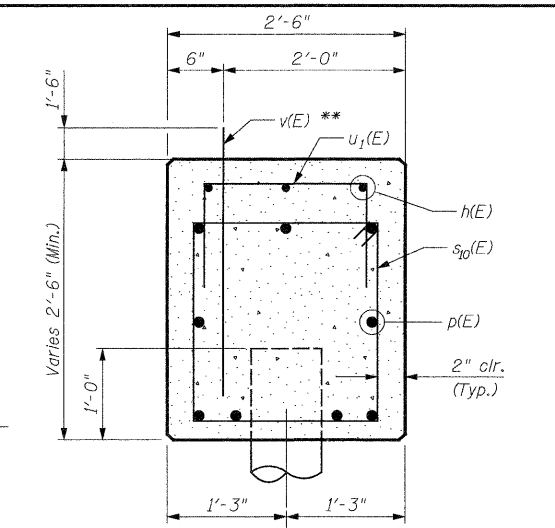
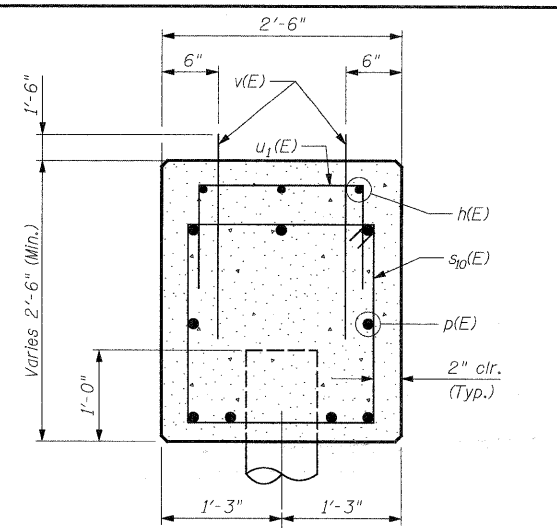


*For all bents except 15, 16, 17, 18, 19, and 20.

ELEVATION
(Looking North)



SECTION A-A THRU EXPANSION BENT
(Bents 5, 9, & 17)

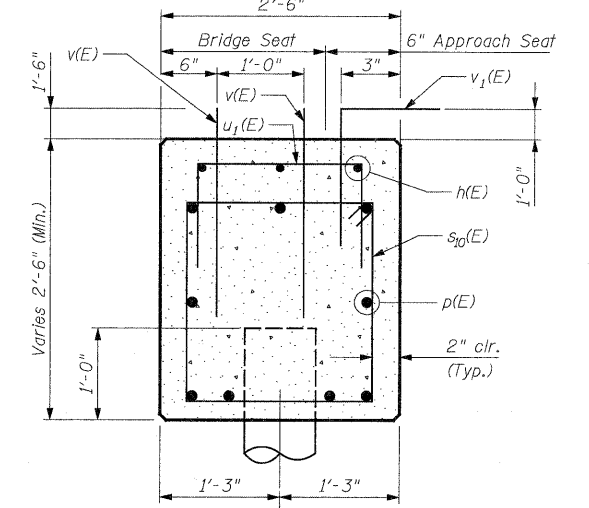


SECTION A-A THRU FIXED BENT
(Bents 2, 3, 4, 6, 7, 8, 10, 11, 12, 15, 16, 18, 19, & 20)

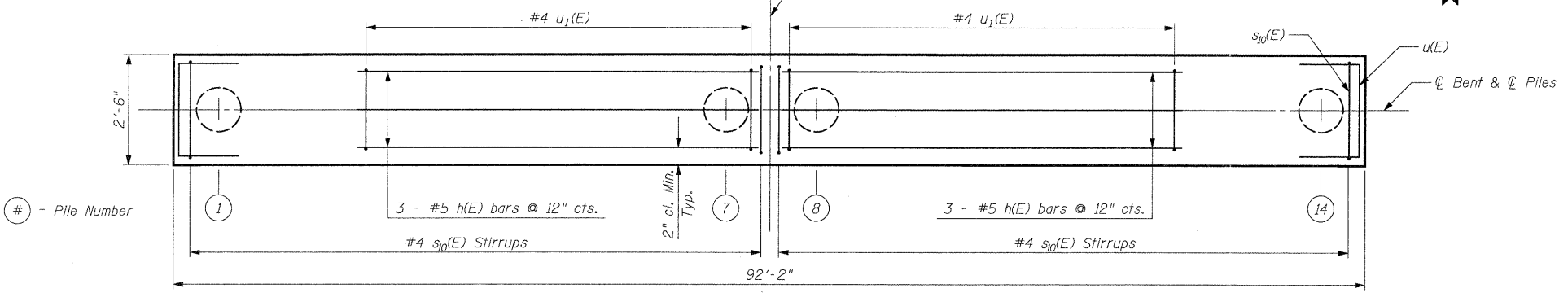
** At Bents 9 & 17 only.

TYP. LAP SPLICE

BAR SIZE	MIN. LAP
#7	5'-10"



SECTION A-A THRU ABUTMENT BENT
(Bents 1 & 21) (Bent 1 Shown, Bent 21 Opp. Hand)



= Pile Number

PLAN

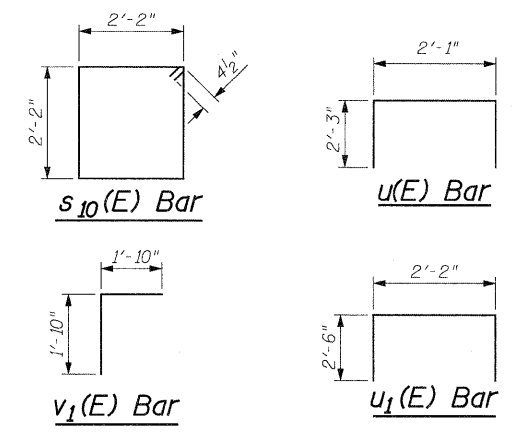
- NOTES:**
- 46 - #5 v(E) Bars @ 12" Cts. Each Face (Fixed and Abutment Bents)
 - 46 - #5 v(E) Bars @ 12" Cts. One Face (Bents 9 & 17)
 - 46 - #5 v₁(E) Bars @ 12" Cts. One Face (Abutment Bents)
 - For detail of Piles, see Sheet SA26.
 - For details of Bar Splicers, see Sheet SA27.
 - Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per bar.
 - Piles are numbered sequentially as shown. See Pile Data Table for Test Pile Locations.
 - Apply Concrete Sealer to top and sides of Bents 5, 9, & 17.
 - See Sheet SA26 for Metal Shell Reinforcement Detail. Typical all piles.
 - See Sheet SA22 for additional Bill of Materials.

TABLE

Bent #	BENT CAP TABLE						PILE DATA TABLE						
	Elev. A	Elev. B	Elev. C	Elev. D	Elev. E	Elev. F	Est. Pile Length (ft.)		Precore To Elev.		No. Prod. Piles	No. Test Piles	Location of Test Piles
							Stage I (NB)	Stage II (SB)	Stage I (NB)	Stage II (SB)			
1	712.53	715.03	715.40	716.03	715.40	715.03	63	57	701.83	710.90	13	1	10
2	712.37	714.87	715.24	715.87	715.24	714.87	63	57	701.83	710.90	14	0	-
3	712.24	714.74	715.10	715.73	715.10	714.74	63	57	701.83	710.90	13	1	3
4	712.09	714.59	714.96	715.59	714.96	714.59	63	57	701.83	710.90	13	1	12
5	711.96	714.46	714.82	715.45	714.82	714.46	65	54	699.45	705.60	14	0	-
6	711.81	714.31	714.67	715.30	714.67	714.31	65	54	699.45	705.60	13	1	3
7	711.67	714.17	714.54	715.17	714.54	714.17	65	54	699.45	705.60	13	1	12
8	711.54	714.04	714.41	715.04	714.41	714.04	63	66	698.61	699.60	14	0	-
9	711.47	713.97	714.34	714.97	714.34	713.97	63	66	698.61	699.60	13	1	3
10	711.47	713.97	714.34	714.97	714.34	713.97	63	66	693.63	699.60	13	1	12
11	711.53	714.03	714.40	715.03	714.40	714.03	63	70	693.63	694.80	14	0	-
12	711.65	714.15	714.52	715.15	714.52	714.15	68	70	692.38	694.80	13	1	3
15	711.92	714.42	715.08	715.71	715.08	714.71	52	62	712.70	702.10	13	1	3
16	712.10	714.60	715.26	715.89	715.26	714.89	52	62	712.70	702.10	13	1	13
17	712.47	714.97	715.45	716.08	715.45	715.05	52	70	712.70	702.08	14	0	-
18	712.66	715.27	715.64	716.27	715.64	715.16	52	70	712.70	702.08	13	1	2
19	712.84	715.45	715.82	716.45	715.82	715.34	52	70	712.70	702.08	13	1	12
20	713.10	715.64	716.01	716.64	716.01	715.60	48	44	713.25	712.09	14	0	-
21	713.33	715.83	716.20	716.83	716.20	715.83	48	44	713.25	712.09	13	1	5

BILL OF MATERIAL - BENT 1

Bar	No.	Size	Length	Shape
p(E)	36	#7	25'-11"	—
h(E)	6	#5	32'-9"	—
s ₁₀ (E)	94	#4	9'-5"	□
u(E)	6	#5	6'-7"	U
u ₁ (E)	68	#4	7'-2"	U
v(E)	184	#5	3'-0"	—
v ₁ (E)	92	#5	3'-8"	L
Concrete Structures			Cu. Yd.	25.9
Reinforcement Bars, Epoxy Coated			Pound	4,000
Bar Splicers			Each	12
Structure Excavation			Cu. Yd.	117
Porous Granular Embankment (Special)			Cu. Yd.	48
Furnishing Metal Shell Piles - 14" x 0.312"			Foot	777
Driving Piles			Foot	777



TYPICAL BENT DETAILS I
STRUCTURE NO. 022-0012

PILE DATA
Type: Metal Shell - 14 in. dia. x 0.312 in. wall
Nominal Required Bearing: 418 kips
Factored Resistance Available: 230 kips
Est. Length: See Table
No. Production Piles: See Table
No. Test Piles: See Table

DESIGNED - J. Vermillion
CHECKED - J. Refvik
DRAWN - J. Vermillion
CHECKED - J. Refvik

PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, IL 60532
patrickengineering.com

SHEET NO. SA21 OF SA37	F.A.P RTE. 2578	SECTION 532B	COUNTY DUPAGE	TOTAL SHEETS 781	SHEET NO. 625
	CONTRACT NO. 60477				
12/3/2010		ILLINOIS FED. AID PROJECT			