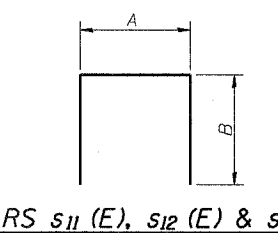
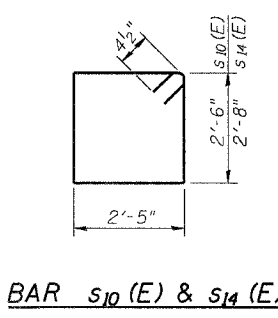
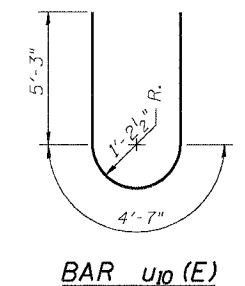
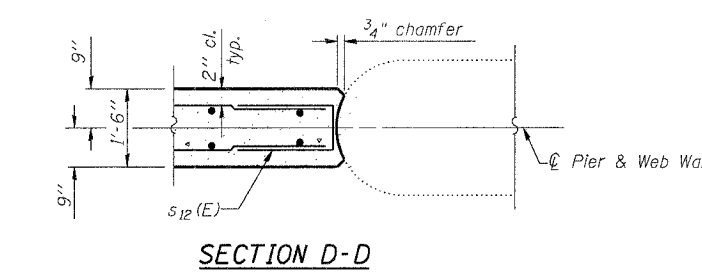
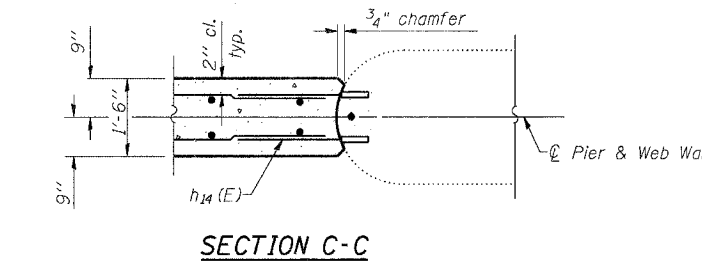
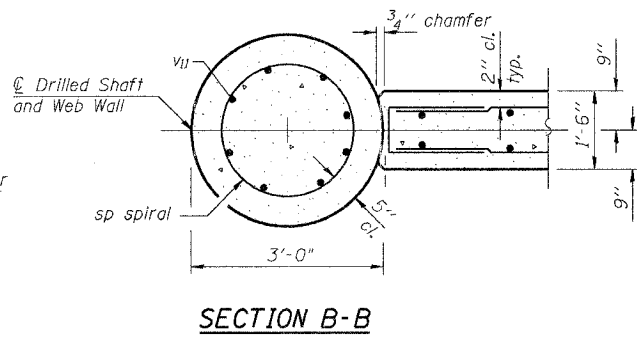
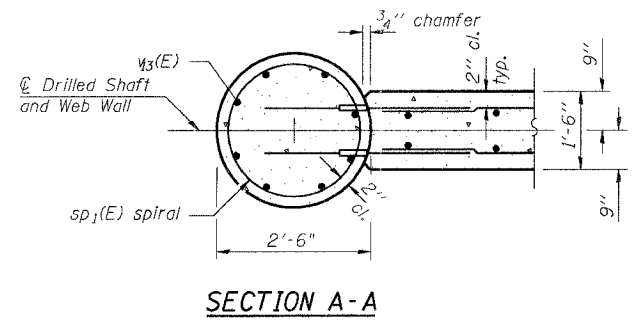
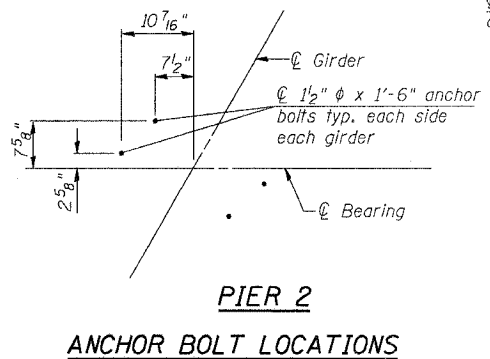
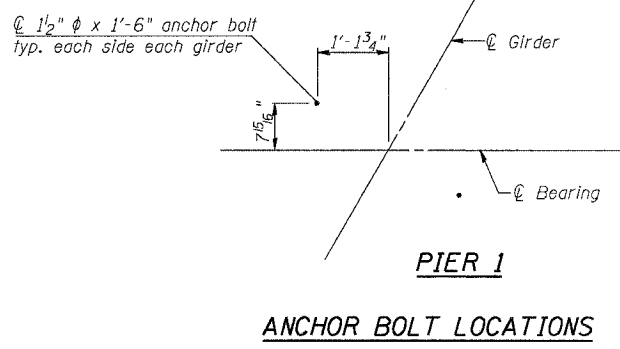
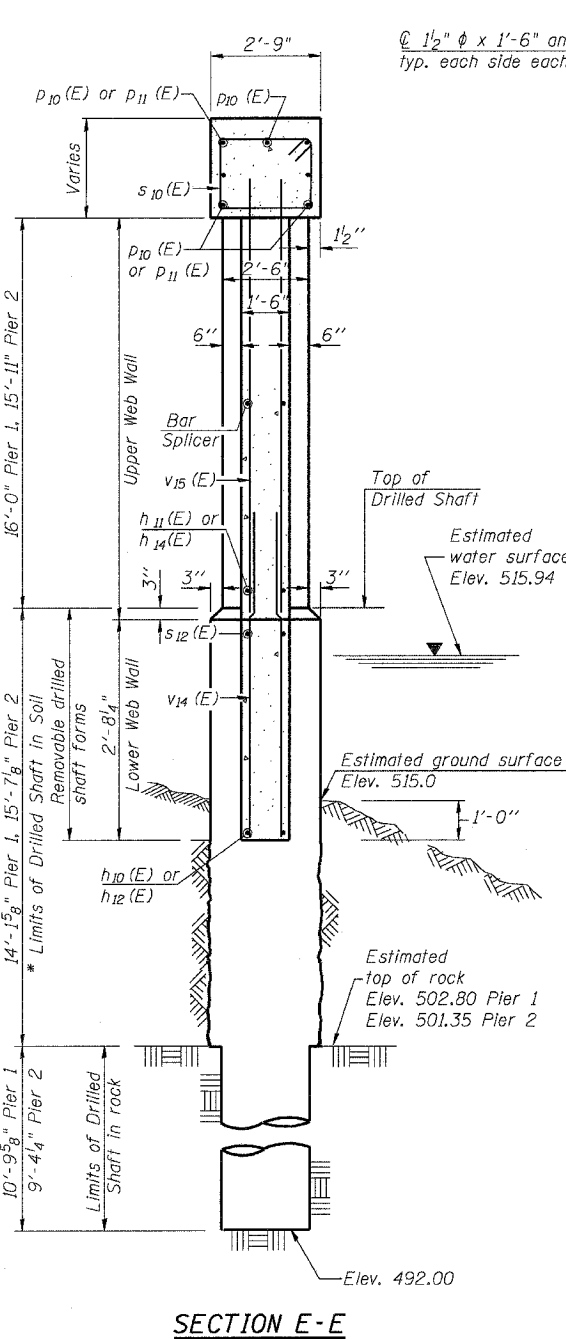


BILL OF MATERIAL - 2 PIERS

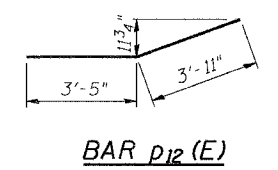
Bar	No.	Size	Length	Shape
h ₁₀ (E)	36	#5	5'-8"	—
h ₁₁ (E)	180	#5	6'-2"	—
h ₁₂ (E)	12	#5	4'-11"	—
h ₁₃ (E)	60	#5	5'-3"	—
h ₁₄ (E)	120	#5	3'-7"	—
h ₁₅ (E)	6	#5	8'-5"	—
h ₁₆ (E)	12	#5	29'-6"	—
h ₁₇ (E)	12	#5	19'-1"	—
h ₁₈ (E)	6	#5	6'-9"	—
p ₁₀ (E)	28	#7	19'-0"	—
p ₁₁ (E)	24	#7	29'-2"	—
p ₁₂ (E)	8	#7	7'-4"	—
s ₁₀ (E)	84	#4	10'-7"	□
s ₁₁ (E)	32	#4	7'-5"	U
s ₁₂ (E)	48	#5	6'-2"	U
s ₁₃ (E)	212	#4	6'-9"	U
s ₁₄ (E)	84	#4	10'-11"	□
** s _p	8	#4	24'-8"	~
** s _{p1} (E)	8	#4	16'-2"	~
u ₁₀ (E)	14	#6	15'-1"	U
v ₁₁	64	#9	24'-8"	—
v ₁₂ (E)	64	#9	9'-2"	—
v ₁₃ (E)	64	#9	18'-4"	—
v ₁₄ (E)	104	#5	4'-11"	—
v ₁₅ (E)	104	#5	18'-2"	—
Underwater Structure Excavation Protection Locations 3 & 4	Each		2	
Drilled Shaft in Soil 36"	Foot		119	
Drilled Shaft in Rock 30"	Foot		81	
Concrete Structures	Cu. Yd.		144.7	
Reinforcement Bars, Epoxy Coated	Pound		18,160	
Reinforcement Bars	Pound		7,160	
Bar Splicers	Each		378	

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 1/2 turns. **Length is height of spiral. Bars indicated thus 3 x 2-#7 etc. indicates 3 lines of bars with 2 lengths per line.



A & B DIMENSIONS

BAR	A	B
s ₁₁ (E)	2'-5"	2'-6"
s ₁₂ (E)	1'-2"	2'-6"
s ₁₃ (E)	2'-5"	2'-2"



Construction Sequence for Web Wall

- Excavate between shafts to elevation of web wall base and set lower web wall forms through water to bear on the circular edge of drilled shafts. Secure in place with fill, struts or tie forms together as required.
- Place the lower web wall reinforcement cage into the forms using spacers to maintain proper clearances.
- If the forms can be sealed against the shafts and 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.
- Construct Columns.
- Construct upper web walls.

* 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.

Work this sheet with sheet 24 of 29.

SHEET TITLE		PIER DETAILS	
PROJECT	IL RTE. 32/33 OVER LITTLE WABASH RIVER	PROJECT NO.	02017
F.A.P. RTE.	774 SECTION 107BY	SCALE	
COUNTY	EFFINGHAM COUNTY	DATE	
STATION	1011+50.17	DRAWN BY	TFG
STRUCTURE NO.	025-0078	CHECKED BY	CJB/MCB
COOMBE-BLOXDORF P.C.		DRAWING NO.	
Engineers/Land Surveyors		25	
Springfield, Illinois		OF 29 SHTS	
Design Firm License No. 184-002708			