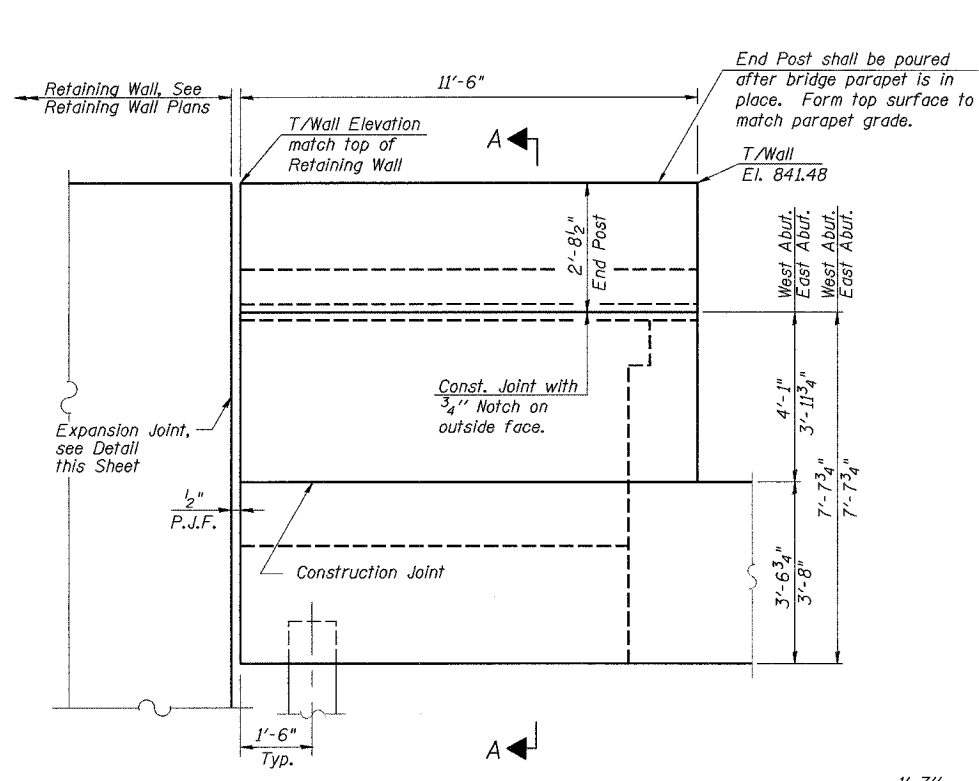


ABUTMENT
BILL OF MATERIAL

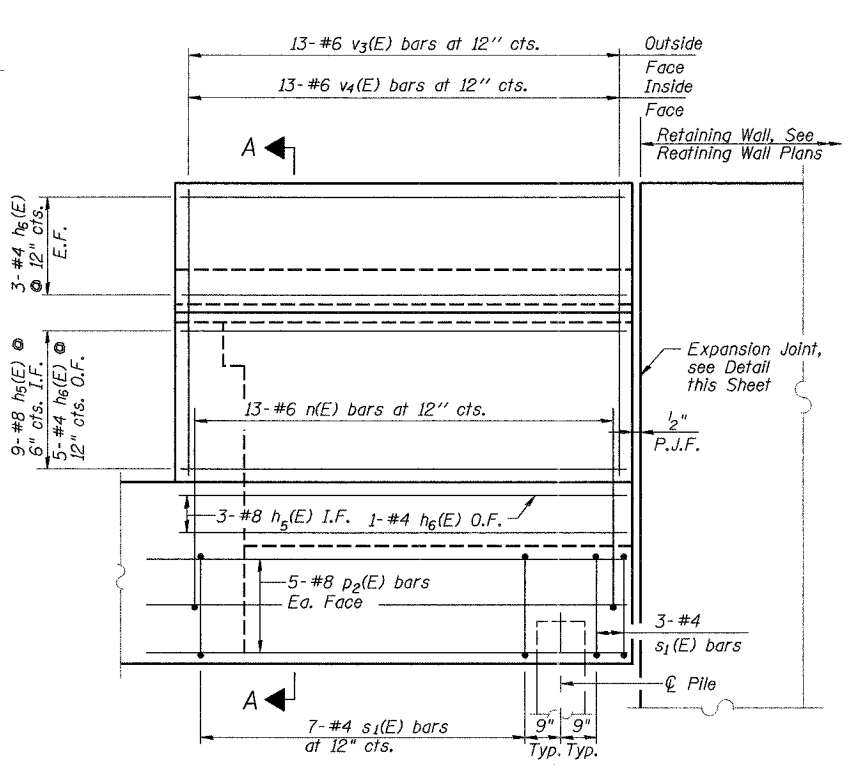
Bar	No.	Size	Length	Shape
h(E)	16	#5	22'-3"	
h ₁ (E)	16	#5	20'-3"	
h ₂ (E)	10	#6	20'-8"	
h ₃ (E)	10	#6	18'-8"	
h ₄ (E)	80	#8	16'-8"	
h ₅ (E)	48	#8	11'-2"	
h ₆ (E)	48	#4	11'-2"	
n(E)	52	#6	12'-4"	
p(E)	16	#7	22'-3"	
p ₁ (E)	16	#7	20'-3"	
p ₂ (E)	40	#8	13'-10"	
s(E)	136	#4	15'-11"	
s ₁ (E)	40	#4	9'-5"	
u(E)	16	#6	13'-9"	
v(E)	82	#5	2'-4"	
v ₁ (E)	82	#4	2'-10"	
v ₂ (E)	164	#4	5'-6"	
v ₃ (E)	52	#6	5'-7"	
v ₄ (E)	52	#6	5'-5"	

Porous Granular Embankment (Special)	CU YD	108
Stone Riprap	SQ YD	641
Filter Fabric	SQ YD	756
Structure Excavation	CU YD	235
Concrete Structures	CU YD	92.7
Reinforcement Bars, Epoxy Coated	LB	14,330
Bar Splicers	EACH	124
Furnishing Metal	FOOT	1,908
Shell Piles 14" x 0.250"		
Driving Piles	FOOT	1,908
Test Pile Metal	EACH	2
Shells		
Temporary Sheet Piling	SQ FT	1,244
Concrete Sealer	SQ FT	927
Geocomposite Wall Drain	SQ YD	77
Pipe Underdrains for Structures 4"	FOOT	123

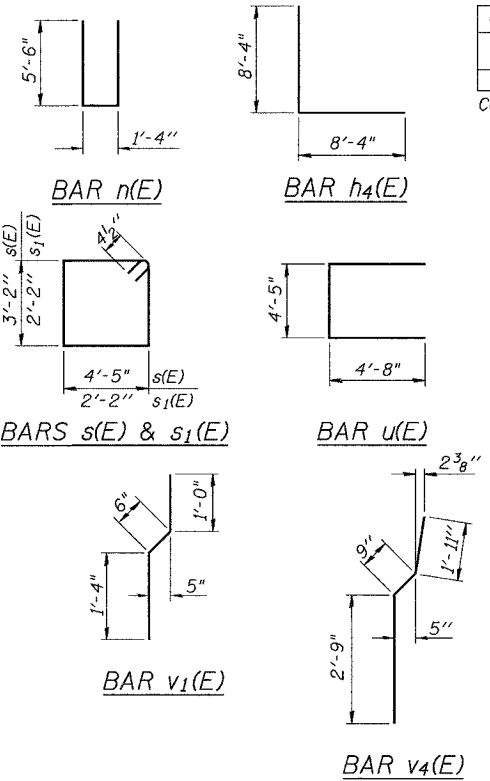
For details of Bar Splicers, see Sheet 18 of 21.
 For details of Piles, see Sheet 17 of 21.



WINGWALL ELEVATION
 Showing Dimensions

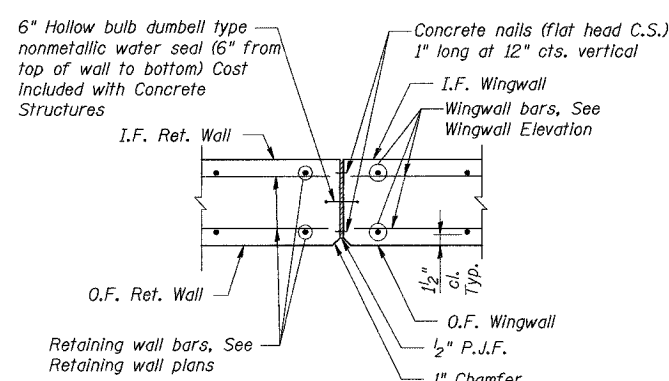


WINGWALL ELEVATION
 Showing Reinforcement

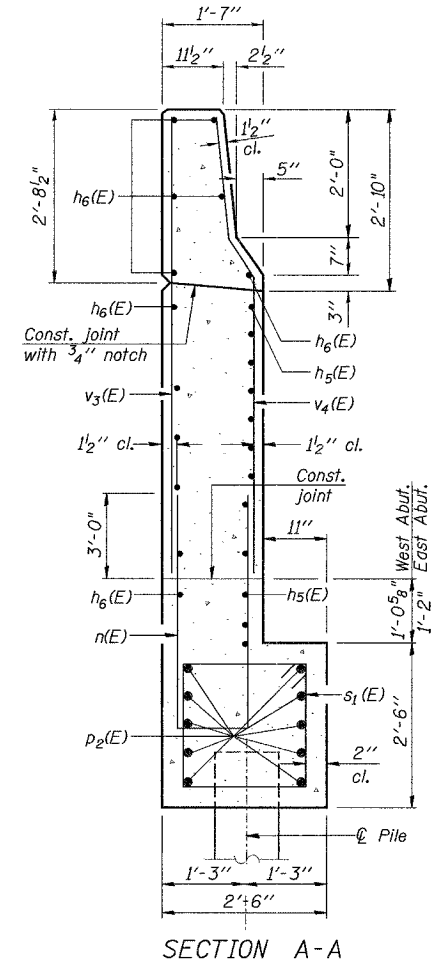


Details of reinforcement bars.

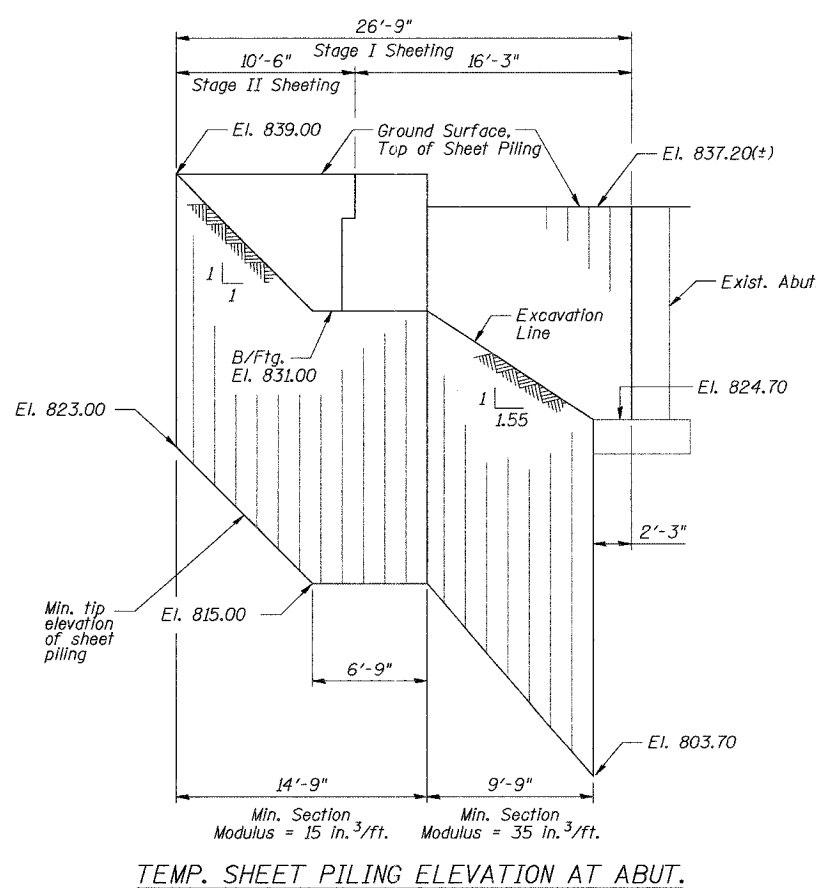
Note:
 Quantity of concrete in end post included with Concrete Superstructure on Sheet 10 of 21.



EXPANSION JOINT DETAIL



SECTION A-A



TEMP. SHEET PILING ELEVATION AT ABUT.

Notes:
 If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
 The contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

DESIGNED	J.Z.
CHECKED	S.D.H.
DRAWN	M.S.M.
CHECKED	S.D.H.

ABUTMENT WINGWALL AND DETAILS
 IL Route 176 over the Kishwaukee River
 F.A.P. RTE 533, SECTION 119R-2B
 McHENRY COUNTY
 STATION 10+00.00
 S.N. 056-0078
 DATE: 10-05-07
 GRAEF, ANHALT, SCHLOEMER & ASSOCIATES INC
 CHICAGO ILLINOIS

P:\Jobs\2005\p161\where work\p161\final\loga\056-0005-S-16.dgn
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