

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	41		41
Temporary Shoring	lump sum			1
Removal of Bridges (S0734)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		108	108
Galvanized Structural Steel Piles (14 in)	linear foot	250		250
Pre-Bore for Piling	linear foot	203		203
Pile Point Reinforcement	each	14		14
Class B Concrete (Substructure)	cu. yard	32.8		32.8
Type H Barrier	linear foot		487	487
Slab on Concrete NU-Girder	sq. yard		659	659
NU 53, Prestressed Concrete NU-Girder	linear foot		661	661
Reinforcing Steel (Bridges)	pound	1,290		1,290
Steel Intermediate Diaphragm for P/S Concrete Girders	each		8	8
Slab Drain	each		40	40
Vertical Drain at End Bents	each	2		2
Plain Neoprene Bearing Pad	each		6	6
Laminated Neoprene Bearing Pad	each		6	6

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the intermediate bent concrete diaphragms except reinforcement embedded in the beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All concrete above the intermediate beam cap is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Cost of L4x4 ASTM A709 Grade 36 HP pile anchor and 3/4-inch diameter ASTM F3125 Grade A325 Type 1 bolts, complete in place, will be considered completely covered by the contract unit price for Galvanized Structural Steel Pile (14 in).

Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	193
Reinforcing Steel (Epoxy Coated)	pound	63,440

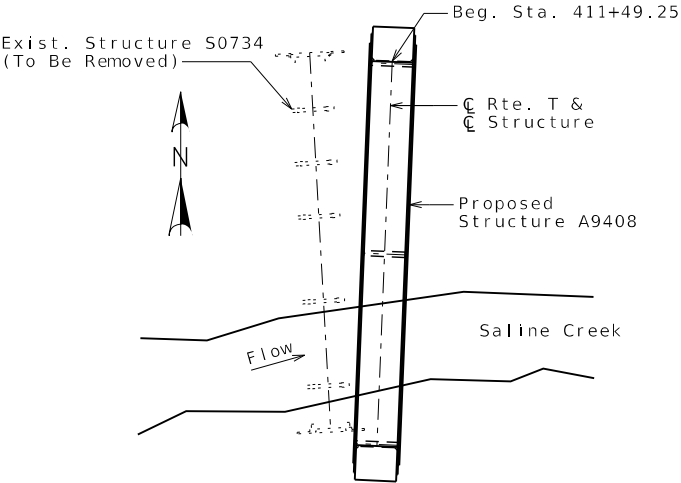
The table of Estimated Quantities for Slab on Concrete NU-Girder represents the quantities used by the State in preparing the cost estimate for concrete slabs. The area of the concrete slab will be measured to the nearest square yard longitudinally from end of slab to end of slab and transversely from out to out of bridge slab (or with the horizontal dimensions as shown on the plan of slab). Payment for prestressed panels, conventional forms, all concrete and epoxy coated reinforcing steel will be considered completely covered by the contract unit price for the slab. Variations may be encountered in the estimated quantities but the variations cannot be used for an adjustment in the contract unit price.

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Class B-2 Concrete quantity is based on minimum top of flange thickness and minimum joint material thickness.

The prestressed panel quantities are not included in the table of Estimated Quantities of Slab on Concrete NU-Girder.

Hydrologic Data
Drainage Area = 21.2 mi ²
Design Flood Frequency = 50 years
Design Flood Discharge = 7,600 cfs
Design Flood (D.F.) Elevation = 527.1
Base Flood (100-year)
Base Flood Elevation = 528.0
Base Flood Discharge = 8,950 cfs
Estimated Backwater = 0.0 ft
Average Velocity thru Opening = 4.8 ft/s
Freeboard (50-year)
Freeboard = 2.6 ft
Roadway Overtopping
Overtopping Flood Discharge > N/A cfs
Overtopping Flood Frequency > 500 years
500 Year Flood Elevation = 529.3



LOCATION SKETCH

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

Foundation Data				
Type	Design Data	Bent Number		
		1	2	3
Load Bearing Pile	Pile Type and Size	HP 14x73	HP 14x73	HP 14x73
	Number	4	6	4
	Approximate Length Per Each	17	19	17
	Pile Point Reinforcement	ALL	ALL	ALL
	Min. Galvanized Penetration (Elev.)	Full Length	Full Length	Full Length
	Pile Driving Verification Method	DF	**	DF
	Resistance Factor	0.4	0.4	0.4
	Minimum Nominal Axial Compressive Resistance	kip	670	759
			670	

DF = FHWA-modified Gates Dynamic Pile Formula

Minimum Nominal Axial Compressive Resistance = Maximum Factored Loads/Resistance Factor

**All piles shall bear on rock. Piles shall be placed in predrilled holes. Ensure the piles are seated on bedrock and not rubble in bottom of the hole. The annular space around the pile shall be backfilled with Class B concrete as shown. Concrete below the water line shall be placed with tremie. Verification of pile driving is not required. Cost of Class B concrete will be completely covered by the contract unit price for Pre-Bore for Piling.

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

HP Piles are anticipated to be driven to refusal to rock. Review all boring depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702.

Prebore for piles at Bents No. 1,2 & 3 to elevations 511, 509 & 511, respectively.

General Notes:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Ed.)
2023 AASHTO Guide Specifications for LRFD Seismic Bridge Design (3rd Ed.)
Seismic Design Category = B (Seismic Details)
Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.22g
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.34g

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 lb/sf
Earth = 120 lb/cf
Equivalent Fluid Pressure = 45 lb/cf (Min.)
Superstructure: Simply-supported, non-composite for dead load.
Continuous composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier) f'c = 4,000 psi
Class B-1 Concrete (Barrier) f'c = 4,000 psi
Reinforcing Steel (ASTM A706 Grade 60) fy = 60,000 psi
Structural Steel HP Pile (ASTM A709 Grade 50) fy = 50,000 psi
For precast prestressed panel stresses, see Sheet No. 13.
For prestressed girder stresses, see Sheets No. 9 & 10.

Neoprene Pads:

Neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

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

Minimum clearance between galvanized piles and uncoated (plain) reinforcing steel including bar supports shall be 1 1/2". Nylon, PVC, or polyethylene spacers shall be used to maintain clearance. Nylon cable ties shall be used to bind the spacers to the reinforcement.

Traffic Handling:

Traffic to be maintained on existing structure during construction. See roadway plans for traffic control.

Miscellaneous:

MoDOT Construction personnel will indicate the type of joint filler option used under the precast panels for this structure:

- ☐ Constant Joint Filler
☐ Variable Joint Filler

REVISD 12/30/2025

GENERAL NOTES & QUANTITIES

Detailed Feb. 2025
Checked Mar. 2025

Sheet No. 2 of 29

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THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
12/30/2025

ROUTE
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STATE
MO

DISTRICT
BR

SHEET NO.
2

COUNTY
PERRY

JOB NO.
1953670

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A9408

DATE	DESCRIPTION

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