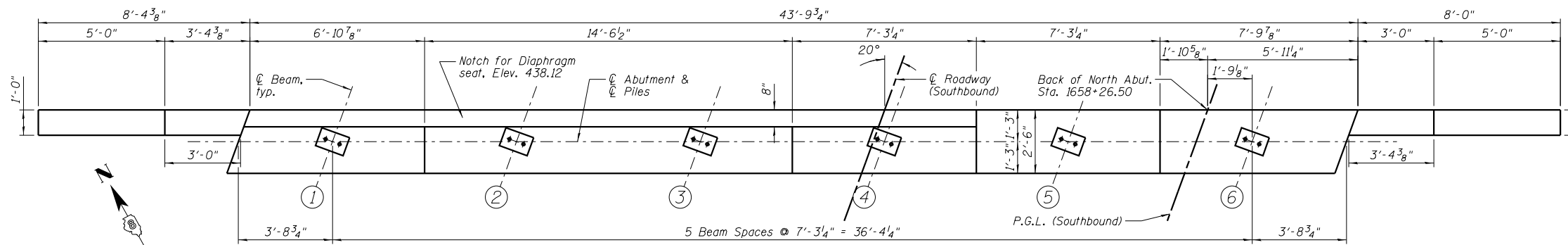
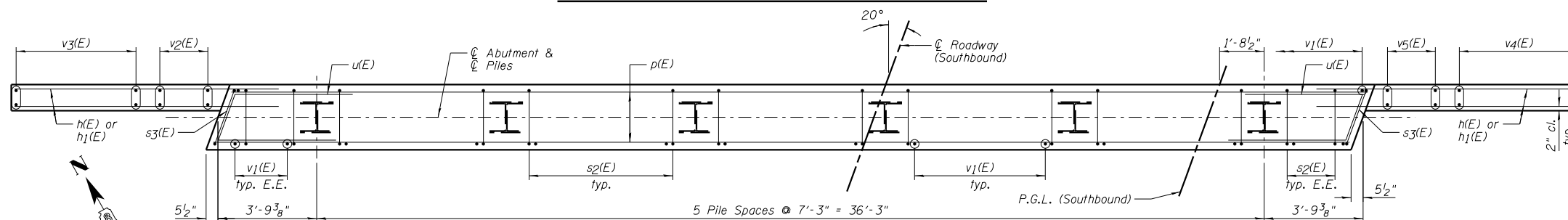


**NORTH ABUTMENT  
BILL OF MATERIAL**

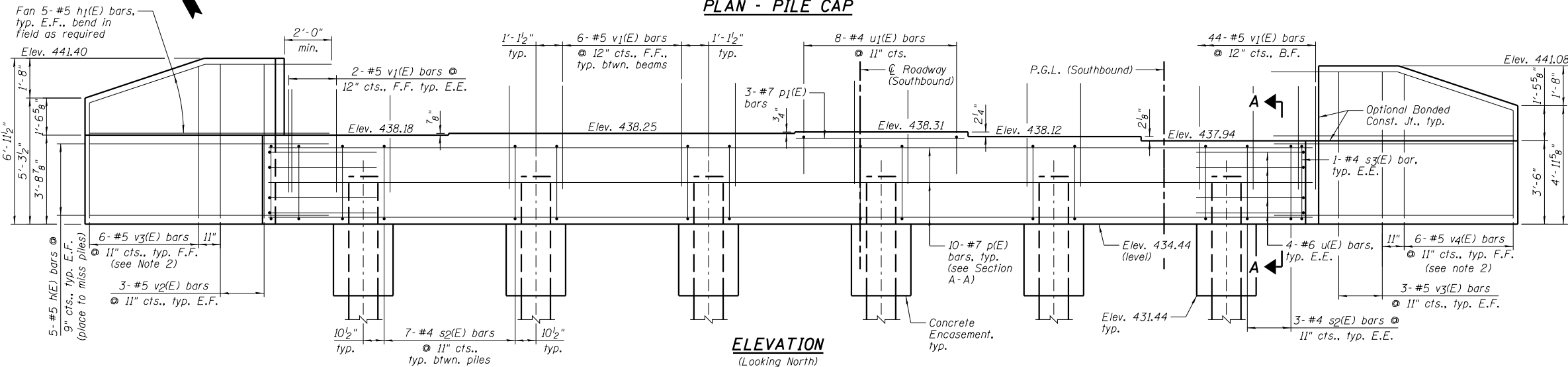
Bar	No.	Size	Length	Shape
h(E)	20	#5	10'-2"	—
h1(E)	20	#5	10'-8"	—
p(E)	10	#7	43'-6"	—
p1(E)	3	#7	6'-11"	—
sp2(E)	41	#4	11'-5"	□
s3(E)	2	#4	11'-7"	□
u(E)	8	#6	11'-3"	┌
u1(E)	8	#4	6'-8"	┐
v1(E)	78	#5	4'-4"	—
v2(E)	6	#5	6'-5"	—
v3(E)	6	#5	11'-1"	—
v4(E)	6	#5	10'-10"	—
v5(E)	6	#5	6'-4"	—
Item	Unit	Quantity		
Porous Granular Embankment, Special	Cu. Yd.	60		
Structure Excavation	Cu. Yd.	79		
Concrete Structures	Cu. Yd.	18.9		
Concrete Encasement	Cu. Yd.	3.3		
Reinforcement Bars, Epoxy Coated	Pound	2,440		
Furnishing Steel Piles HP14x117	Foot	500		
Driving Piles	Foot	500		
Test Pile Steel HP14x117	Each	1		
Geocomposite Wall Drain	Sq. Yd.	35		
Pipe Underdrains for Structures 4"	Foot	96		



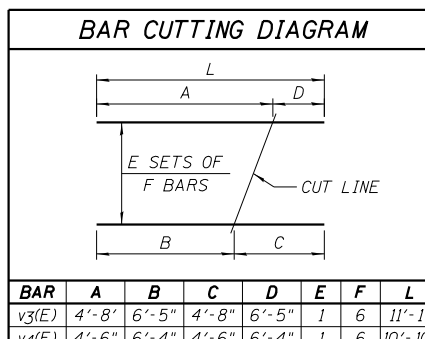
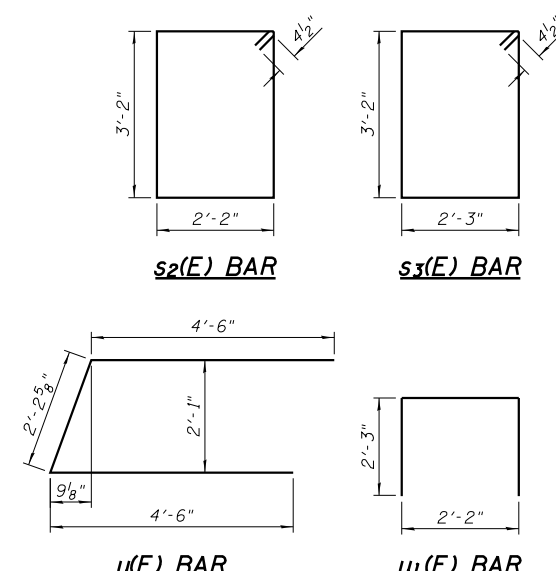
**TOP VIEW ABUTMENT (SHOWING BEARING SEAT)**



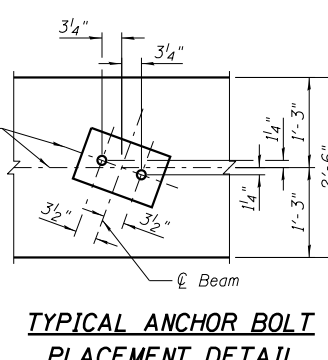
**PLAN - PILE CAP**



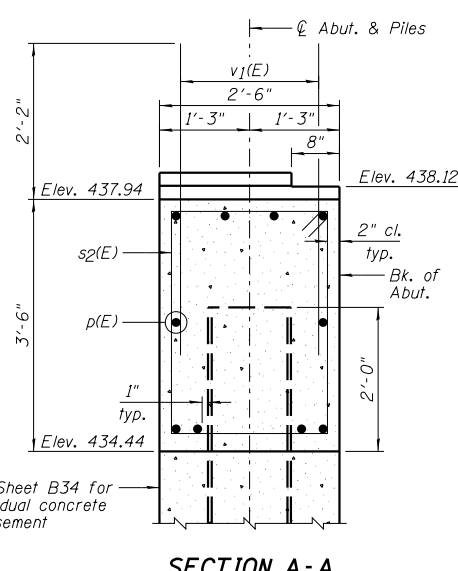
**ELEVATION  
(Looking North)**



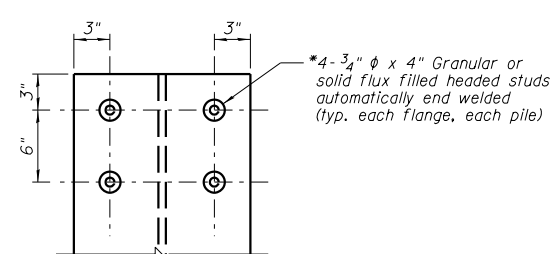
- NOTES:**
- 1.) Pour steps monolithically with cap.
  - 2.) Order v3(E) and v4(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite face of wingwall. Bend or cut h(E) bars to miss piles.
  - 3.) Bend or cut h(E) bars to miss piles.
  - 4.) E.E. denotes Each End, F.F. denotes Front Face, B.F. denotes Back Face and E.F. denotes Each Face.



**TYPICAL ANCHOR BOLT  
PLACEMENT DETAIL**



**SECTION A-A**



**SEISMIC PILE DETAIL**  
\*Typical each flange, each pile.  
Cost included with Furnishing Piles.

**PILE DATA:**

Pile Type and Size	Steel - HP14x117
Nominal Required Bearing	402 kips
Factored Resistance Available	221 kips
Estimated Pile Length	100 Feet
Number of Production Piles	5
Number of Test Piles	1



DESIGNED - TCR  
CHECKED - JML  
DRAWN - JWK/DJM  
CHECKED - MSW  
DATE - 10/18/12

REVIS  
REVIS  
REVIS  
REVIS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT, SOUTHBOUND  
STRUCTURE NO. 082-0314 NB & 082-0315 SB

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	158

CONTRACT NO. 76848