

Estimated Quantities				
Item		Substr.	Superstr.	Total
Class 1 Excavation	cu. yard	70		70
Removal of Bridges (J0740)	lump sum			1
Bridge Approach Slab (Minor)	sq. yard		134	134
Galvanized Cast-In-Place Concrete Piles (16 in.)	linear foot	900		900
Dynamic Pile Testing	each	2		2
Pile Point Reinforcement	each	12		12
Class B Concrete (Substructure)	cu. yard	27.8		27.8
Type H Barrier	linear foot		157	157
Slab on Concrete Beam	sq. yard		228	228
21 in., Prestressed Concrete Spread Box Beam	linear foot		243	243
Vertical Drain at End Bents	each			2
Plain Neoprene Bearing Pad	each		8	8

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

All reinforcement in the end bents and all reinforcement in cast-in-place pile at end bents is included in the Estimated Quantities for Slab on Concrete Beam.

**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 = D (Seismic Details)  
 Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.838g  
 Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.720g

**Design Loading:**  
 Vehicular = HL-93  
 Future Wearing Surface = 35 lb/sf  
 Earth = 120 lb/cf  
 Equivalent Fluid Pressure = 45 lb/cf (Min.)  
 Superstructure: Non-Composite for dead load.  
 Composite for live load.

**Design Unit Stresses:**  
 Class B Concrete (Substructure)  $f'c = 3,000$  psi  
 Class B-2 Concrete (Superstructure, except Prestressed Beams 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  
 Welded or Seamless steel shell (pipe) for CIP pile (ASTM A252 Modified Grade 3)  $fy = 50,000$  psi  
 For precast prestressed panel stresses, see Sheet No. 12.  
 For prestressed box beam stresses, see Sheet No. 11.

**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.

**Traffic Handling:**  
 Structure to be closed during construction. Traffic to be maintained on other routes 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

Estimated Quantities for Slab on Concrete Beam		
Item		Total
Class B-2 Concrete	cu. yard	69
Reinforcing Steel (Epoxy Coated)	pound	13,070

17,874 1

The table of Estimated Quantities for Slab on Concrete Beam 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.

The Estimated Quantities for Slab on Concrete Beam are based on skewed precast prestressed end panels.

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

The prestressed panel quantities are not included in the table of Estimated Quantities for Slab on Concrete Beam.

Foundation Data				
Type	Design Data	Bent Number		
		1	2	
Load Bearing Pile	Pile Type and Size	CECIP 16"	CECIP 16"	
	Number	6	6	
	Approximate Length Per Each	75	75	
	Min. Galvanized Penetration (Elev.)	273	273	
	Minimum Tip Penetration (Elev.)	234	235	
	Criteria for Min. Tip Penetration	Liquefaction	Liquefaction	
	Pile Driving Verification Method	DT	DT	
	Resistance Factor	0.65	0.65	
	Minimum Nominal Axial Compressive Resistance	kip	224	224

CECIP = Closed Ended Cast-In-Place Concrete Pile  
 DT = Dynamic Testing

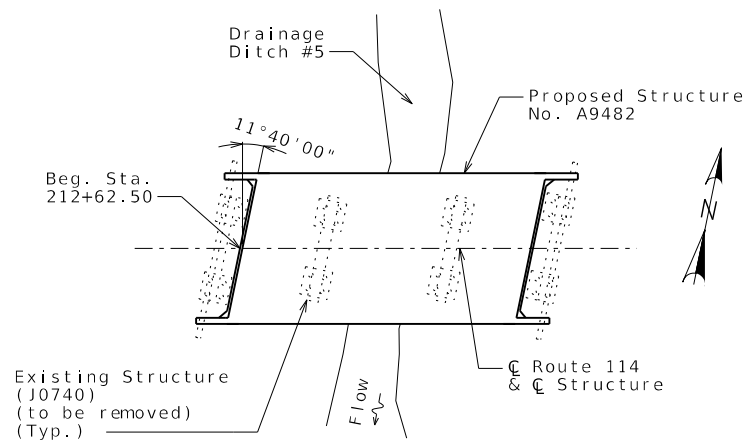
Load Bearing Pile:  
 Minimum Nominal Axial Compressive Resistance =  $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

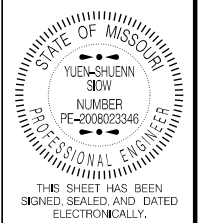
Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

Hydrologic Data	
Drainage Area	= 4.8 mi <sup>2</sup>
Design Flood Frequency	= 50 years
Design Flood Discharge	= 420 cfs
Design Flood (D.F.) Elevation	= 294.9
Base Flood (100-year)	
Base Flood Elevation	= 295.2
Base Flood Discharge	= 450 cfs
Estimated Backwater	= 0.1 ft
Average Velocity thru Opening	= 1.7 ft/s
Freeboard (50-year)	
Freeboard	= 2.0 ft
Roadway Overtopping	
Overtopping Flood Discharge	= N/A
Overtopping Flood Frequency	= > 500 years
500-year Flood Elevation	= 295.5

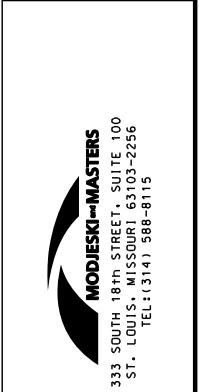
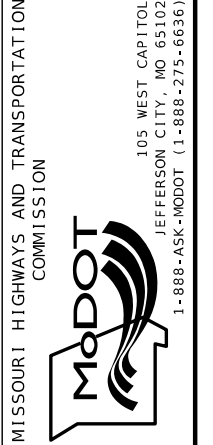


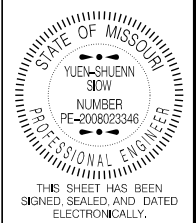
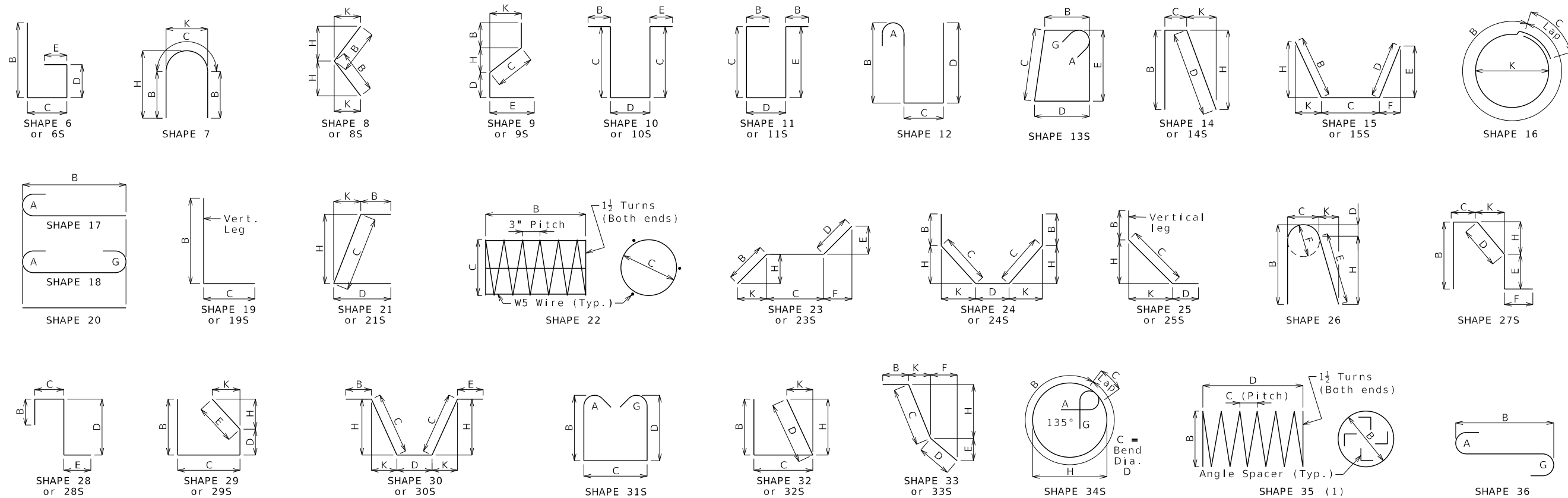
LOCATION SKETCH



DATE PREPARED		6/8/2026	
ROUTE	STATE	DISTRICT	SHEET NO.
114	MO	BR	2
COUNTY			
STODDARD			
JOB NO.			
J9S3725			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			
A9482			

DESCRIPTION	DATE



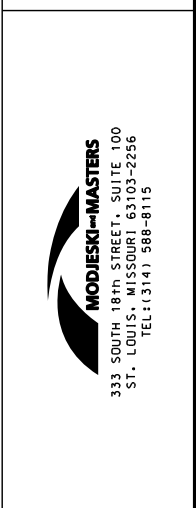


DATE PREPARED 6/8/2026	
ROUTE 114	STATE MO
DISTRICT BR	SHEET NO. 19
COUNTY STODDARD	
JOB NO. J9S3725	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9482	

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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



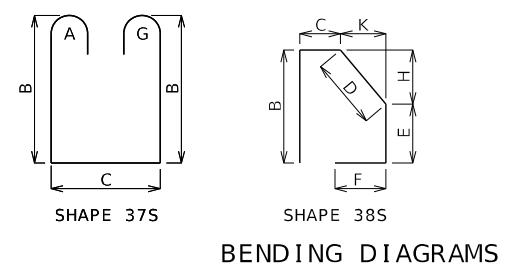
### Finished Bend Diameters D and Hook Dimensions

Size	Case	D	A or G			J
			90°	180°	180°	
#4	1	3"	8"	6"	4"	
#5	1	3 3/4"	10"	7"	5"	
#6	1	4 1/2"	12"	8 1/2"	6"	
	2	5 1/4"	14"	9 3/4"	7"	
#7	2	6"	15"	11 1/2"	8 3/4"	
	3	7"	17"	13 1/4"	10"	
#8	2	8"	19 1/2"	15 1/2"	11 3/4"	
	3	9 1/2"	22"	17 1/2"	13 1/4"	
#9	1	10 3/4"	24 1/2"	19 1/2"	14 7/8"	
#10	1	12"	31 1/4"	27 1/2"	21 5/8"	
#11	1	18 1/4"	41 1/2"	36 1/4"	28 1/2"	
#14	1	24"				
#18	1					

Size	Case	D	A or G		H	J
			90°	135°		
#4	2	2"	4 1/2"	4 1/2"	5"	2 5/8"
	3	3"	5"	5 1/4"	6"	3"
#5	2	2 1/2"	5 3/4"	5 3/4"	6 1/2"	3 3/8"
	3	3 3/4"	6 1/4"	6 1/4"	7"	3 5/8"
#6	1	4 1/2"	12"	7 3/4"	8 1/4"	4 7/8"

Applicable for all grades of steel.  
Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

### Reinforcing Steel Totals (Pounds)

Size	Substructure		Superstructure			Entire Bridge	
	Plain	Epoxy	Slab		Slip Form	Plain	Epoxy
			Plain	Epoxy			
W5	0	0	0	0	0	0	0
4	0	0	0	748	0	0	748
5	0	0	0	3,819	3,863	0	7,682
6	0	0	0	5,839	0	0	5,839
7	0	0	0	1,738	0	0	1,738
8	0	0	0	926	0	0	926
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
By Type	0	0	0	13,070	3,863	165	17,098

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

1 REVISED

