

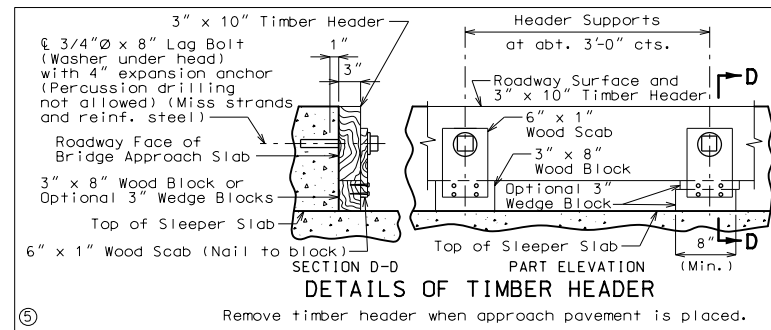
Standard Drawing Guidance (do not show on plans):

Turn off Bridge-Construction level to hide all guidance.

Prestressed bridge approach slab is to be used for approach slab replacement only.

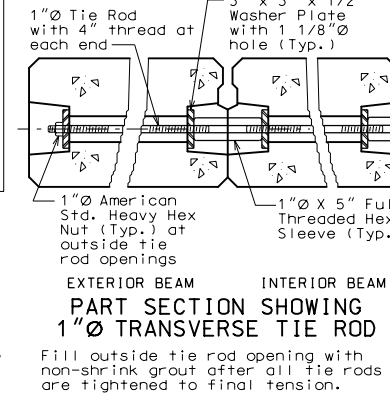
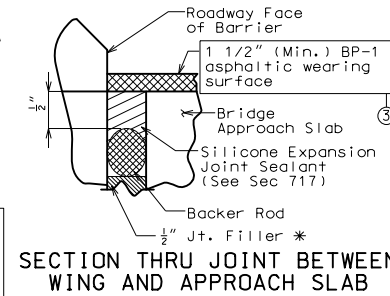
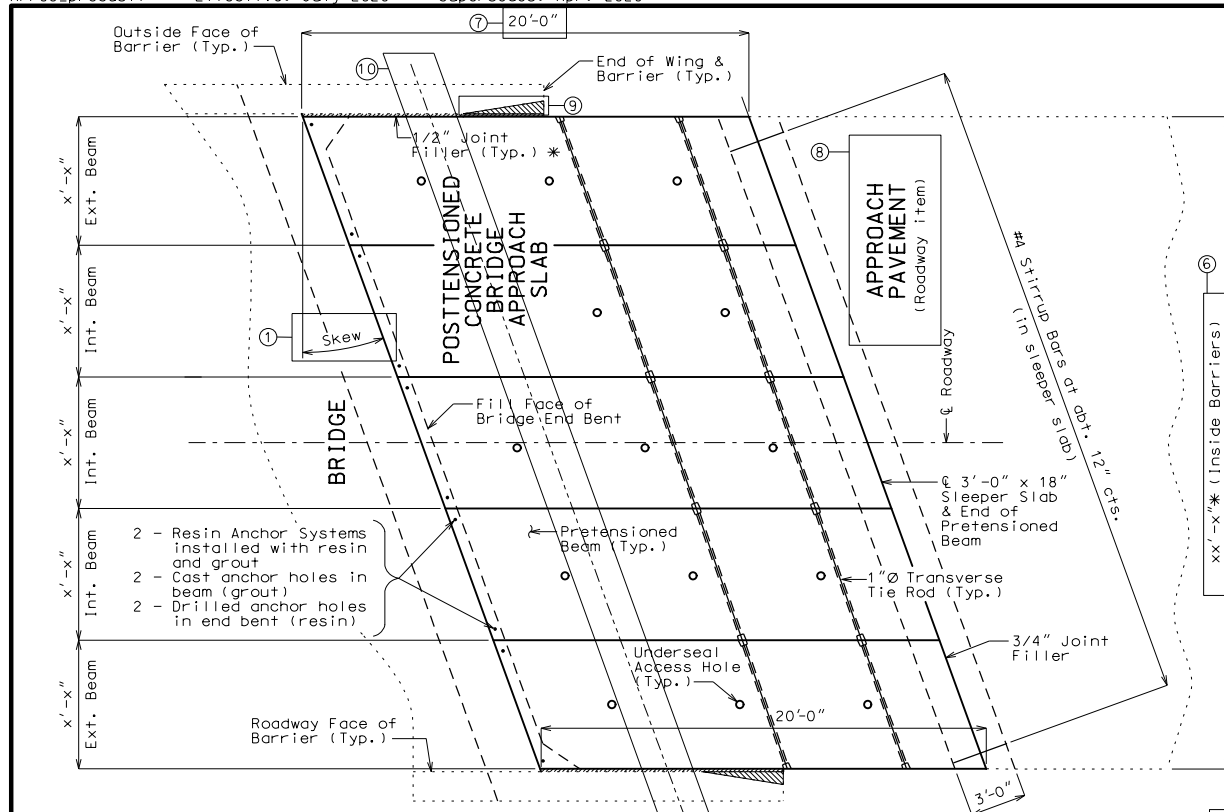
Roadway drainage should be addressed by the core team and the consensus noted on the Bridge Memorandum and the Standard Drawing. For roadway drainage options for Prestressed Bridge Approach Slab, see EPG 503 Bridge Approach Slab.

- Replace "Skew" with actual skew angle.
- Top of approach notch must be flat or uniformly sloped (no crown) and sleeper slab must be parallel in elevation to top of approach notch.
- Identify asphalt overlay and thickness. Coordinate with district if better to make a roadway item and then note accordingly and revise pay item note.
- Waterproof membrane is required when slab is overlaid with asphalt. Omit "Special Provisions" as needed.
- Timber Header will not normally be needed, since prestressed beams will be used for replacements only. Use only if requested by District RE to protect ends of beams during construction.
- Request field measurements between wings at end of slab and end of wings before dimensioning width of approach slab and determining beam widths to be used.
- The 20'-0" slab dimension can be changed to 25'-0", the title can then be changed from (20 FEET) to (25 FEET).



- Tie rods or remove based on actual conditions of the job.
- Fill with asphalt or seal.
- Number of tie rods: Ideally, install 3 tie rods at midpoint and quarter points; one will have to go through wing wall; drill hole in wing, install, grout and seal. Realistically, install 2 tie rods as shown. (Only 2 tie rods were used successfully with favorable results in the correlated research.)
- For "Placement and Full Width Posttensioning Instructions", see Development Section. Partial width posttensioning is preferred.
- Tie rods shall be placed along skew since shifting the beams longitudinally relative to each other during the tightening operation is prevented due to the anchorage of the beams to the end bent and the development of friction at the beam/aggregate interface.
- Unlike conventional bridge approach slabs, prestressed concrete bridge approach slabs still require formed access holes for required investigation as specified prior to 2018 Standard Specifications effective for October letting.

APP08\_precast1 Effective: July 2020 Supersedes: Apr. 2020



General Notes (Posttensioned Slab):

Contractor shall verify all dimensions in field before ordering new material.

Concrete for the sleeper slab shall be in accordance with Sec 503 (f'c = 4,000 psi).

Reinforcing steel in the sleeper slab shall be epoxy coated Grade 60 with fy = 60,000 psi.

Tie rod plates shall be ASTM A709 Grade 36.

Sleeves, nuts and 1" tie rods shall be A307.

All tie rods, plates, sleeves, and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler, except as noted.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Resin Anchor System: An epoxy coated #6 Grade 60 reinforcing bar 17" long shall be substituted for the 3/4" threaded rod.

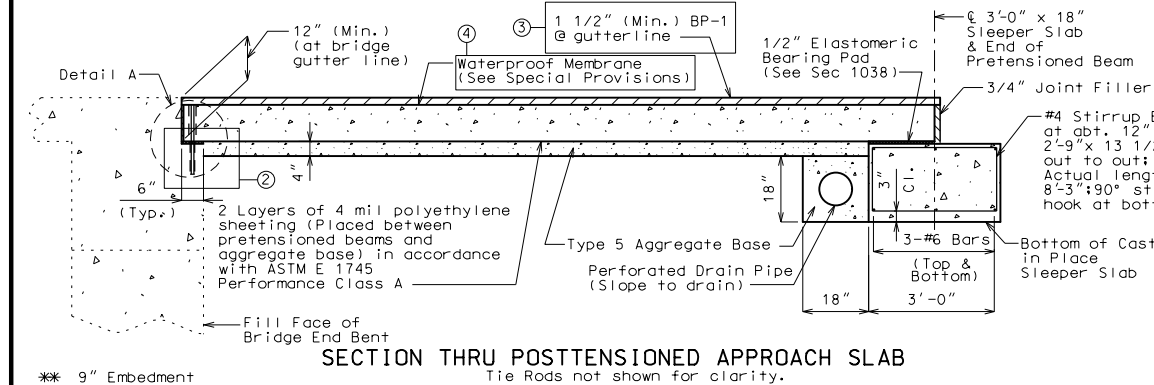
Use non-shrink grout for filling the keyways.

For approach pavement details, see roadway plans.

Payment for furnishing all materials, labor and excavation necessary to construct the prestressed approach slab, including the sleeper slab, underdrain, asphaltic wearing surface, joint filler and all other appurtenances, and incidental work as shown on this sheet, complete in place, will be considered completely covered by the contract unit price for Prestressed Bridge Approach Slab per square yard.

\* Contractor may adjust dimensions based on actual field measurements with approval of the engineer.

SECTION THRU POSTTENSIONED APPROACH SLAB



Placement and Partial Width Posttensioning Instructions:

Top of aggregate base shall be made flush with top of bridge approach notch and top of sleeper slab, and uniformly graded at all points in between.

Place first exterior beam \*\*\*

Place adjacent interior beam \*\*\*

Place partial width tie rods through both beams and connect to hex sleeve.

Tighten all tie rods in the beam to about one-half of the specified tension before proceeding with the final tensioning. Begin with most centered tie rod in span.

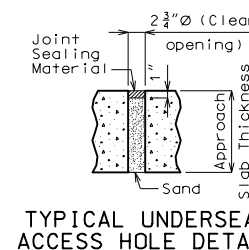
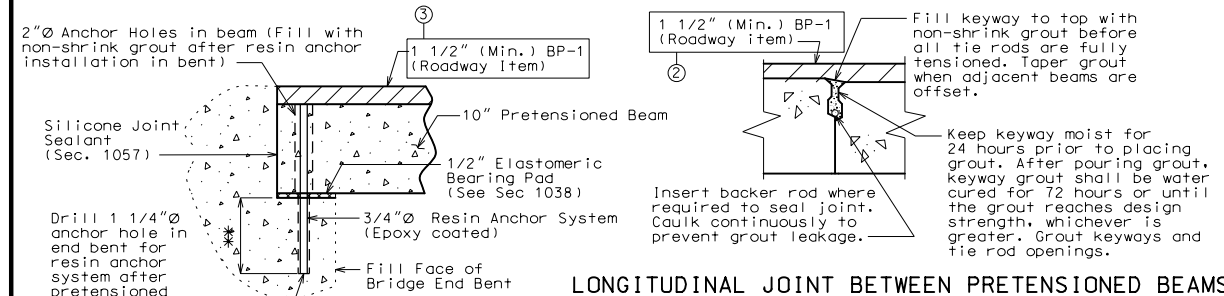
Fill keyway with grout. See "Longitudinal Joint Between Prestensioned Beams". (Fill tie rod openings.)

Tie rod nuts shall be tightened to provide a final tension of one-half that specified for ASTM F3125 Grade A325 bolts in Section 712.7.3 of the Missouri Standard Specifications.

Place the next adjacent beam and partial width tie rod and connect to hex sleeve, following same sequence, until last exterior beam is placed and tightened.

Grout outside tie rod openings.

\*\*\* Apply Silicone Joint Sealant to the entire beam end at bent and trowel uniformly for complete seal just before placing the beam.



Access Hole Notes:

VOIDS Under Completed Prestressed Concrete Approach Slabs: Prior to acceptance of the work, all underseal access holes shall be opened by the contractor to permit investigation by the engineer. Any voids or cavities found shall be filled by the contractor using an approved method. Care shall be taken during pumping operations to avoid raising the approach slab either individual beams or as a whole.

Filling Holes: At the completion of the investigation or underseal pumping, the holes shall be filled with sand to within one inch of the top and the remainder filled with joint sealing material.

No direct payment will be made for investigating void conditions under the completed slab or for filling any voids found for prestressed bridge approach slabs.

PRESTRESSED BRIDGE APPROACH SLAB (20 FEET)

Detailed Checked

Note: This drawing is not to scale. Follow dimensions.

Sheet No. of

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED: 8/6/2020

ROUTE: MO

DISTRICT: BR

COUNTY: \*

JOB NO.:

CONTRACT ID.:

PROJECT NO.:

BRIDGE NO. APP08

DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

USE ONLY WITH APPROVAL OF ASSISTANT STATE BRIDGE ENGINEER

105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)