CONTRACT NO. 66594

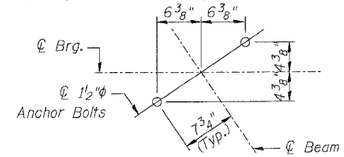
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. U. 5952	①	GRUNDY	86	60
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. S21 OF S26 SHEETS

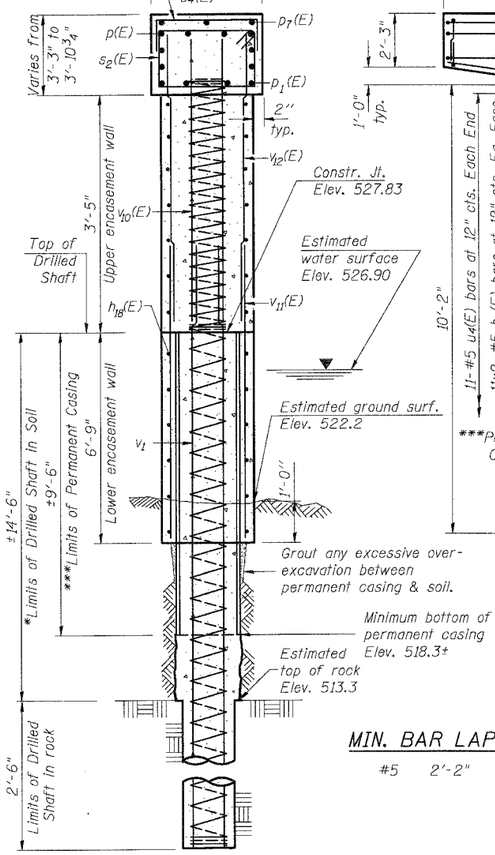
*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used (see Special Provisions).
Pay limits for the Permanent Casing are based on the minimum length shown.

Note A:
Provide 4-Bar Splicers (E) for #5 $p_1(E)$ & 8-Bar Splicers (E) for #5 $p(E)$ bars.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



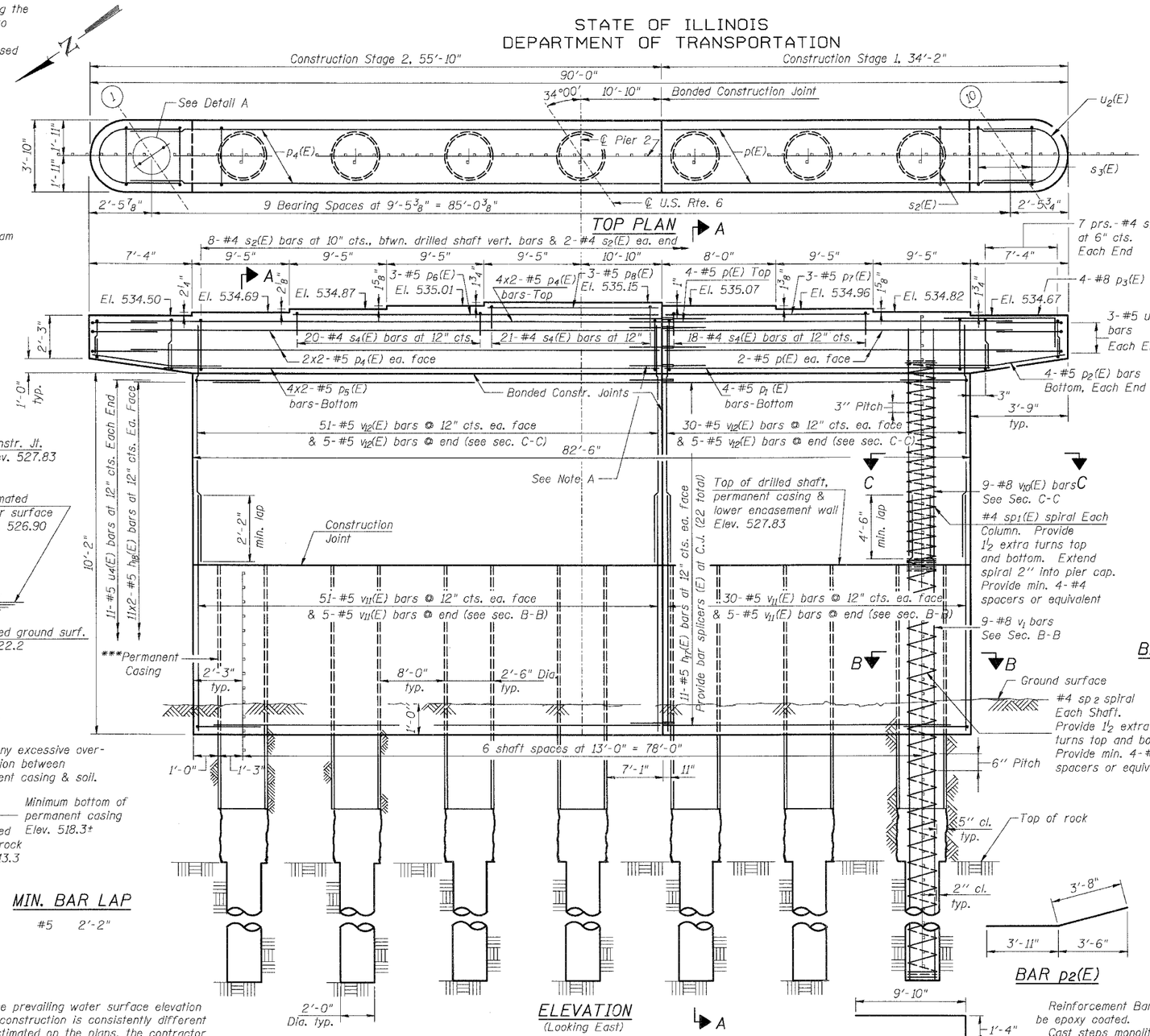
DETAIL A



SECTION A-A

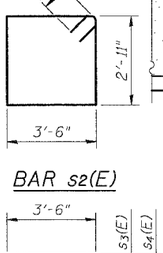
MIN. BAR LAP

#5	2'-2"

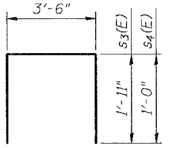


ELEVATION
(Looking East)

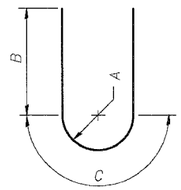
BAR $p_3(E)$



BAR $s_2(E)$



BARS $s_3(E)$ or $s_4(E)$

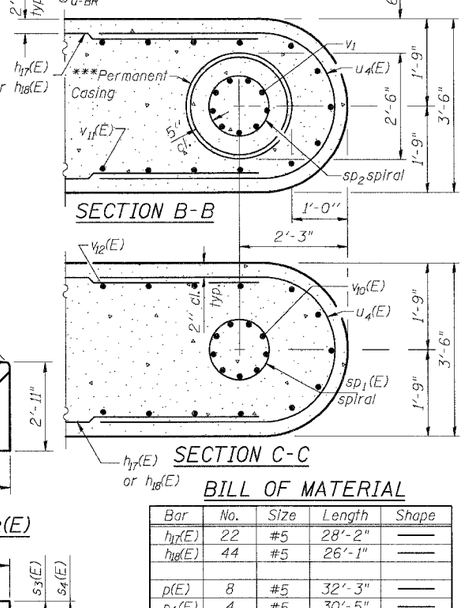


BARS $u_2(E)$ or $u_4(E)$

A, B & C DIMENSIONS

Bar	A	B	C
$u_2(E)$	1'-9"	3'-0"	5'-6"
$u_4(E)$	1'-7"	1'-9"	5'-0"

BAR $p_2(E)$



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_{17}(E)$	22	#5	28'-2"	
$h_{18}(E)$	44	#5	26'-1"	
$p(E)$	8	#5	32'-3"	
$p_1(E)$	4	#5	30'-5"	
$p_2(E)$	8	#5	7'-7"	
$p_3(E)$	8	#8	11'-2"	
$p_4(E)$	16	#5	28'-1"	
$p_5(E)$	8	#5	27'-2"	
$p_6(E)$	3	#5	38'-9"	
$p_7(E)$	3	#5	17'-1"	
$p_8(E)$	3	#5	19'-11"	
$s_2(E)$	52	#4	13'-7"	
$s_3(E)$	28	#4	7'-4"	
$s_4(E)$	59	#4	5'-6"	
** sp_2	7	#4	18'-0"	
** $sp_1(E)$	7	#4	4'-6"	
$u_2(E)$	6	#5	11'-6"	
$u_4(E)$	22	#5	8'-6"	
v_1	63	#8	18'-6"	
$v_{10}(E)$	63	#8	5'-9"	
$v_{11}(E)$	172	#5	8'-11"	
$v_{12}(E)$	172	#5	5'-3"	
Underwater Structure Excavation Protection, Location 2		Each	1	
Drilled Shaft in Soil		Cu. Yd.	18.5	
Drilled Shaft in Rock		Cu. Yd.	2.0	
Concrete Structures		Cu. Yd.	144.7	
Reinforcement Bars, Epoxy Coated		Pound	8510	
Reinforcement Bars		Pound	3980	
Permanent Casing		Foot	66.5	
Bar Splicers		Each	34	

Reinforcement Bars designated (E) shall be epoxy coated.
Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals = 1 ½ turns.
**Length is height of spiral.
Bars indicated thus 11x2-#5 etc. indicate 11 lines of bars with 2 lengths per line.

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

Construction Sequence for encasement walls:

1. Excavate through water, between and outside of shafts, to base of lower encasement wall.
2. Set lower encasement wall forms into place through water and secure at top and bottom as required to maintain proper clearance from shaft.
3. Place the lower encasement wall reinforcement cage into forms using spacers to maintain proper clearances from shaft and forms.
4. If the forms can be sealed against the streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
5. Prepare construction joint at top of drilled shafts and lower encasement wall.
6. Splice upper encasement wall reinforcement and cage length to lower encasement and shaft reinforcement, form and pour upper encasement wall.

DESIGNED	UM
CHECKED	BLU
DRAWN	MRM
CHECKED	BLU

DATE: 3/19/07

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
130 E. RANDOLPH STREET
CHICAGO, ILLINOIS 60601
JOB NO. 541

PIER 2
U.S. ROUTE 6 OVER
NETTLE CREEK
FAU 5952-SEC. Q-BR
GRUNDY COUNTY
STATION 449+79.12
S.N. 032-0107

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