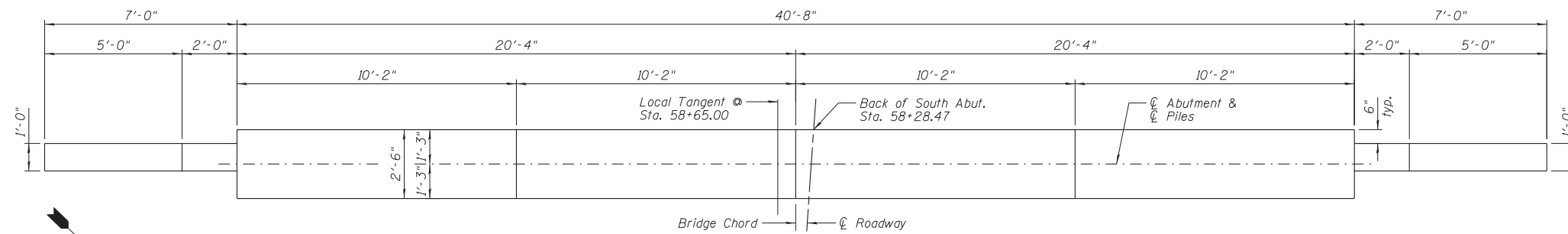
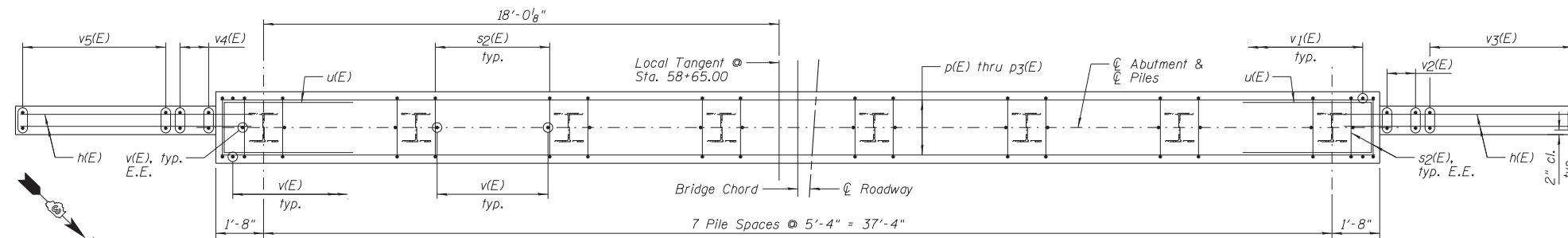


**SOUTH ABUTMENT  
BILL OF MATERIAL**

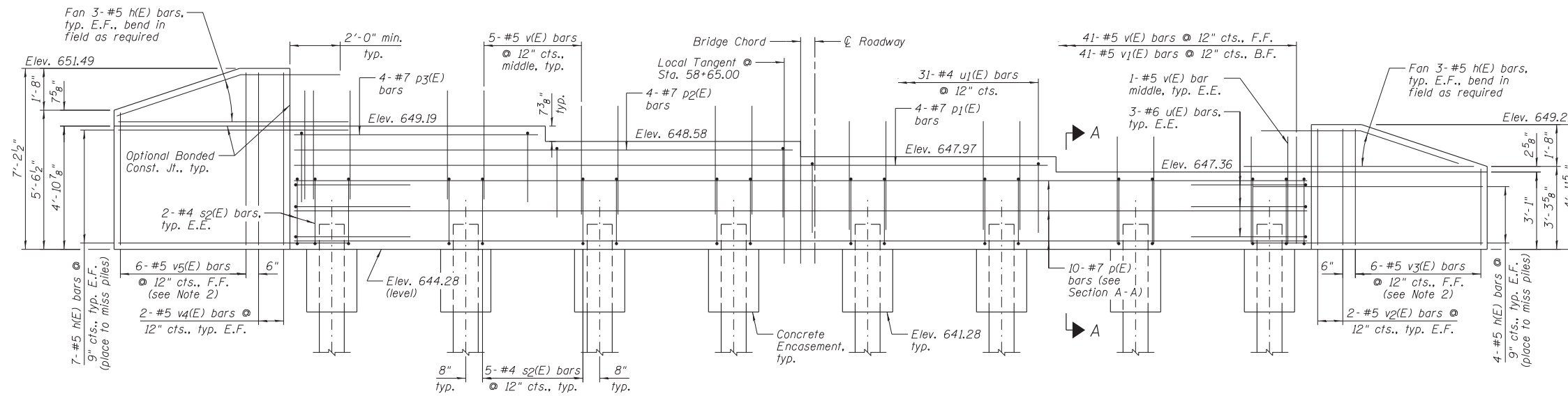
Bar	No.	Size	Length	Shape
h(E)	34	#5	9'-1"	—
p(E)	10	#7	40'-4"	—
p1(E)	4	#7	30'-2"	—
p2(E)	4	#7	20'-0"	—
p3(E)	4	#7	9'-10"	—
s2(E)	39	#4	10'-7"	□
u(E)	6	#6	11'-1"	□
u1(E)	31	#4	7'-8"	□
v(E)	78	#5	4'-4"	—
v1(E)	41	#5	4'-2"	—
v2(E)	4	#5	4'-6"	—
v3(E)	6	#5	7'-2"	—
v4(E)	4	#5	6'-9"	—
v5(E)	6	#5	11'-9"	—
Item	Unit	Quantity		
Porous Granular Embankment, Special	Cu. Yd.	44		
Structure Excavation	Cu. Yd.	95		
Concrete Structures	Cu. Yd.	17.9		
Concrete Encasement	Cu. Yd.	2.8		
Reinforcement Bars, Epoxy Coated	Pound	2,870		
Furnishing Steel Piles HP12x63	Foot	315		
Driving Piles	Foot	315		
Test Pile Steel HP12x63	Each	1		
Geocomposite Wall Drain	Sq. Yd.	23		
Pipe Underdrains for Structures 4"	Foot	80		



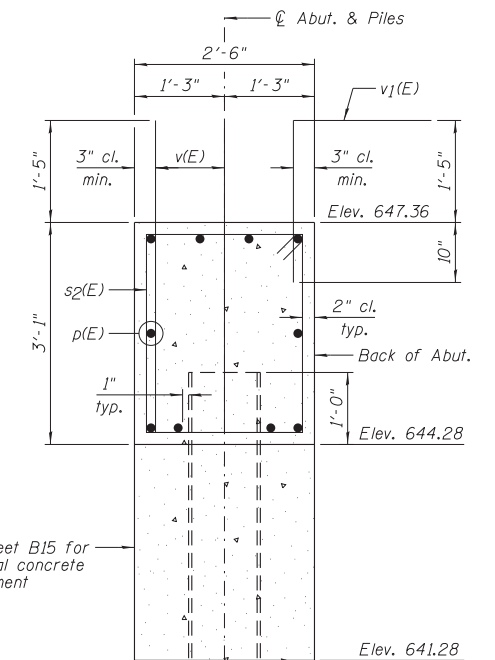
**TOP VIEW ABUTMENT (SHOWING STEPS)**



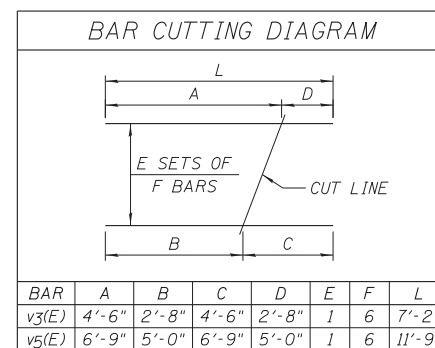
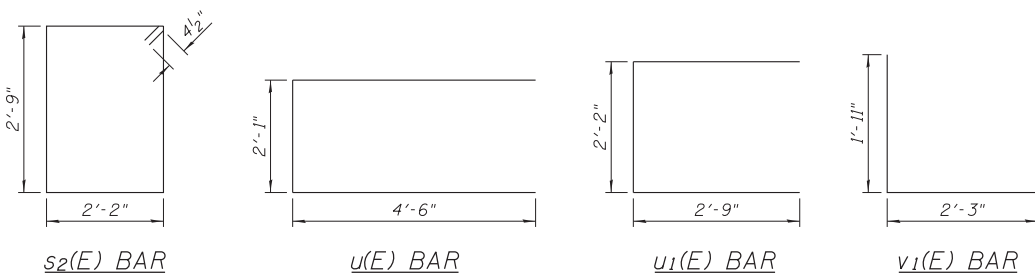
**PLAN - PILE CAP**



**ELEVATION  
(Looking South)**



**SECTION A-A**



**PILE DATA:**

Pile Type and Size	Steel-HP 12x63
Nominal Required Bearing	281 kips
Factored Resistance Available	155 kips
Estimated Pile Length	45 Feet
Number of Production Piles	7
Number of Test Piles	1

**NOTES:**

- 1.) Pour steps monolithically with cap.
- 2.) Order v3(E) and v5(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in back face.
- 3.) Bend or cut h(E) bars to miss piles.
- 4.) E.E. denotes Each End, F.F. denotes Front Face, B.F. denotes Back Face and E.F. denotes Each Face.