



# Pierre-Fort Pierre Bridge Newsletter

Dec. 8, 2023 Issue 75



**Lt. Cmdr. John C. Waldron Memorial Bridge Pierre & Fort Pierre, S.D.**

## Bridge Project Update

With the holiday season in full swing, crews are taking advantage of South Dakota's unseasonably warmer December days to make as much progress as possible before the snow sets in for good.

With three of seven deck pours complete, the thermal equipment was removed from the most recent pour. Focus then turned to another critical area of concrete work: the "moment slab" on the westbound lane of the bridge. This slab was poured on the Pierre side approach.

Moment slabs are important from a safety perspective. In civil engineering terms, a bending "moment" is the reaction of a structural element to an external force. Think of it like fishing in the river: if you hook a small fish, your rod will bend maybe a little. If you hook a larger fish, however, the bend will be much greater.

As the moment slab is placed, it is heavily reinforced with steel, allowing the future barrier to be tied into the structure of the slab. This provides efficient force distribution should a vehicle veer off course, protecting them from the abutment drop while simultaneously slowing their speed and rotation.

To the right, workers pave the freshly poured slab.

Additionally, new "super studs" were placed in anticipation of the next deck section. Notable for their significantly high strength-to-weight ratios, super studs are used as support, spanning girders underneath the bridge to assist with deck forms.

We remind everyone to drive responsibly, and please watch for construction workers and your fellow travelers this holiday season!



Pouring and smoothing the moment slab, Dec. 5, 2023.

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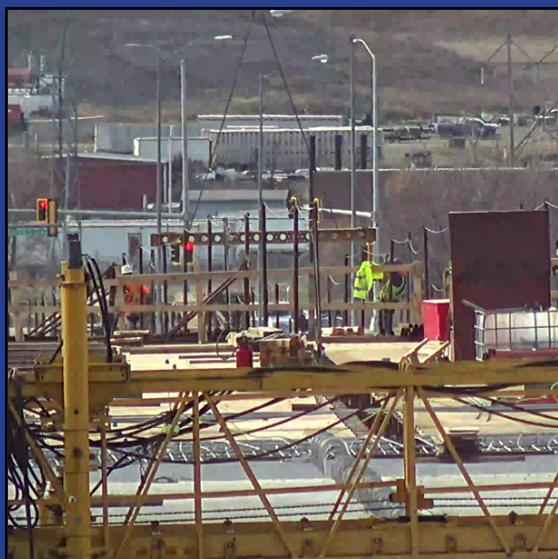


Extending the articulated arm of the telebelt, Dec 5 2023.

The telebelt is set up in anticipation of the mix truck, Dec. 5, 2023.



The telebelt is extended over the area of the planned moment slab, Dec. 5, 2023.



Using a crane to lower a super stud onto the bridge deck, Dec 4, 2023.



Finished deck pours ready for South Dakota weather, Dec. 4, 2023.