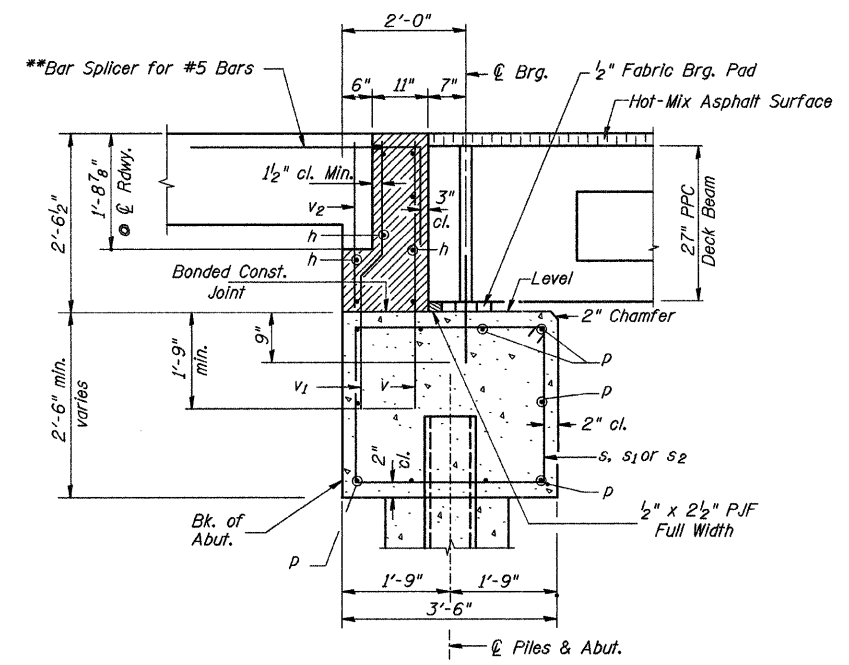
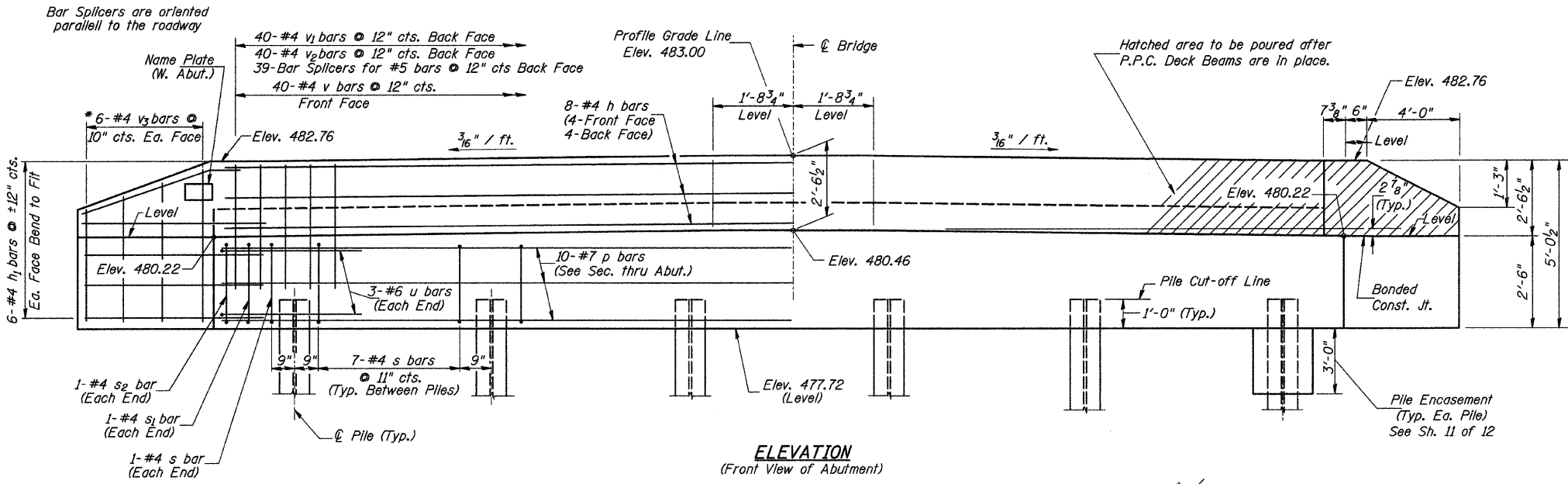


PLAN



SECTION THRU ABUT.
(At Right Angles)

**Alternate with backwall vertical reinforcement, place parallel to beams



ELEVATION
(Front View of Abutment)

**TWO ABUTMENTS
BILL OF MATERIAL**

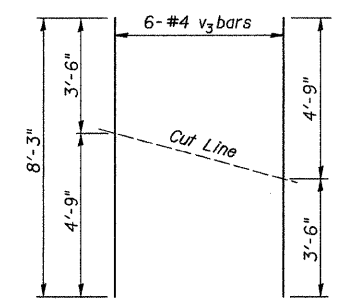
BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	39'-1"	—
h ₁	48	#4	6'-6"	—
p	20	#7	39'-1"	—
s	74	#4	11'-5"	□
s ₁	4	#4	8'-8"	□
s ₂	4	#4	9'-6"	□
u	12	#6	12'-7"	□
v	80	#4	4'-3"	—
v ₁	80	#4	4'-5"	—
v ₂	80	#4	2'-3"	—
v ₃	24	#4	8'-3"	—
Concrete Structures		CU YD	38.0	
① Reinforcement Bars		POUND	3,780	
Structure Excavation		CU YD	105	
Name Plates		EACH	1	
Furnishing Steel Piles		FOOT	650	
HP12x53				
Driving Piles		FOOT	650	
Test Pile Steel HP12x53		EACH	2	
Concrete Encasement		CU YD	4.2	
Bar Splicers		EACH	78	

① See Special Provisions

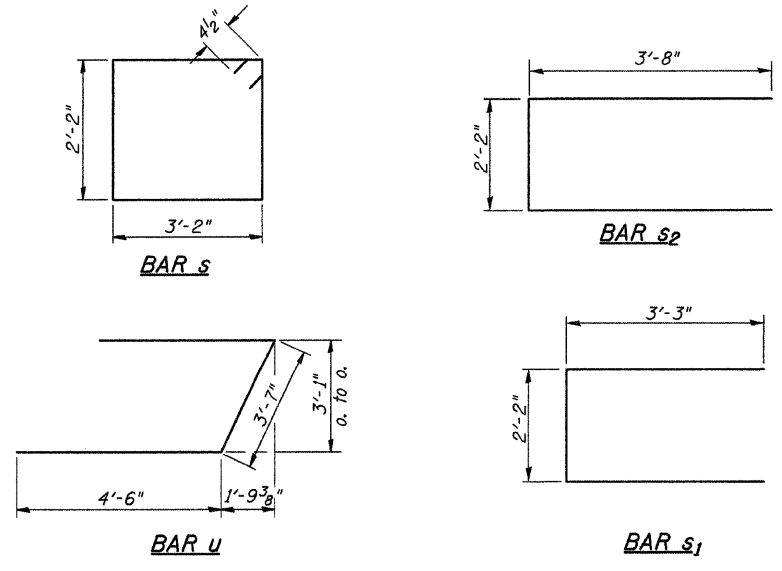
DESIGN STRESSES
f'_c = 3,500 p.s.i.
f_y = 60,000 p.s.i.

PILE DATA
Type & Size: Steel HP12x53
Nominal Required Bearing: 4.19 kips
Factored Resistance Available: 2.10 kips
Est. Length: 61' West Abutment
69' East Abutment
No. Req'd.: 12 (Includes 1 Test Pile at Each Abut.)

NOTES
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to ASTM A706 Grade 60.



BAR CUTTING DIAGRAM
* Order v₃ bars Full length. Cut as shown and use remainder of bars in opposite face.



**ABUTMENTS
COUNTY HIGHWAY 9 OVER
INDIAN CREEK
SEC. 04-00068-00-BR
CASS COUNTY
STATION 49+92.52**