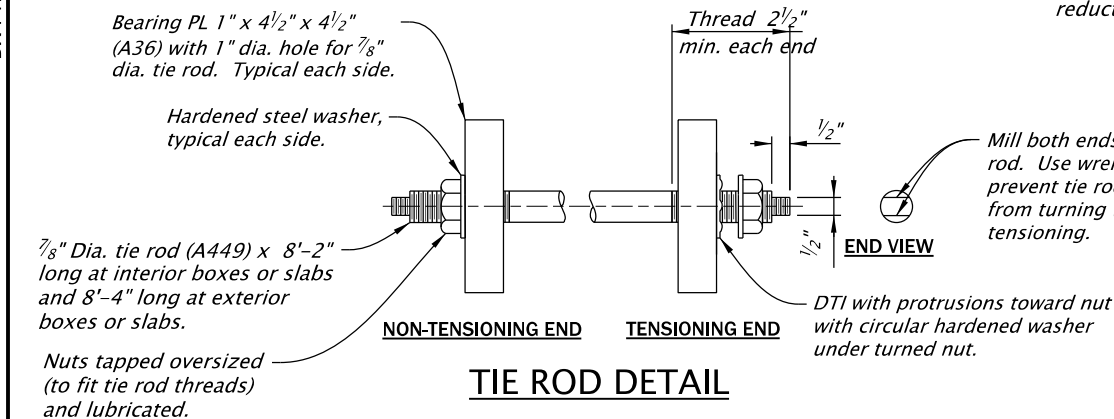




TYPICAL DETAIL FOR INSTALLING BOXES OR SLABS ON CROWN

NOTE:
Tighten tie rods until the bottom corners of the boxes or slabs are in contact. Loosen the tie rod and install the plates and wedges per detail. Shift wedge location as required to avoid conflict with the tie rod.

Tension the tie rods. Install boxes or slabs level and build up roadway crown with AC wearing surface when roadway width is 28' or less (for bridges with ACWS).



TIE ROD DETAIL

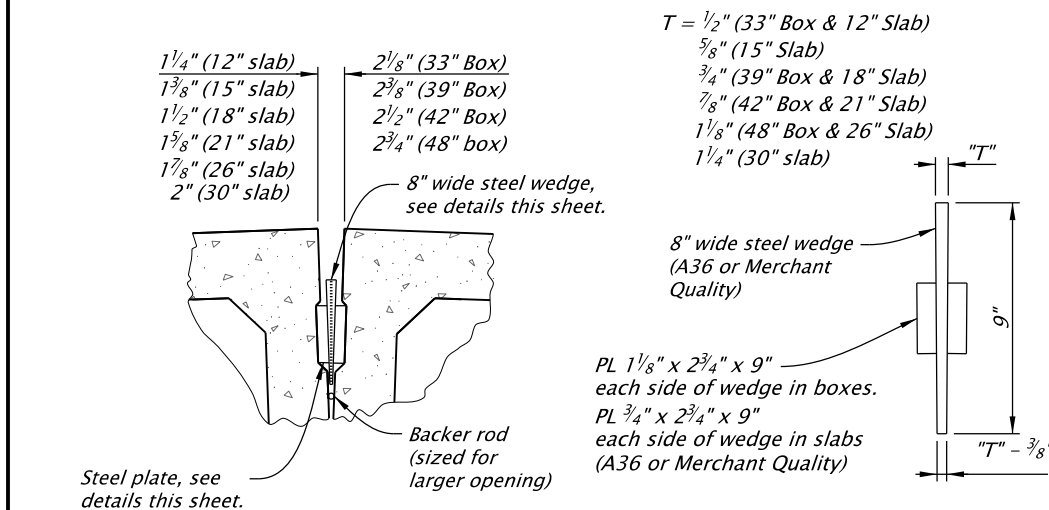
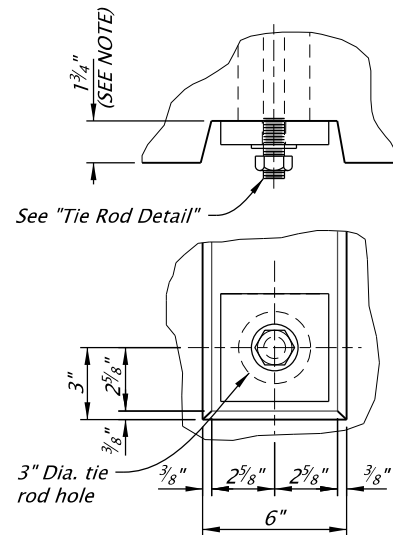


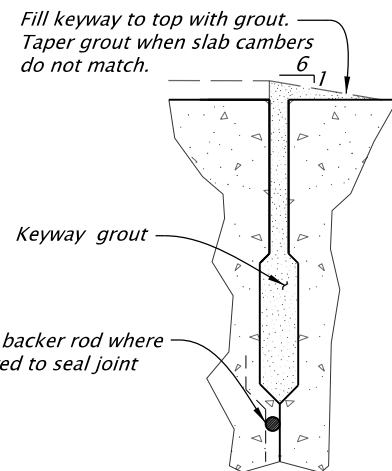
PLATE AND WEDGE DETAIL

NOTE:
Add steel plates and wedge at each tie rod crossing before tensioning tie rods. Hot-dip galvanize wedges and plates.

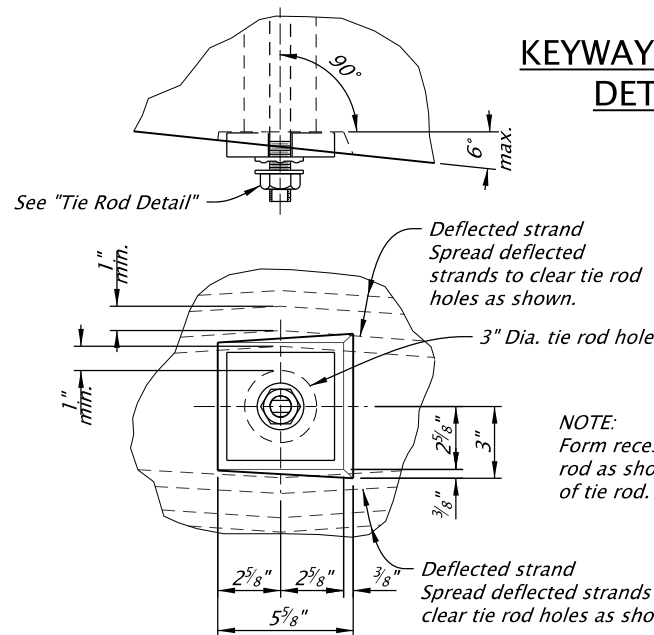


DETAIL "A" Non-Tensioning End

NOTE:
1 3/4" @ tie rod ϕ (2 1/2" depth may be used for slabs with an appropriate reduction in tie rod length)



KEYWAY GROUT DETAIL



DETAIL "B" Tensioning End

NOTE:
Form recess bearing area perpendicular to tie rod as shown. Use Detail "B" at tensioning end of tie rod.

GENERAL NOTES FOR PRESTRESSED BOXES AND SLABS

Boxes and slabs are designed for live and superimposed dead loading as shown in the General Notes for the Project.

Provide the class of concrete shown in the Slab or Box Schedule with nominal maximum size aggregate of 1 or 3/4. Transfer prestress after the concrete reaches the minimum concrete strength at transfer shown in the Slab or Box Schedule.

Select a keyway grout from the QPL for filling keyways, lifting blockouts and tie rod blockouts.

Allow traffic on the bridge only after keyway grout has reached design strength.

Provide reinforcing steel as specified in the General Notes for the Project.

Provide smooth dowels conforming to AASHTO M31, Grade 60 (ASTM A615, Grade 60), ASTM F1554, Grade 55 or ASTM A529, Grade 55.

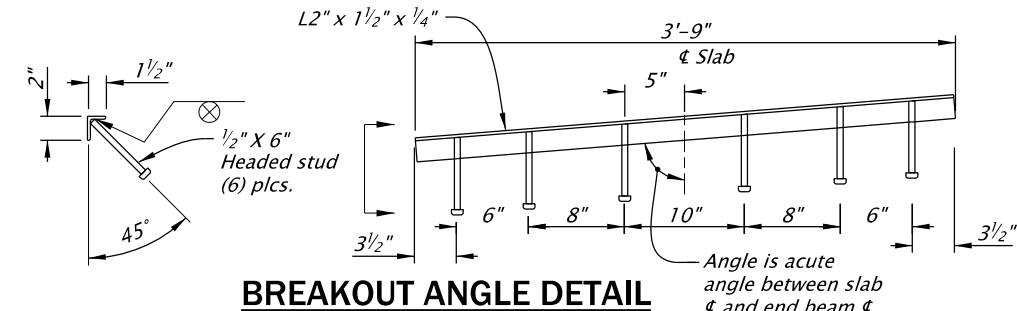
Provide 1/2" diameter 7 wire low relaxation prestressing steel strand conforming to AASHTO Specification M203 (ASTM A416), Grade 270 Supplement 1.

Tension strand initially to 31.0 kips per strand (after harping deflected strand). Debond strands where specified using either split or solid plastic sheathing with a minimum wall thickness of 0.025".

Provide high strength tie rods conforming to ASTM A449. Provide heavy hexagon nuts conforming to ASTM A563. Provide hardened steel washers conforming to ASTM F436. Hot-dip galvanize tie rods, plates, nuts and washers (except DTIs) after fabrication.

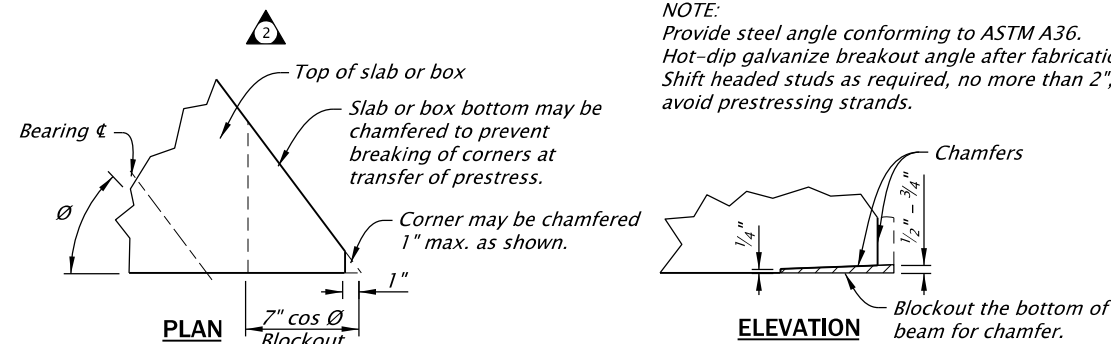
Tighten tie rods to 39 kips (minimum) using mechanically galvanized direct tension indicators (DTIs) conforming to ASTM F959 and ASTM F3125, Grade A325. Tighten all tie rods (per box or slab) to about one half the specified tension before proceeding with final tensioning.

Keep boxes and slabs upright at all times. Support them within 2'-0" of the ends during storage (to prevent excessive camber, overstress or failure). Locate transport supports and lifting devices within 2'-0" of the ends of boxes and slabs. Transport boxes and slabs after the concrete has reached the 28 day design strength and a minimum of 7 days after casting.



BREAKOUT ANGLE DETAIL

NOTE:
Provide steel angle conforming to ASTM A36. Hot-dip galvanize breakout angle after fabrication. Shift headed studs as required, no more than 2", to avoid prestressing strands.



PARTIAL ELEVATION CHAMFER DETAIL

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PRECAST PRESTRESSED BOX AND SLAB DETAILS

2024

DATE	REVISION	DESCRIPTION
07-2020	Revised steel grade for dowels and tie rods.	
07-2020	Updated drawing to current stds.	
07-2020	Moved rail anchorage detail to det3465.	
06-2022	Revised General Notes. Added breakout Angle Detail.	

CALC. BOOK NO.	N/A	SDR DATE	08-JUL-2022	BR445
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Effective Date: June 1, 2026 – November 30, 2026