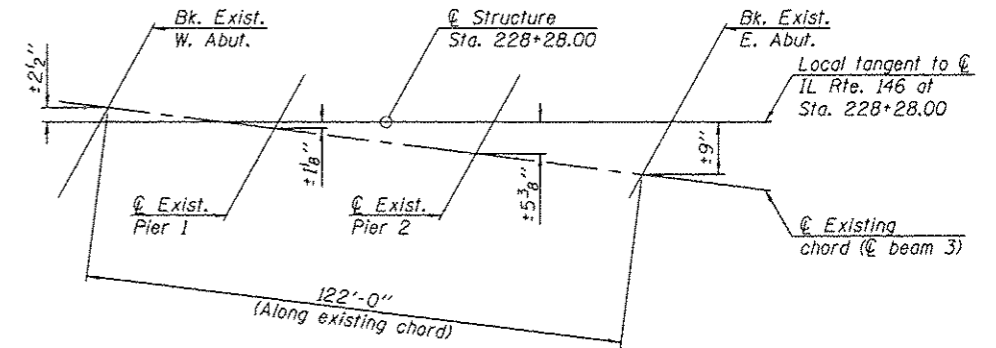


TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		191.7	191.7
Stone Riprap, Class A5	Sq. Yd.		839	839
Filter Fabric	Sq. Yd.		839	839
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		49.2	49.2
Concrete Structures	Cu. Yd.		74.2	74.2
Concrete Superstructure	Cu. Yd.	267.9		267.9
Bridge Deck Grooving	Sq. Yd.	650		650
Concrete Encasement	Cu. Yd.		4.8	4.8
Protective Coat	Sq. Yd.	745		745
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1092		1092
Reinforcement Bars, Epoxy Coated	Pound	6180	8840	70020
Bar Splicers	Each	528	102	630
Furnishing Steel Piles HP12x53	Foot		777	777
Driving Piles	Foot		777	777
Pile Shoes	Each		14	14
Temporary Sheet Piling	Sq. Ft.		408	408
Name Plates	Each	1		1
Anchor Bolt 1" φ	Each	28		28
Geocomposite Wall Drain	Sq. Yd.		100.3	100.3
Pipe Underdrains for Structures, 4"	Foot		173	173

GENERAL NOTES

Fasteners shall be ASTM A325 Type I, mechanically galvanized bolts. Bolts 3/4" φ, holes 15/16" φ, unless otherwise noted. Calculated weight of Structural Steel = 159,410 lbs. (M270 Grade 50). Calculated weight of Structural Steel = 11,550 lbs. (M270 Grade 36). No field welding is permitted except as specified in the contract documents. Reinforcement bars designated (E) shall be epoxy coated. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be blue, Munsell No. 10B 3/6. Slipforming of the parapets is not allowed.

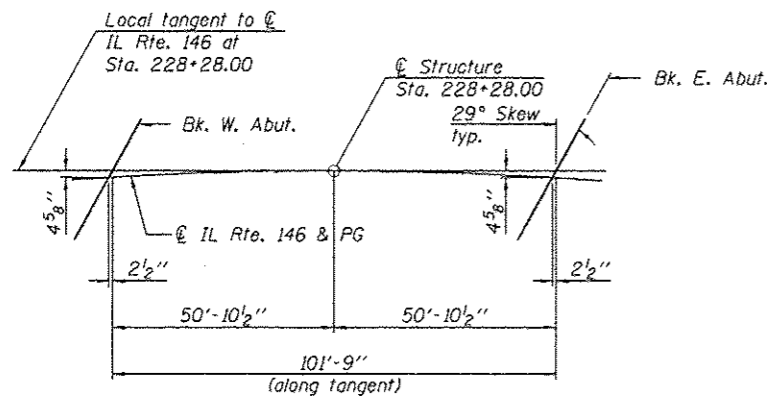


EXISTING CHORD FIELD SURVEY

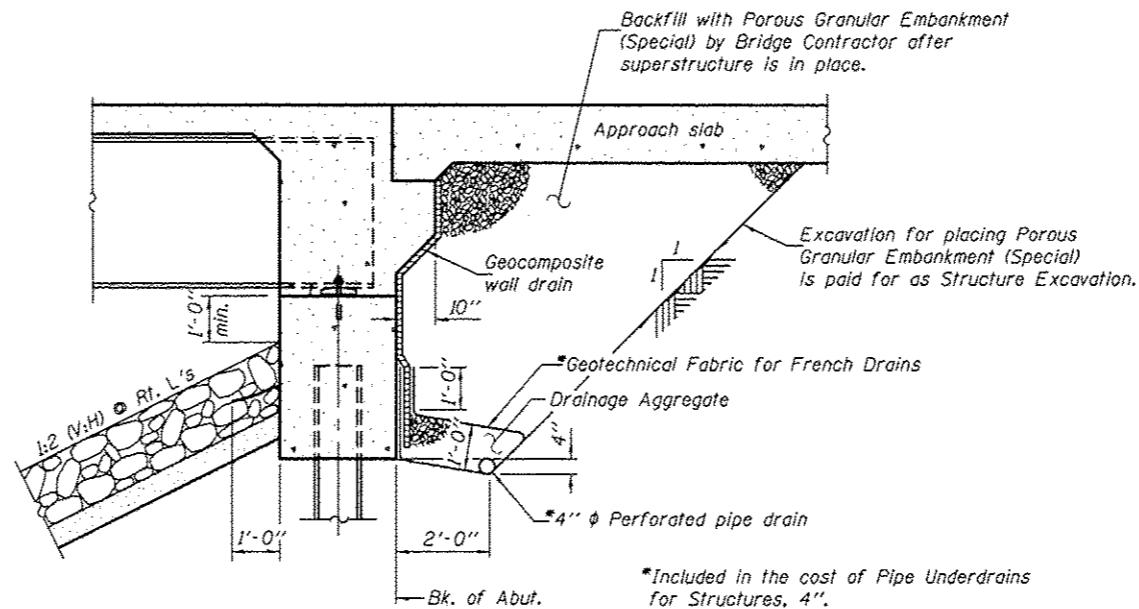
Note: Existing beam lines are not built parallel to the local tangent as per existing plans.

CURVE DATA

Δ = 40°37'09" Rt.
 D = 1°41'55"
 T = 1,248.33'
 L = 2,391.20'
 E = 223.59'
 R = 3,372.94'
 P.C. = Sta. 216+93.82
 P.I. = Sta. 240+85.02
 P.T. = Sta. 229+42.15
 S.E. = 0.02'/ft

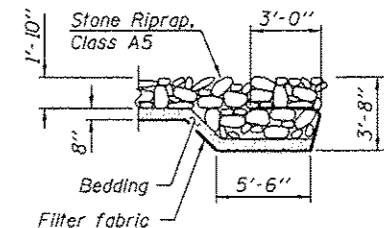


OFFSET SKETCH

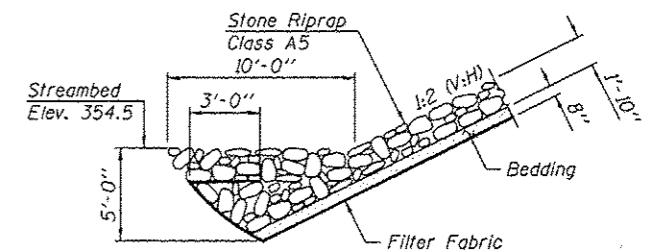


SECTION THRU INTEGRAL ABUTMENT
 (Horiz. dim. @ Rt. L's)

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



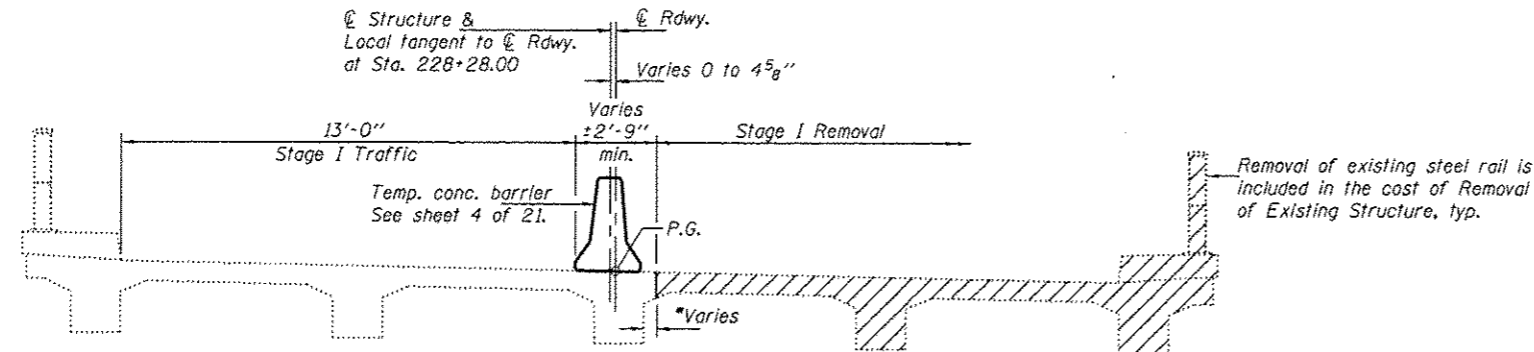
SECTION B-B



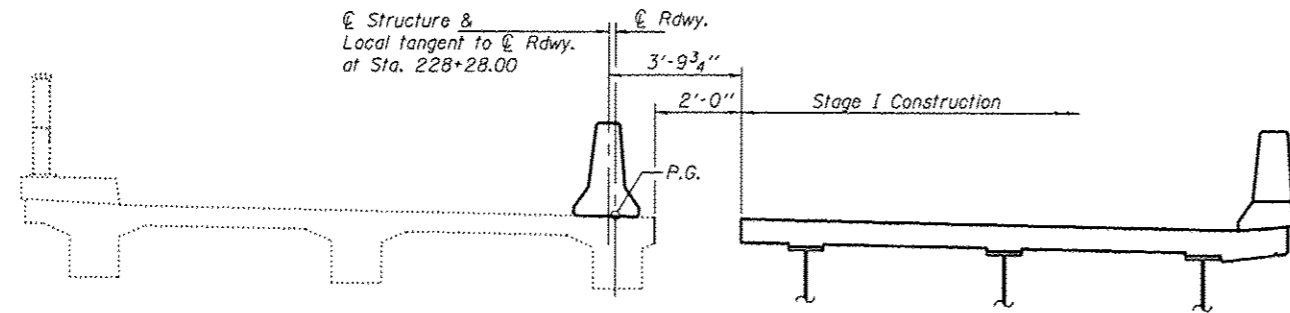
SECTION A-A

⚠ SHEET ADDED 1-4-13

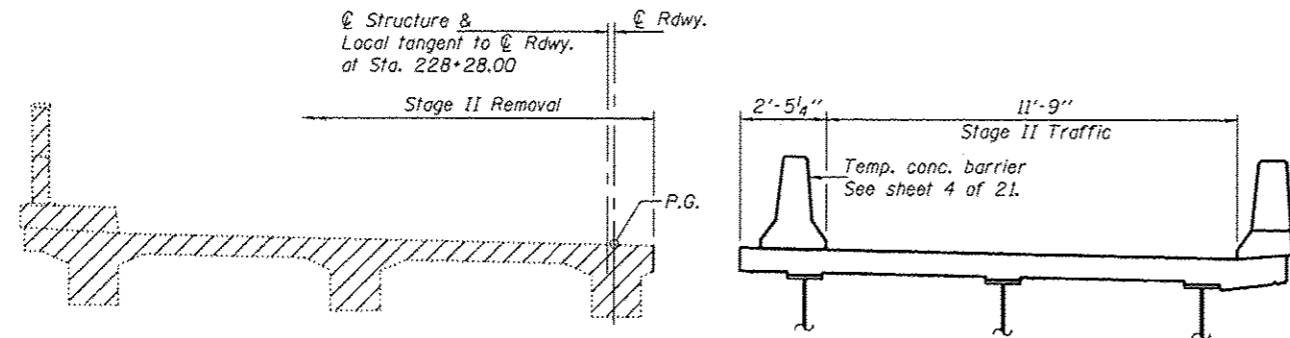
DESIGNED - Michael D. Rolape	EXAMINED - <i>James F. [Signature]</i>	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 035-0016		F.A.P. RTE. 885	SECTION 11B-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 22			
CHECKED - Stephen M. Ryan	PASSED - <i>Carl [Signature]</i>	REVISED				SHEET NO. 2 OF 21 SHEETS		CONTRACT NO. 78152					
DRAWN - h.f. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED				ILLINOIS FED. AID PROJECT							
CHECKED - GRA/SMR													



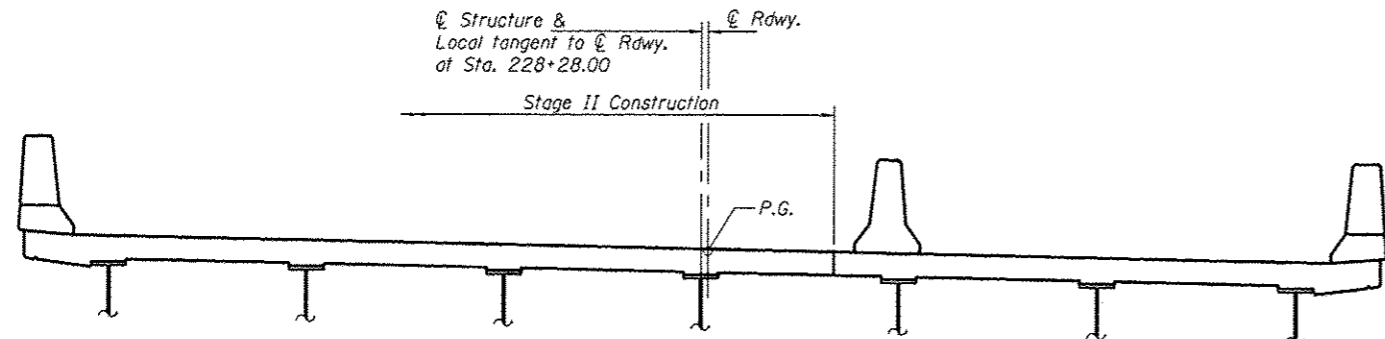
STAGE I REMOVAL



STAGE I CONSTRUCTION

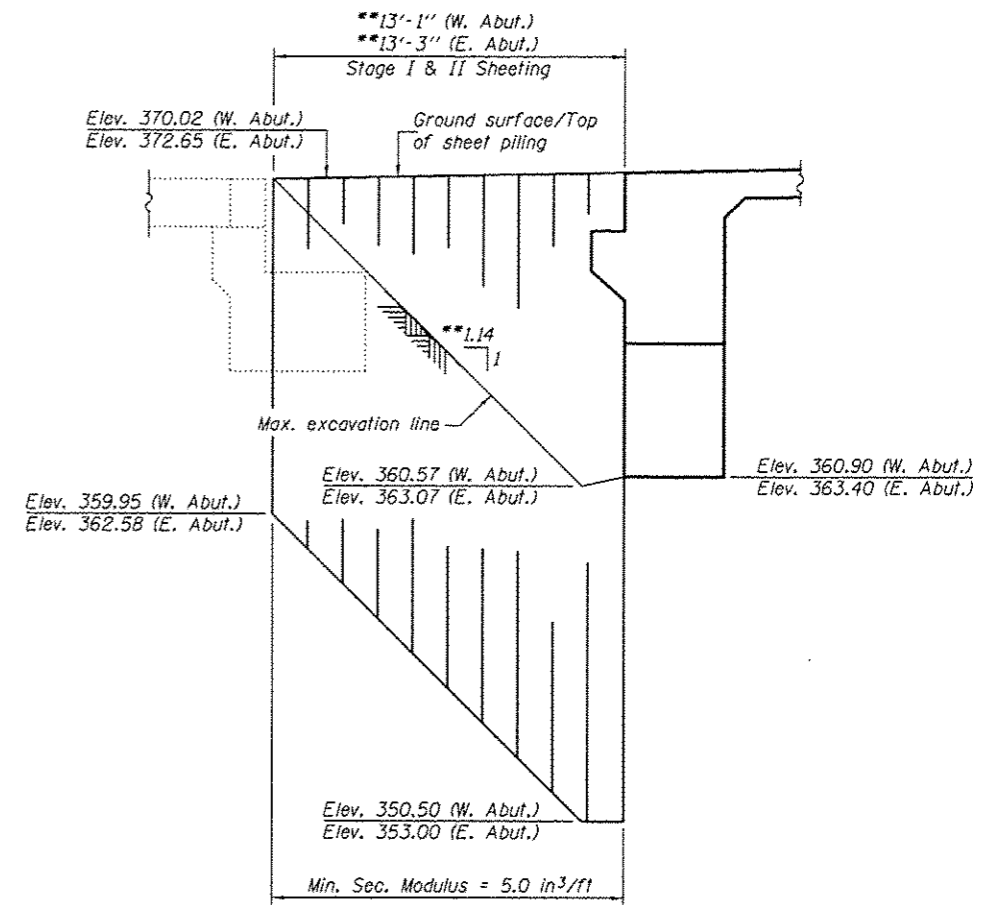


STAGE II REMOVAL



STAGE II CONSTRUCTION

Notes: All sections are looking East.
 Hatched area indicates removal of existing structure.
 For quantity of temporary concrete barrier, see Roadway Plans.
 *Contractor to field verify removal line will miss existing beam 3.
 Proposed girder lines are not parallel to existing beam lines.



TEMPORARY SHEET PILING AT ABUTMENTS

**Horizontal dimensions are measured parallel to local tangent at Sta. 228+28.00.

Notes: If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

1 SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolape	EXAMINED - <i>Joanna F. [Signature]</i>	DATE - NOVEMBER 21, 2012
CHECKED - Stephen M. Ryan	ACTING ENGINEER OF BRIDGE DESIGN	
DRAWN - h.t. duong	PASSED - <i>[Signature]</i>	REVISED
CHECKED - GRA/SMR	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED

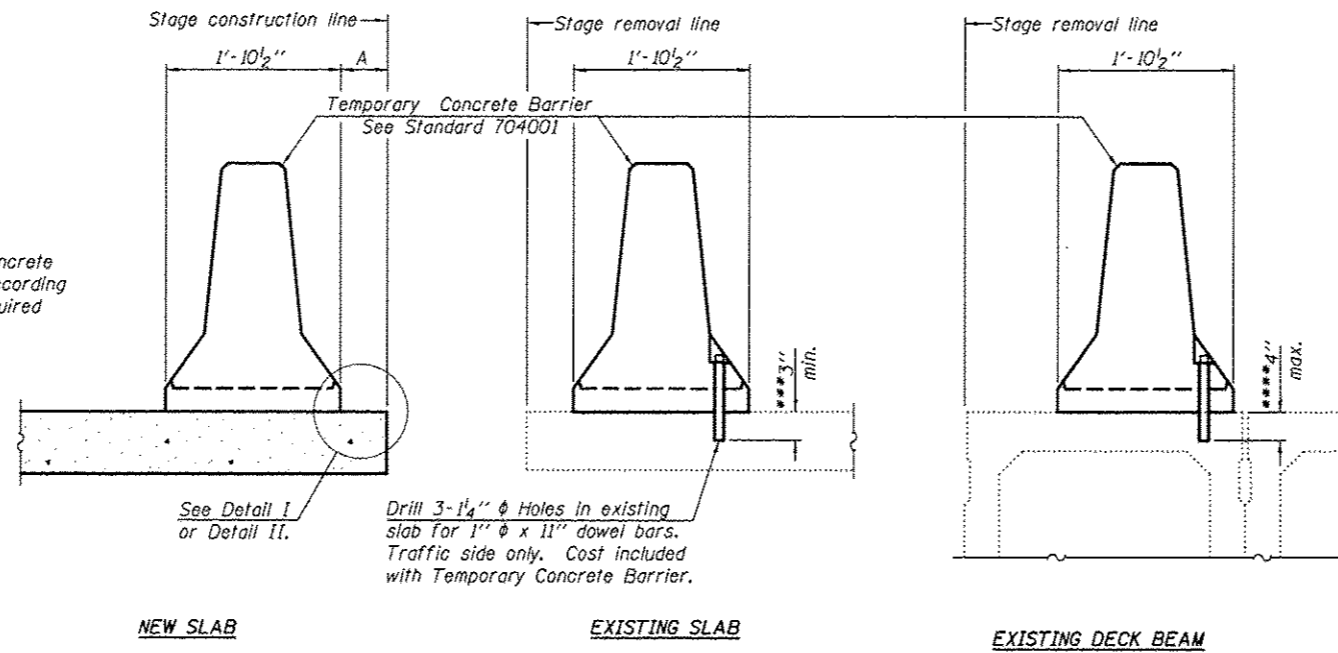
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION & TEMPORARY SHEET PILING DETAILS
 STRUCTURE NO. 035-0016

SHEET NO. 3 OF 21 SHEETS

F.A.P. RTE. 885	SECTION 11B-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 23
				CONTRACT NO. 78152
ILLINOIS FED. AID PROJECT				

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

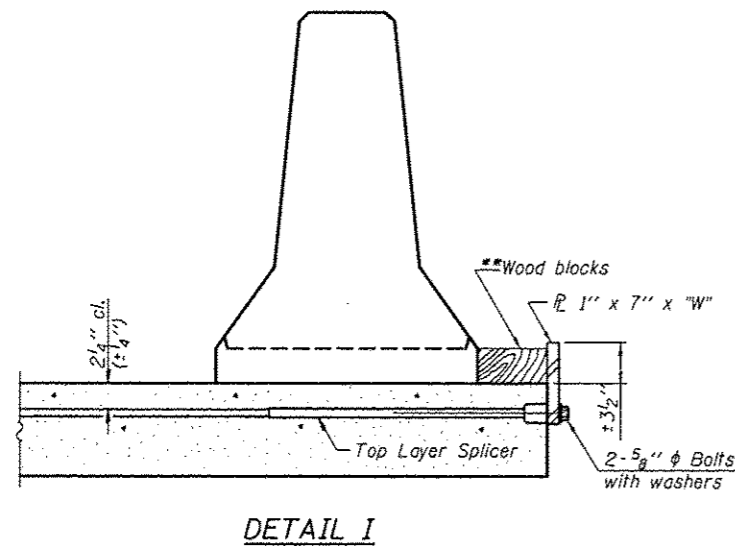
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

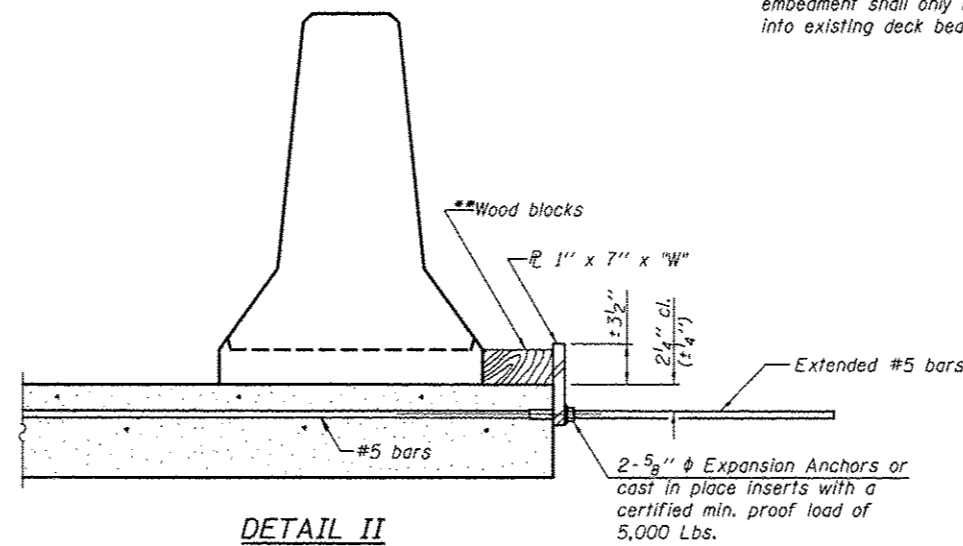
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

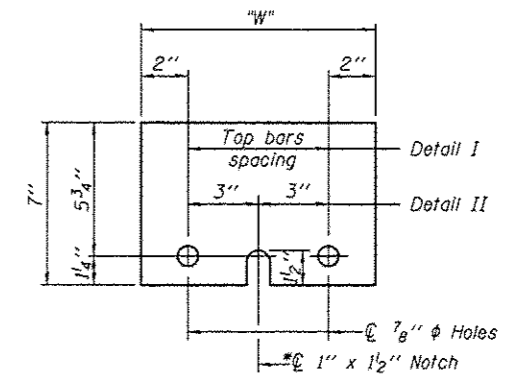
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER 1" x 7" x "W"

* Required only with Detail II

*** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

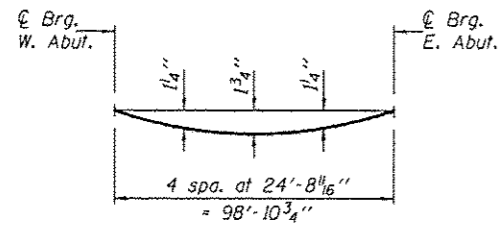
"W" = Top bars spacing + 4"

△ SHEET ADDED 1-4-13

R-27

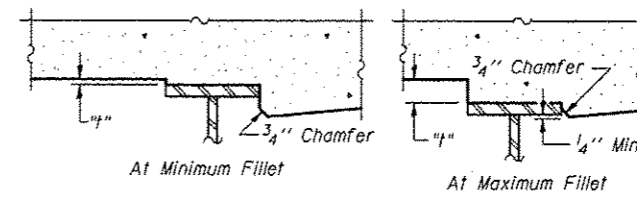
7-1-10

DESIGNED - Michael D. Rolape	EXAMINED - <i>James F. Hoff</i> ACTING ENGINEER OF BRIDGE DESIGN	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 035-0016	F.A.P. RTE. 885	SECTION 11B-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 24	
CHECKED - Stephen M. Ryan	PASSED - <i>Carl Kroyer</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			CONTRACT NO. 78152					
DRAWN - h.t. duong		REVISED			ILLINOIS FED. AID PROJECT					
CHECKED - GRA/SMR					SHEET NO. 4 OF 21 SHEETS					
					ILLINOIS FED. AID PROJECT					



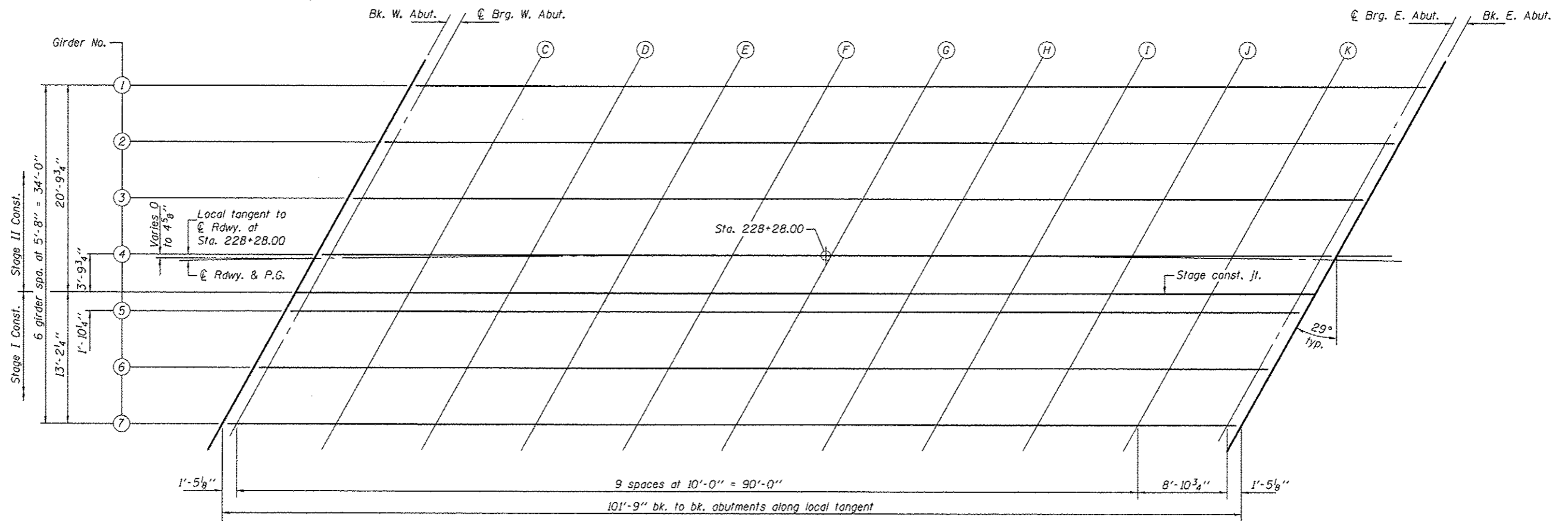
DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 6 of 21.



To determine "f": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 6 of 21, minus 8" slab thickness, equals the fillet heights "f" above top flange of girders.

FILLET HEIGHTS



PLAN

⚠ SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolape	EXAMINED - <i>James F. [Signature]</i> ACTING ENGINEER OF BRIDGE DESIGN	DATE - NOVEMBER 21, 2012
CHECKED - Stephen M. Ryan	PASSED - <i>Carl [Signature]</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
DRAWN - h.f. duong		REVISED
CHECKED - GRA/SMR		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS
STRUCTURE NO. 035-0016**

SHEET NO. 5 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	11B-1	HARDIN	50	25
CONTRACT NO. 78152				
ILLINOIS FED. AID PROJECT				

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22786.76	-17.25	370.55	370.55
⊕ Brg. W. Abut.	22788.18	-17.24	370.58	370.58
C	22798.13	-17.13	370.81	370.85
D	22808.08	-17.06	371.04	371.13
E	22818.03	-17.01	371.29	371.40
F	22827.98	-17.00	371.54	371.67
G	22837.93	-17.01	371.81	371.95
H	22847.87	-17.06	372.08	372.21
I	22857.82	-17.13	372.37	372.48
J	22867.77	-17.24	372.66	372.74
K	22877.72	-17.37	372.96	373.00
⊕ Brg. E. Abut.	22886.56	-17.51	373.24	373.24
Bk. E. Abut.	22887.98	-17.54	373.29	373.29

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22783.56	-11.63	370.36	370.36
⊕ Brg. W. Abut.	22784.98	-11.61	370.40	370.40
C	22794.95	-11.50	370.62	370.66
D	22804.91	-11.41	370.85	370.94
E	22814.88	-11.36	371.10	371.21
F	22824.84	-11.33	371.35	371.48
G	22834.81	-11.34	371.61	371.76
H	22844.78	-11.38	371.88	372.01
I	22854.74	-11.44	372.16	372.28
J	22864.71	-11.53	372.46	372.54
K	22874.67	-11.66	372.76	372.79
⊕ Brg. E. Abut.	22883.53	-11.79	373.03	373.03
Bk. E. Abut.	22884.95	-11.82	373.08	373.08

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22780.35	-6.00	370.18	370.18
⊕ Brg. W. Abut.	22781.77	-5.98	370.21	370.21
C	22791.76	-5.86	370.43	370.47
D	22801.74	-5.77	370.66	370.75
E	22811.72	-5.71	370.90	371.02
F	22821.70	-5.67	371.15	371.28
G	22831.69	-5.67	371.41	371.56
H	22841.67	-5.69	371.68	371.81
I	22851.65	-5.75	371.96	372.07
J	22861.64	-5.83	372.25	372.33
K	22871.62	-5.95	372.55	372.59
⊕ Brg. E. Abut.	22880.50	-6.08	372.82	372.82
Bk. E. Abut.	22881.92	-6.10	372.87	372.87

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22777.13	-0.38	370.00	370.00
⊕ Brg. W. Abut.	22778.56	-0.36	370.03	370.03
C	22788.55	-0.23	370.25	370.29
D	22798.55	-0.13	370.48	370.56
E	22808.55	-0.06	370.71	370.83
F	22818.55	-0.01	370.96	371.09
G	22828.55	0.00	371.22	371.36
H	22838.55	-0.02	371.48	371.61
I	22848.55	-0.06	371.76	371.87
J	22858.55	-0.14	372.05	372.13
K	22868.55	-0.24	372.34	372.38
⊕ Brg. E. Abut.	22877.44	-0.36	372.62	372.62
Bk. E. Abut.	22878.87	-0.38	372.66	372.66

⊕ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22776.91	0.00	369.99	369.99
⊕ Brg. W. Abut.	22778.35	0.00	370.02	370.02
C	22788.35	0.00	370.24	370.28
D	22798.35	0.00	370.47	370.55
E	22808.35	0.00	370.71	370.82
F	22818.35	0.00	370.96	371.09
G	22828.35	0.00	371.21	371.36
H	22838.35	0.00	371.48	371.61
I	22848.35	0.00	371.75	371.87
J	22858.35	0.00	372.04	372.12
K	22868.35	0.00	372.33	372.37
⊕ Brg. E. Abut.	22877.25	0.00	372.60	372.60
Bk. E. Abut.	22878.67	0.00	372.65	372.65

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22774.96	3.40	369.88	369.88
⊕ Brg. W. Abut.	22776.38	3.42	369.91	369.91
C	22786.39	3.56	370.12	370.17
D	22796.40	3.66	370.35	370.43
E	22806.41	3.74	370.59	370.70
F	22816.43	3.79	370.83	370.96
G	22826.44	3.81	371.09	371.23
H	22836.45	3.80	371.35	371.48
I	22846.46	3.76	371.63	371.74
J	22856.47	3.69	371.91	371.99
K	22866.48	3.59	372.21	372.24
⊕ Brg. E. Abut.	22875.39	3.48	372.48	372.48
Bk. E. Abut.	22876.81	3.46	372.52	372.52

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22773.90	5.23	369.82	369.82
⊕ Brg. W. Abut.	22775.33	5.26	369.85	369.85
C	22785.34	5.40	370.06	370.11
D	22795.36	5.51	370.29	370.37
E	22805.37	5.59	370.52	370.64
F	22815.39	5.64	370.77	370.90
G	22825.41	5.67	371.02	371.17
H	22835.42	5.66	371.29	371.42
I	22845.44	5.62	371.56	371.67
J	22855.46	5.56	371.84	371.92
K	22865.47	5.46	372.14	372.18
⊕ Brg. E. Abut.	22874.38	5.35	372.41	372.41
Bk. E. Abut.	22875.81	5.33	372.45	372.45

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22770.66	10.85	369.64	369.64
⊕ Brg. W. Abut.	22772.09	10.87	369.67	369.67
C	22782.12	11.02	369.88	369.92
D	22792.15	11.14	370.10	370.19
E	22802.18	11.23	370.33	370.45
F	22812.22	11.30	370.58	370.71
G	22822.25	11.33	370.83	370.97
H	22832.28	11.33	371.09	371.22
I	22842.32	11.30	371.36	371.47
J	22852.35	11.25	371.64	371.72
K	22862.38	11.16	371.93	371.97
⊕ Brg. E. Abut.	22871.31	11.06	372.20	372.20
Bk. E. Abut.	22872.74	11.04	372.24	372.24

GIRDER 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	22767.40	16.46	369.46	369.46
⊕ Brg. W. Abut.	22768.84	16.48	369.49	369.49
C	22778.88	16.64	369.70	369.74
D	22788.93	16.77	369.92	370.00
E	22798.98	16.88	370.15	370.26
F	22809.03	16.95	370.38	370.52
G	22819.08	16.99	370.63	370.78
H	22829.13	17.00	370.89	371.02
I	22839.19	16.98	371.16	371.27
J	22849.24	16.93	371.44	371.52
K	22859.29	16.86	371.73	371.77
⊕ Brg. E. Abut.	22868.23	16.76	371.99	371.99
Bk. E. Abut.	22869.66	16.74	372.04	372.04

▲ SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolape
 CHECKED - Stephen M. Ryan
 DRAWN - h.t. duong
 CHECKED - GRA/SMR

EXAMINED *Joanne F. J. [Signature]*
 ACTING ENGINEER OF BRIDGES DESIGN
 PASSED *[Signature]*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - NOVEMBER 21, 2012
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
 STRUCTURE NO. 035-0016

SHEET NO. 6 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	118-1	HARDIN	50	26
				CONTRACT NO. 78152
ILLINOIS FED. AID PROJECT				

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22757.12	-18.10	369.94
A	22767.06	-18.25	370.14
B	22777.01	-18.43	370.36
East end of W. Appr. Slab	22787.56	-18.66	370.59

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22753.58	-12.00	369.75
A	22763.54	-12.00	369.95
B	22773.51	-12.00	370.15
East end of W. Appr. Slab	22783.77	-12.00	370.38

☉ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22746.57	0.00	369.38
A	22756.57	0.00	369.57
B	22766.57	0.00	369.77
East end of W. Appr. Slab	22776.91	0.00	369.99

STAGE CONSTRUCTION JOINT

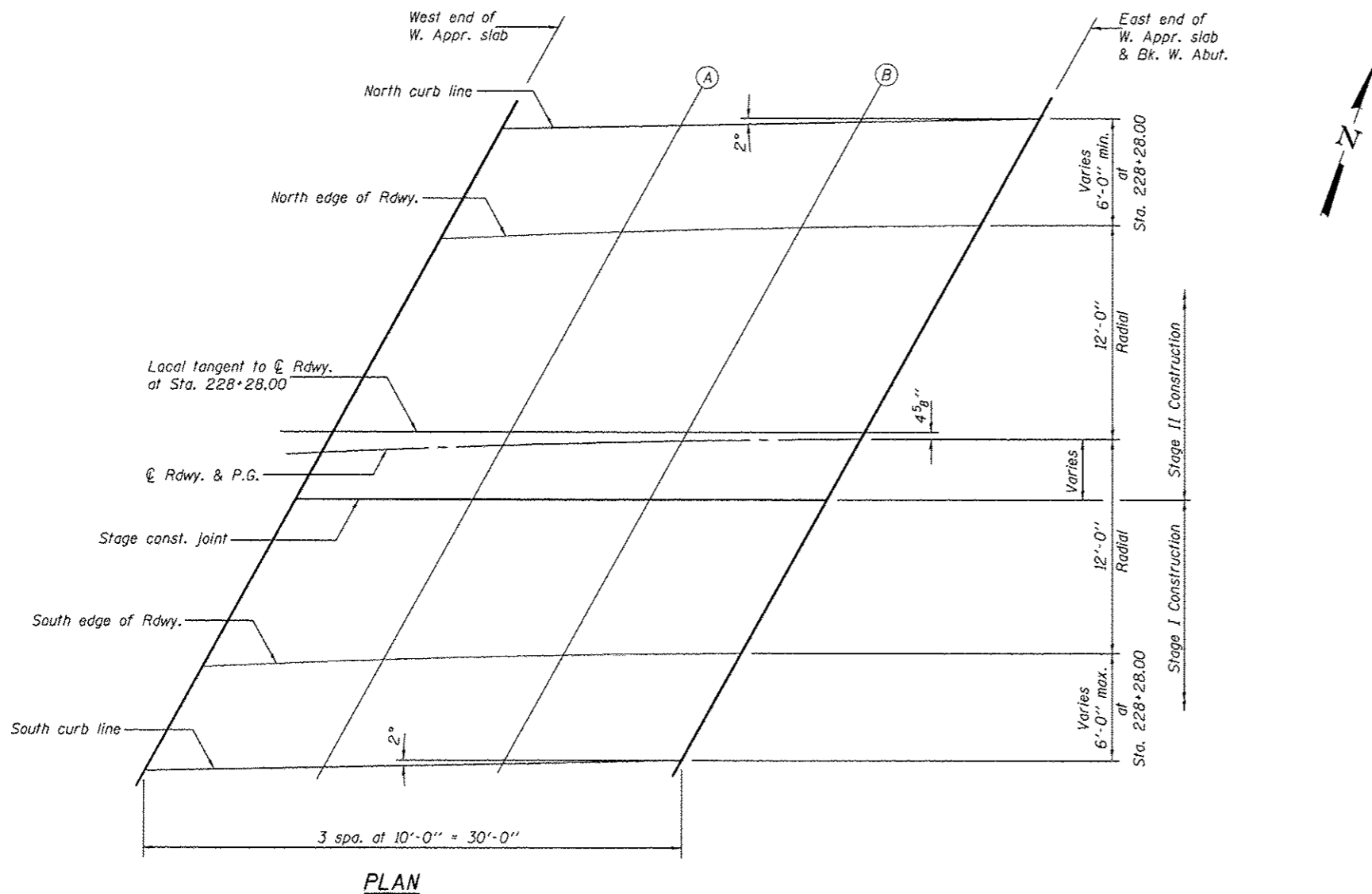
Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22744.93	2.79	369.29
A	22754.94	3.02	369.48
B	22764.95	3.22	369.67
East end of W. Appr. Slab	22774.96	3.40	369.88

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22739.51	12.00	369.01
A	22749.54	12.00	369.19
B	22759.58	12.00	369.39
East end of W. Appr. Slab	22769.99	12.00	369.60

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of W. Appr. Slab	22735.82	18.23	368.82
A	22745.87	18.14	369.00
B	22755.92	18.02	369.20
East end of W. Appr. Slab	22766.59	17.86	369.41



PLAN

⚠ SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolape	EXAMINED - <i>John F. [Signature]</i>	DATE - NOVEMBER 21, 2012
CHECKED - Stephen M. Ryan	ACTING ENGINEER OF BRIDGE DESIGN	
DRAWN - h.f. duong	PASSED - <i>[Signature]</i>	REVISED
CHECKED - GRA/SMR	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 035-0016**

SHEET NO. 7 OF 21 SHEETS

F.A.P. RTE. 885	SECTION 118-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 27
				CONTRACT NO. 78152
[ILLINOIS] FED. AID PROJECT				

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22888.75	-18.97	373.34
L	22898.69	-18.81	373.66
M	22908.64	-18.69	373.97
East end of E. Appr. Slab	22918.03	-18.60	374.30

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22885.06	-12.00	373.08
L	22895.02	-12.00	373.40
M	22904.99	-12.00	373.73
East end of E. Appr. Slab	22914.61	-12.00	374.05

☉ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22878.67	0.00	372.65
L	22888.67	0.00	372.96
M	22898.67	0.00	373.28
East end of E. Appr. Slab	22908.35	0.00	373.60

STAGE CONSTRUCTION JOINT

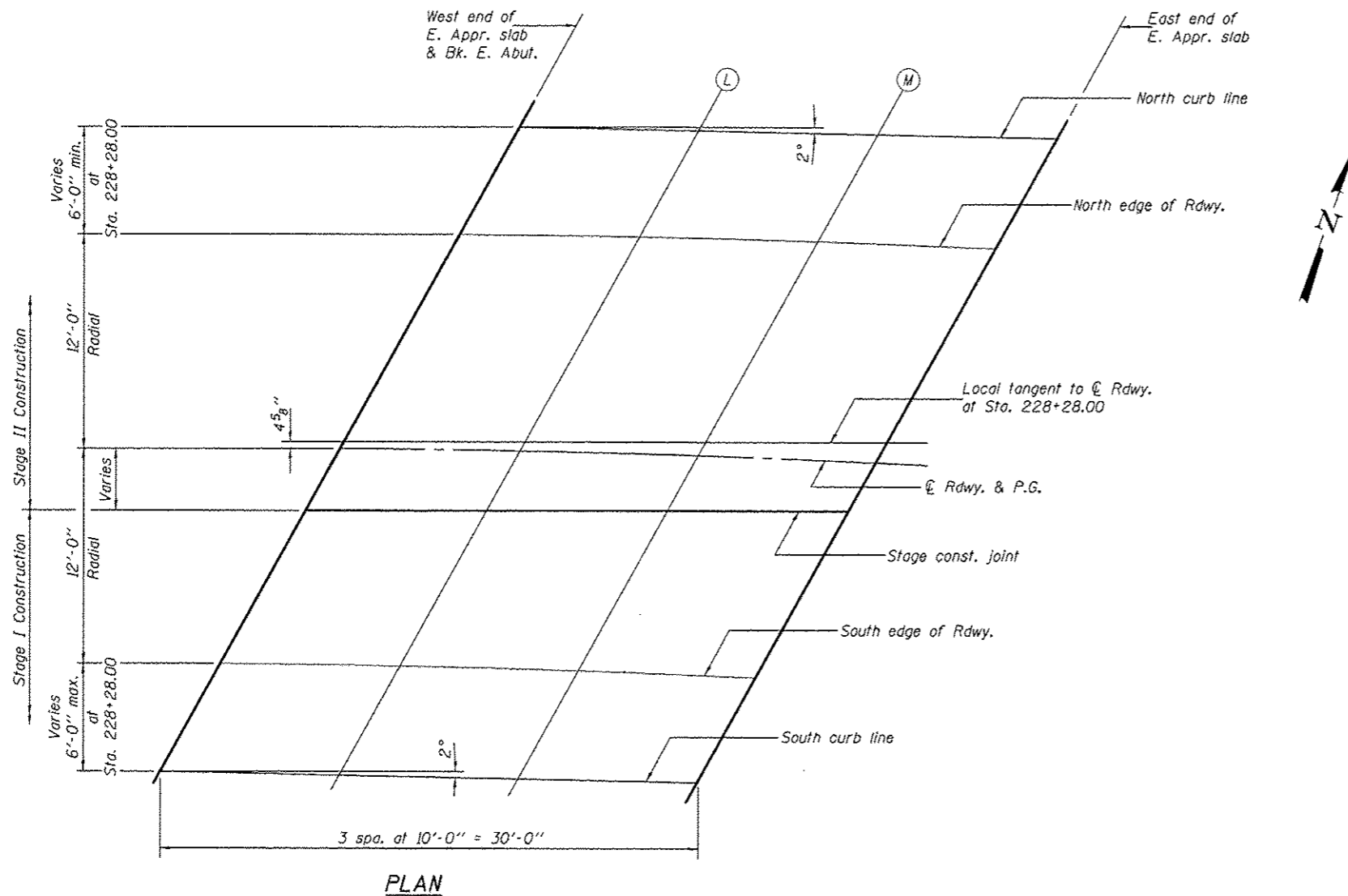
Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22876.81	3.46	372.52
L	22886.82	3.30	372.83
M	22896.83	3.11	373.16
East end of E. Appr. Slab	22906.84	2.89	373.49

SOUTH EDGE OF ROADWAY

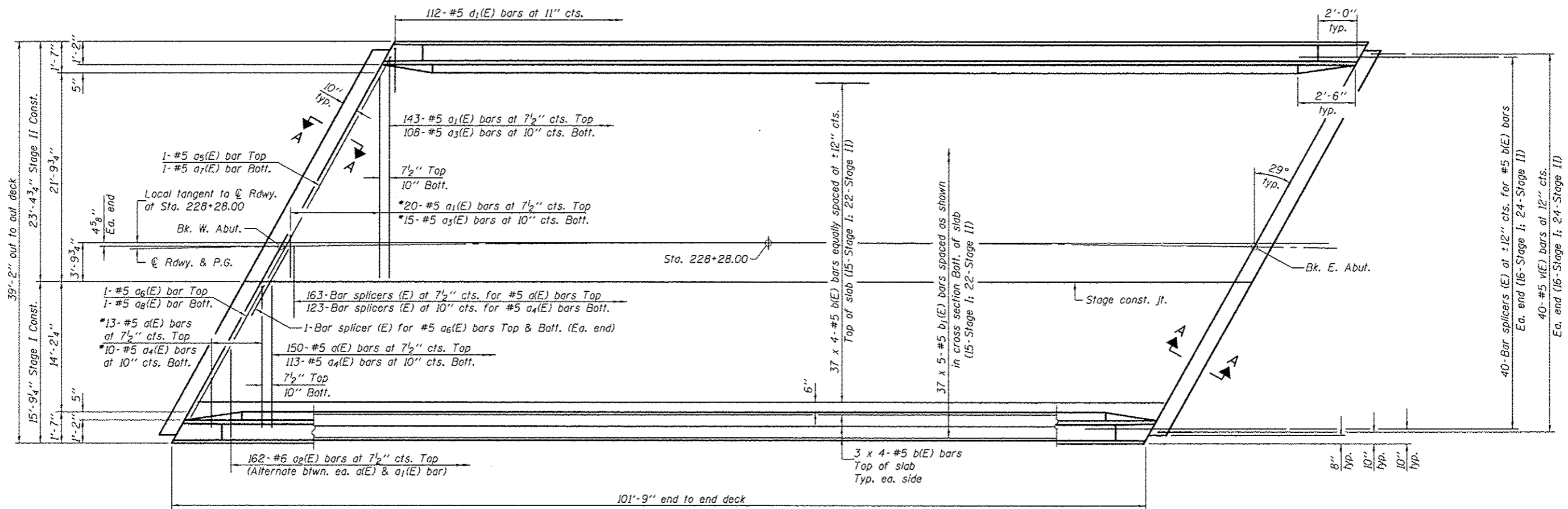
Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22872.22	12.00	372.21
L	22882.26	12.00	372.52
M	22892.29	12.00	372.83
East end of E. Appr. Slab	22902.04	12.00	373.15

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
West end of E. Appr. Slab	22868.89	18.17	371.98
L	22878.94	18.38	372.29
M	22888.99	18.57	372.60
East end of E. Appr. Slab	22898.50	18.71	373.90



⚠ SHEET ADDED 1-4-13

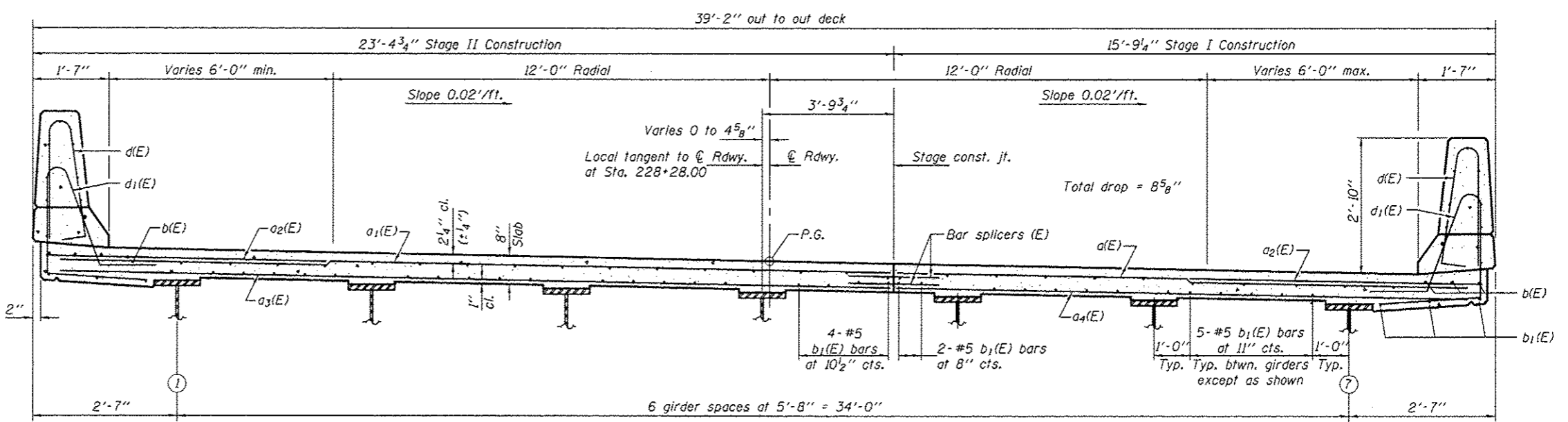


PLAN

*Order a(E), a₁(E), a₃(E), & a₄(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

Notes:
See sheet 10 of 21 for superstructure details and Bill of Material.
Bars indicated thus 37 x 5-#5 etc. indicates 37 lines of bars with 5 lengths per line.
See sheet 10 of 21 for parapet reinforcement.
See sheet 11 of 21 for Section A-A.
See sheet 18 of 21 for bar splicer details.

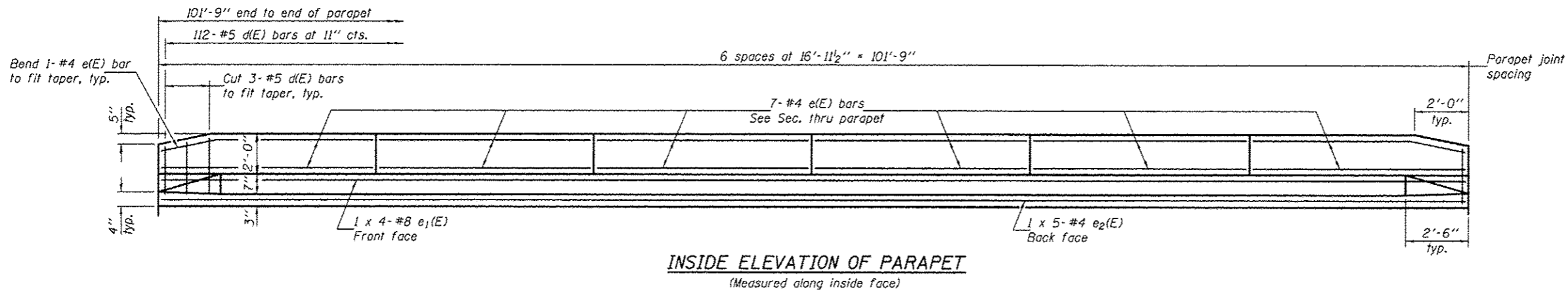
MIN. BAR LAP
#5 bar = 3'-3"



CROSS SECTION
(Looking east)

1 SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolope	EXAMINED - <i>James F. [Signature]</i>	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 035-0016	F.A.P. RTE. 885	SECTION 118-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 29	
CHECKED - Stephen M. Ryan	ACTING ENGINEER OF BRIDGE DESIGN	REVISED			CONTRACT NO. 78152					
DRAWN - h.t. duong	PASSED - <i>[Signature]</i>	REVISED			ILLINOIS FED. AID PROJECT					
CHECKED - GRA/SMR	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED								
					SHEET NO. 9 OF 21 SHEETS					

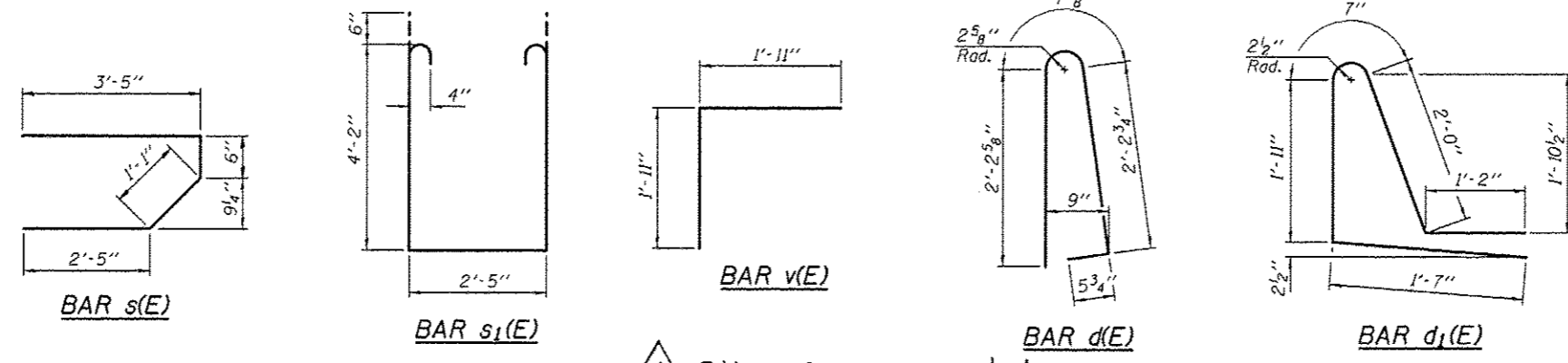
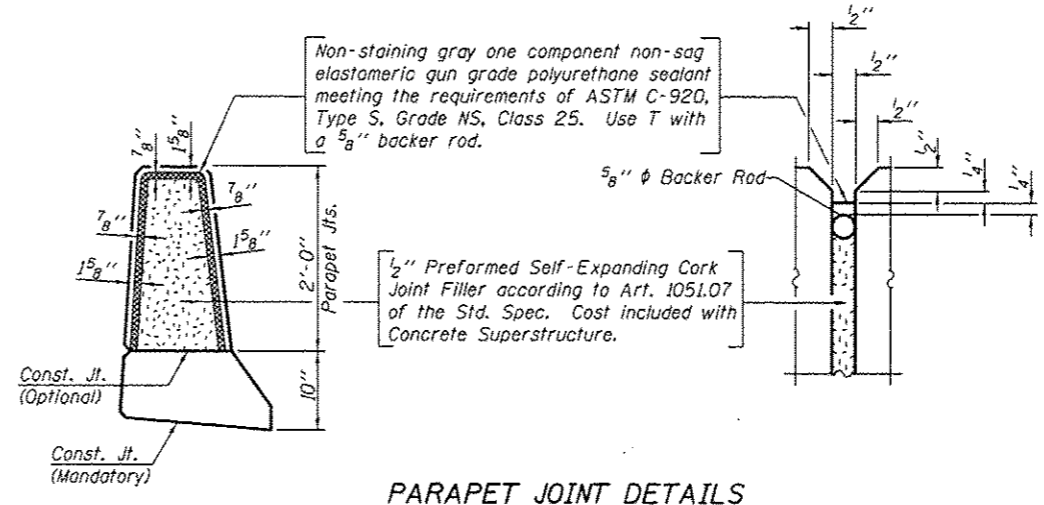
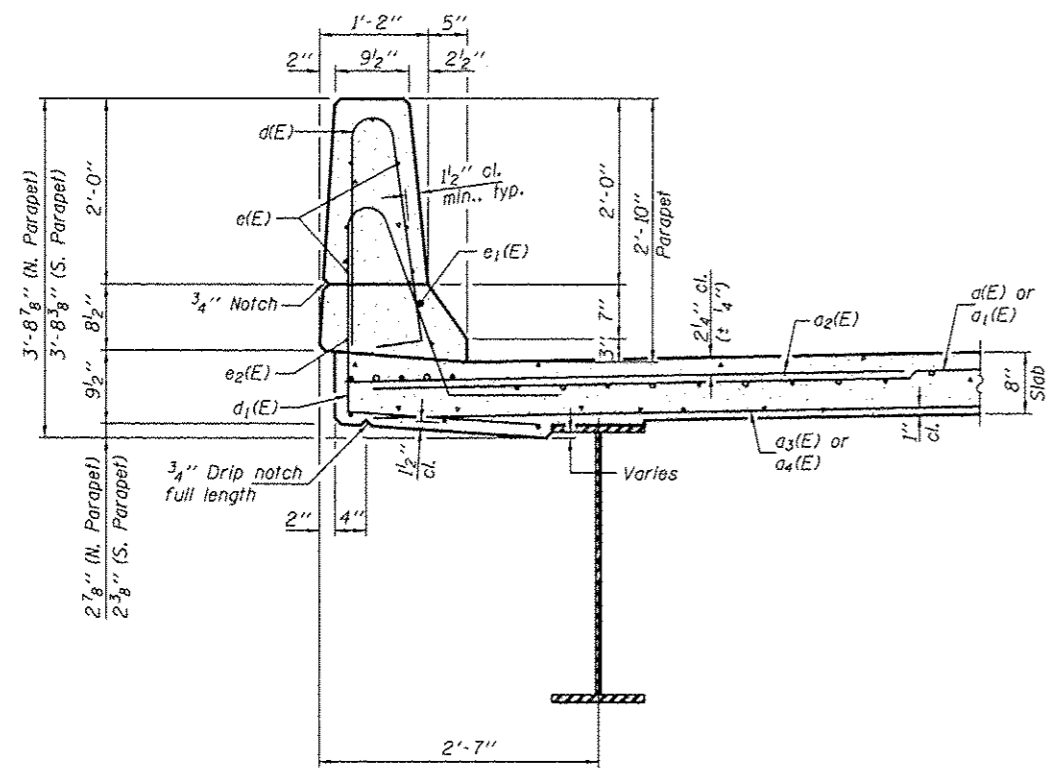


MIN. BAR LAPS
 (Parapet)
 #4 bar = 2'-0"
 #8 bar = 5'-2"

**SUPERSTRUCTURE
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	163	#5	15'-4"	—
a1(E)	163	#5	22'-11"	—
a2(E)	324	#6	6'-6"	—
a3(E)	123	#5	22'-1"	—
a4(E)	123	#5	14'-6"	—
a5(E)	2	#5	26'-2"	—
a6(E)	2	#5	17'-6"	—
a7(E)	2	#5	25'-3"	—
a8(E)	2	#5	16'-6"	—
b(E)	172	#5	27'-10"	—
b1(E)	185	#5	23'-0"	—
d(E)	224	#5	5'-7"	L
d1(E)	224	#5	7'-3"	L
e(E)	84	#4	16'-7"	—
e1(E)	8	#8	29'-4"	—
e2(E)	10	#4	22'-0"	—
m(E)	10	#6	16'-11"	—
m1(E)	10	#6	25'-7"	—
m2(E)	12	#6	9'-10"	—
m3(E)	8	#6	7'-9"	—
m4(E)	4	#6	9'-2"	—
m5(E)	4	#6	6'-11"	—
m6(E)	12	#6	6'-2"	—
m7(E)	4	#6	2'-7"	—
s(E)	88	#5	7'-5"	J
s1(E)	74	#4	11'-9"	J
v(E)	80	#5	3'-10"	L
Reinforcement Bars, Epoxy Coated			Pound	31390
Concrete Superstructure			Cu. Yds.	161.4

Bars indicated thus 1 x 3-#8 etc. indicates 1 line of bars with 3 lengths per line.



1 SHEET ADDED 11/4/13

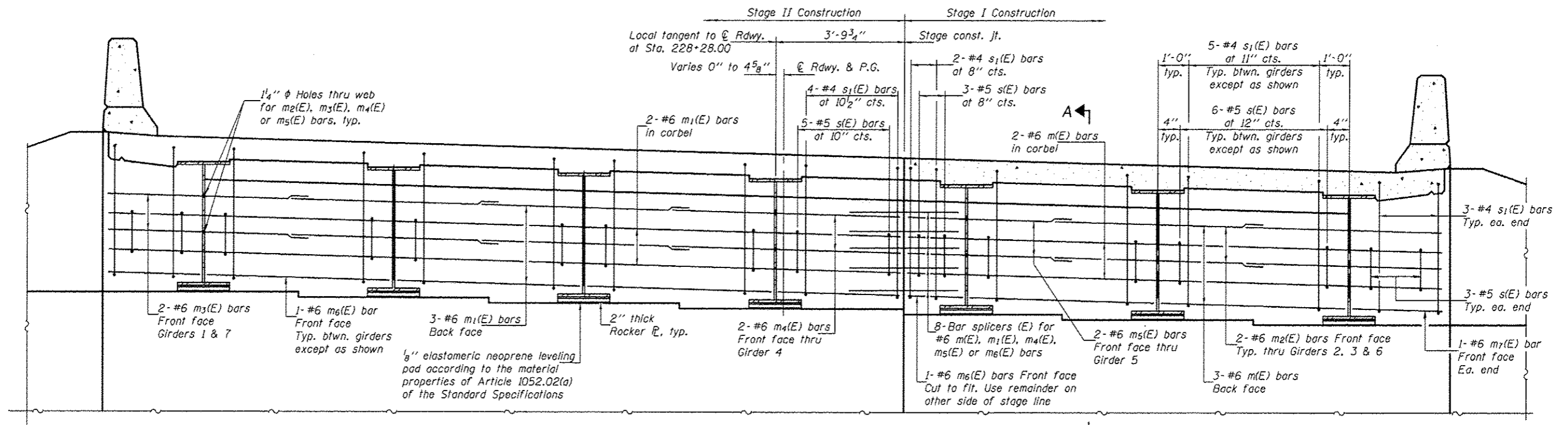
DESIGNED - Michael D. Rolope
 CHECKED - Stephen M. Ryan
 DRAWN - h.t. duong
 CHECKED - GRA/SMR
 EXAMINED - *Jaime F. J. [Signature]*
 ACTING ENGINEER OF BRIDGE DESIGN
 PASSED - *[Signature]*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES
 DATE - NOVEMBER 21, 2012
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
 STRUCTURE NO. 035-0016

SHEET NO. 10 OF 21 SHEETS

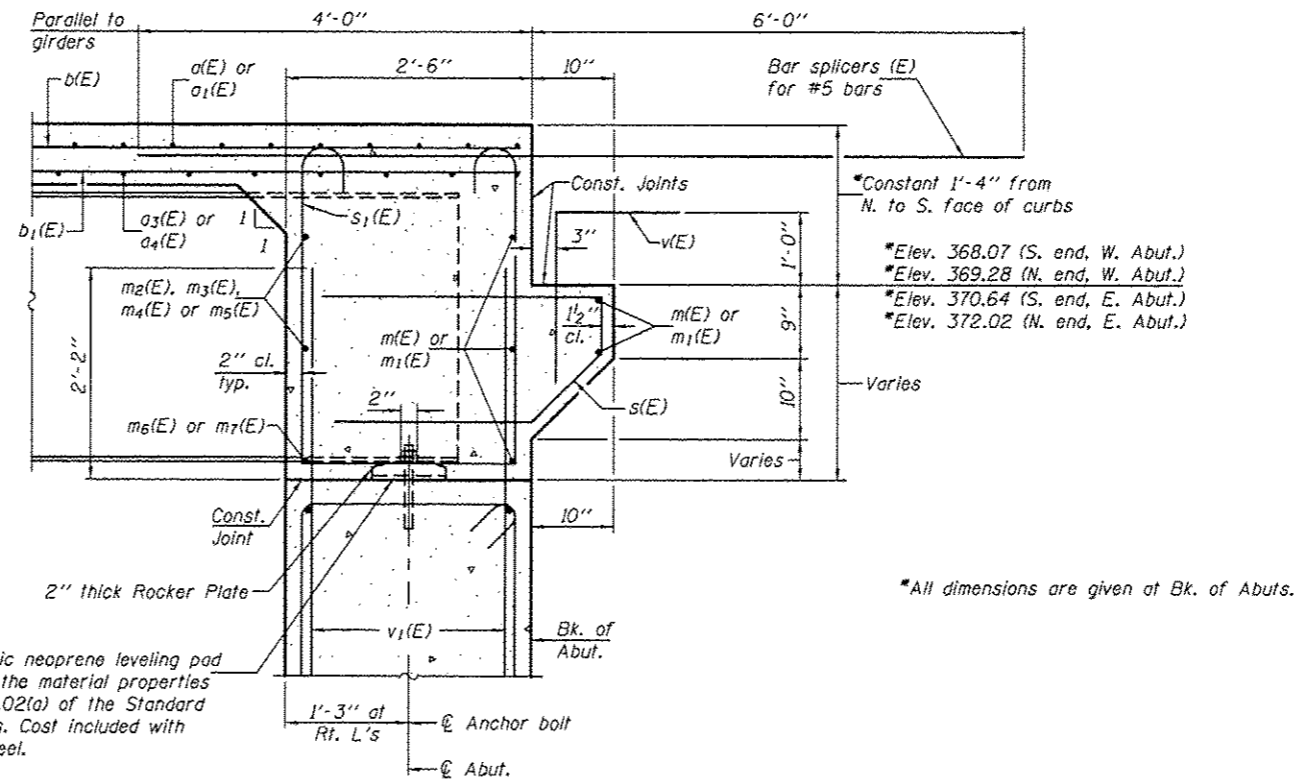
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	11B-1	HARDIN	50	30
				CONTRACT NO. 78152
ILLINOIS FED. AID PROJECT				



DIAPHRAGM ELEVATION AT EAST ABUTMENT
 (Looking east - West abutment similar)

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 21.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 21.
 For details of bars s(E) & s1(E) see sheet 10 of 21.
 The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

MIN. BAR LAP
 #6 bar = 3'-4"



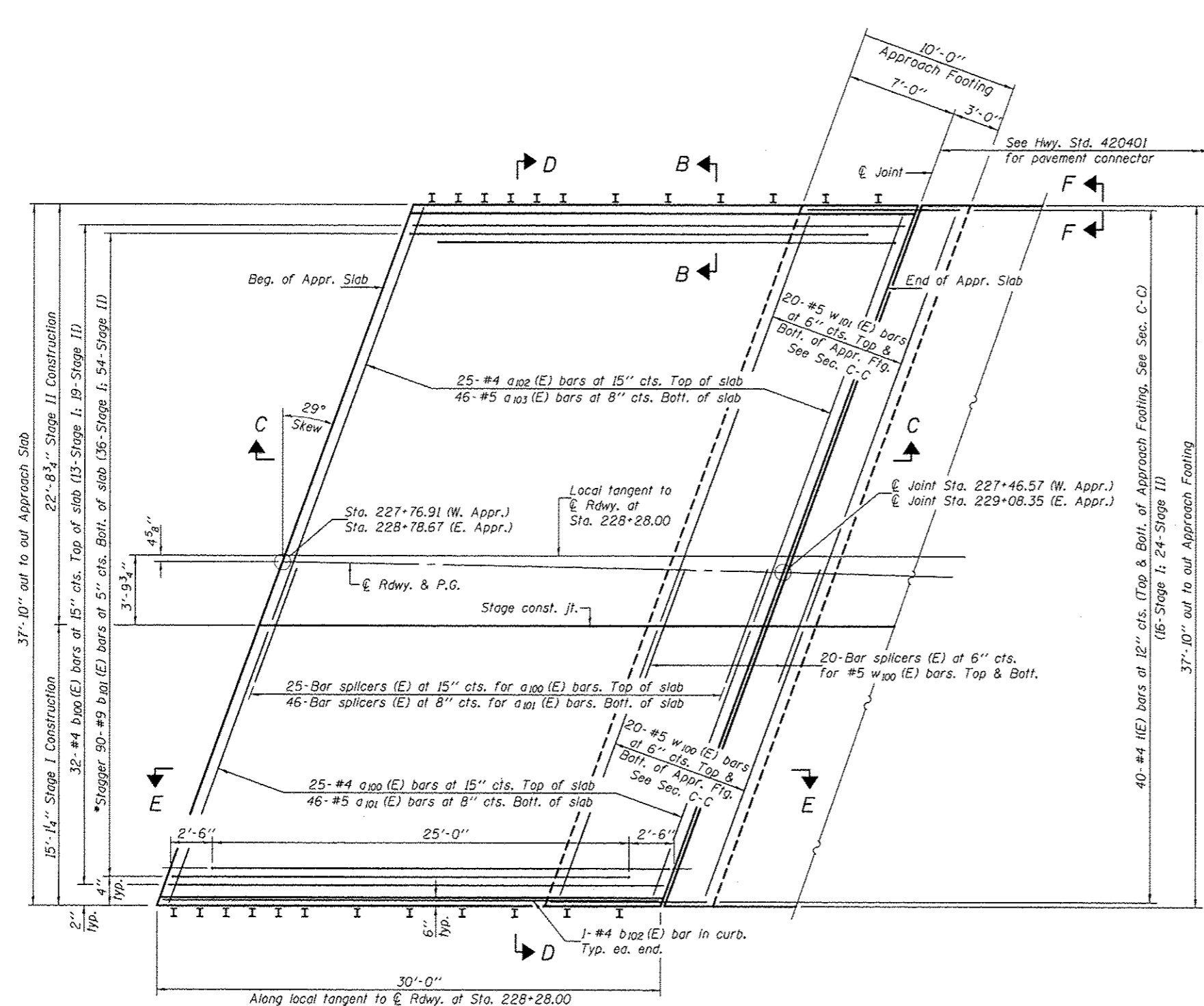
SECTION A-A

Dimensions at right angles to abutment, except as shown.

1 SHEET ADDED 1-4-13

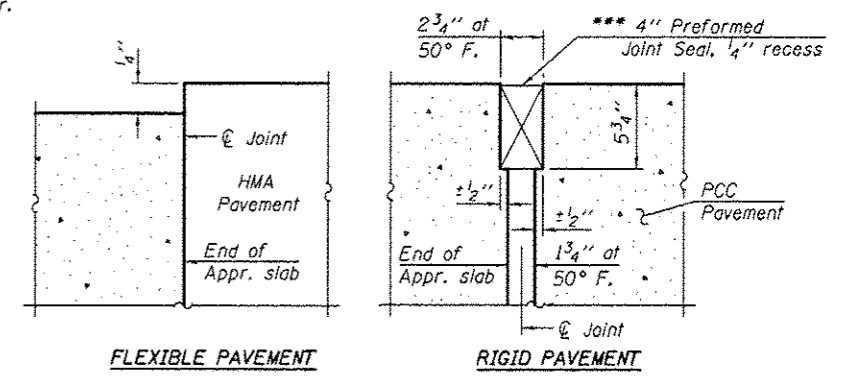
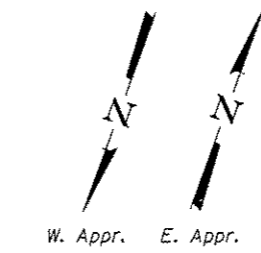
DESIGNED - Michael D. Rolape	EXAMINED - <i>John F. [Signature]</i>	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INTEGRAL ABUTMENT DIAPHRAGM DETAILS STRUCTURE NO. 035-0016	F.A.P. RTE. 885	SECTION 118-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 31	
CHECKED - Stephen M. Ryan	PASSED - <i>[Signature]</i>	REVISED			SHEET NO. 11 OF 21 SHEETS					
DRAWN - h.t. duong		REVISED			CONTRACT NO. 78152					
CHECKED - CRA/SMR		REVISED			ILLINOIS PED. AND PROJECT					
					ILLINOIS PED. AND PROJECT					

Notes:
 See sheet 13 of 21 for Sections C-C, D-D, & E-E.
 a_{100} (E), a_{101} (E), & w_{100} (E) bar spacings measured along local tangent to ϕ Rdwy. at Sta. 228+28.00.

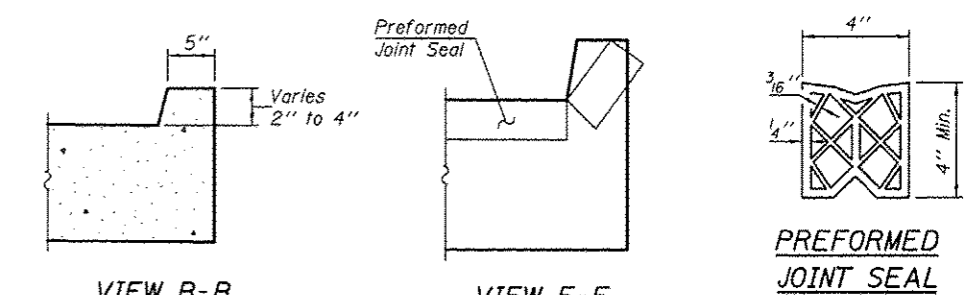


PLAN
 (East Approach shown - West Approach similar by mirror image)

*Tilt #9 b_{101} (E) bars as required to maintain clearance.



DETAIL A

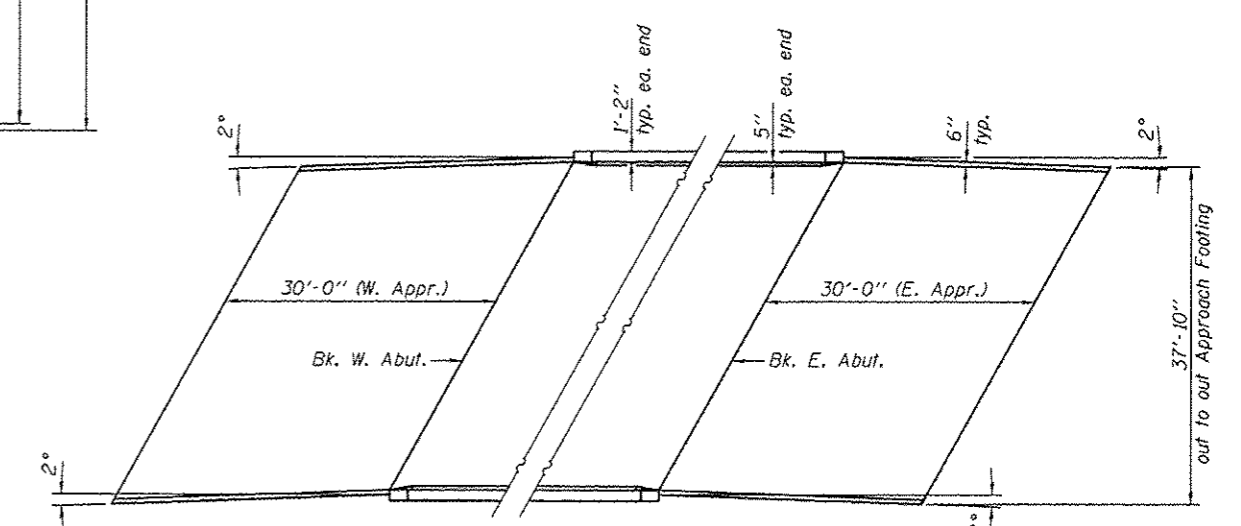


VIEW B-B

VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

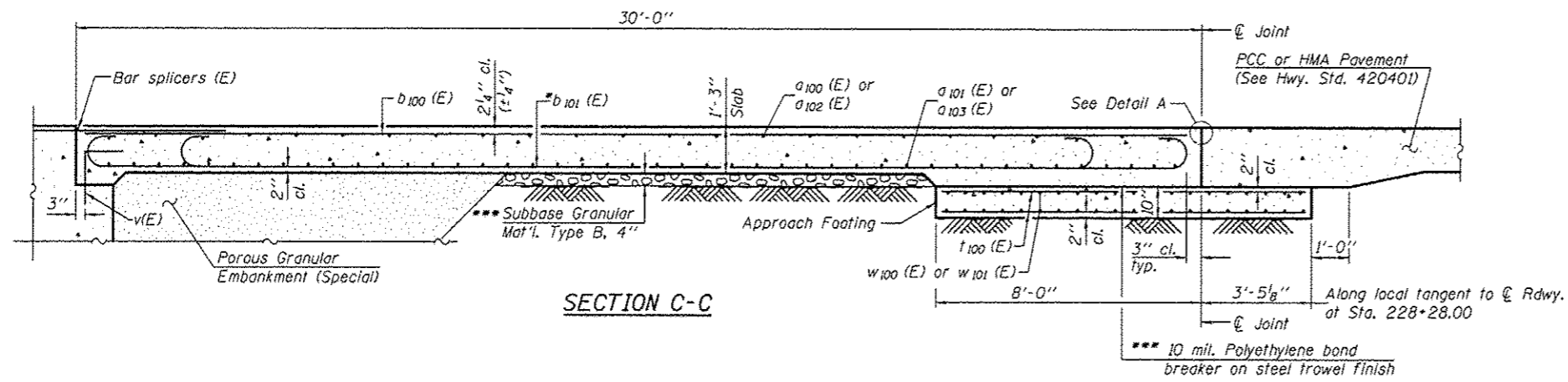
PREFORMED JOINT SEAL



SKETCH OF W. & E. APPROACHES

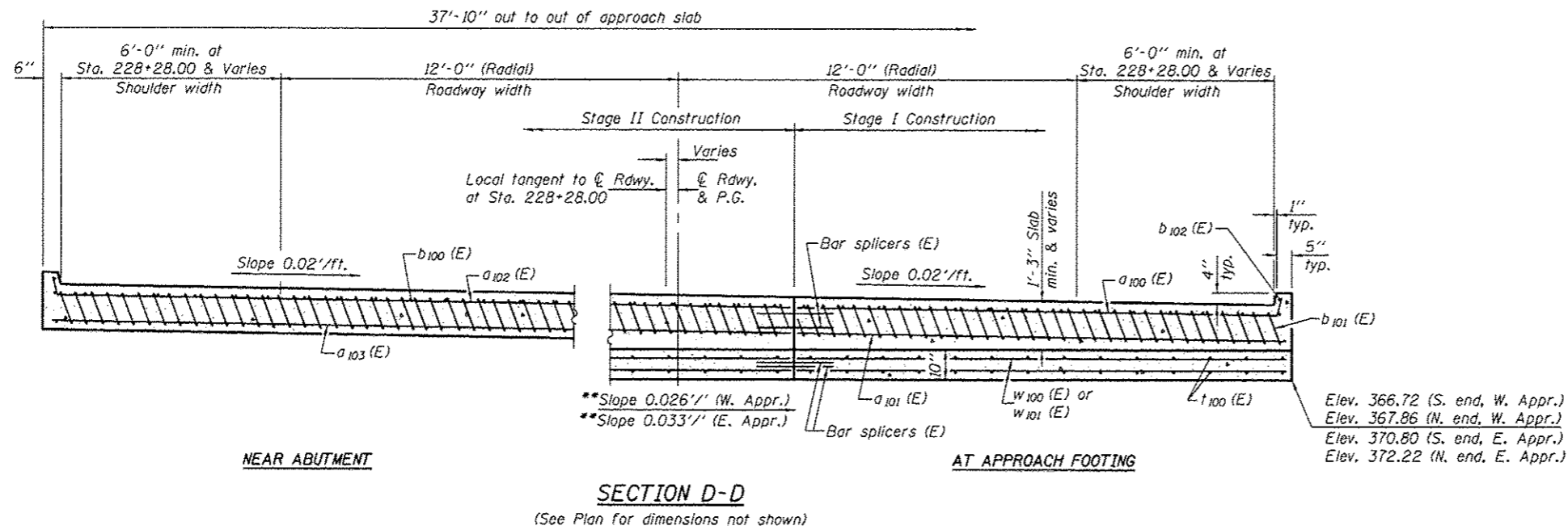
⚠ SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolape	EXAMINED - <i>Joan F. [Signature]</i> ACTING ENGINEER OF BRIDGE DESIGN	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 035-0016	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Stephen M. Ryan	PASSED - <i>[Signature]</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			885	11B-1	HARDIN	50	32
DRAWN - h.t. duong		REVISED			CONTRACT NO. 7B152				
CHECKED - GRA/SMR					ILLINOIS FED. AID PROJECT				



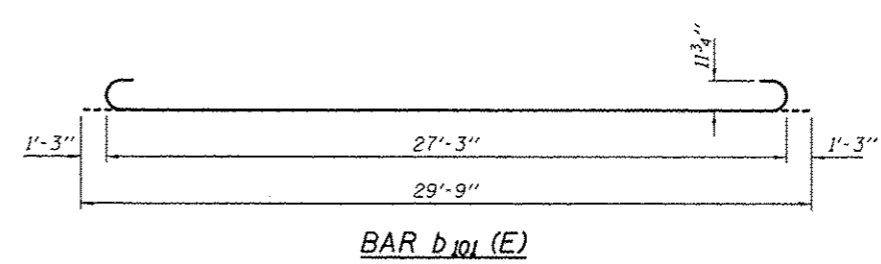
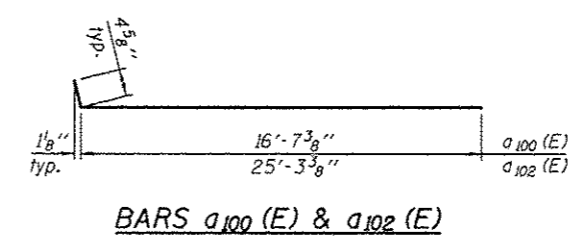
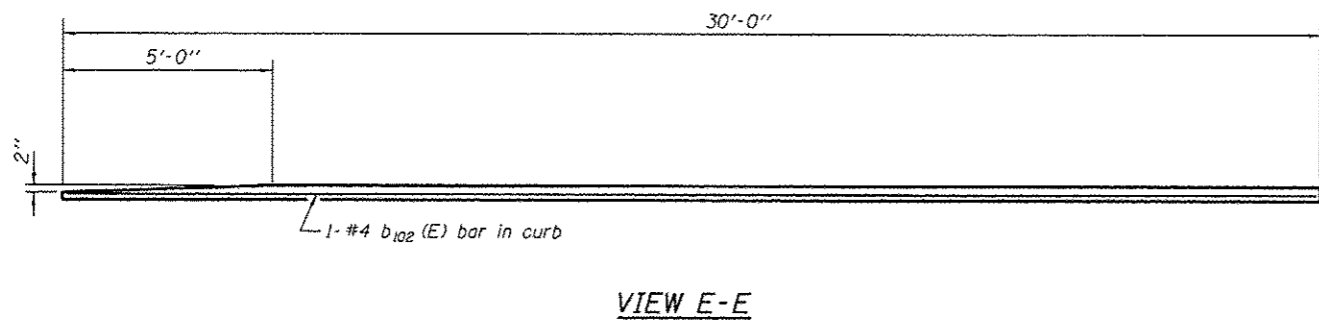
Notes:
 See sheet 12 of 21 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 10 of 21.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet 18 of 21.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 21.

*Tilt #9 b₁₀₁ (E) bars as required to maintain clearance.
 **Slopes are measured along the length of approach footing.
 ***Cost included with Concrete Superstructure.

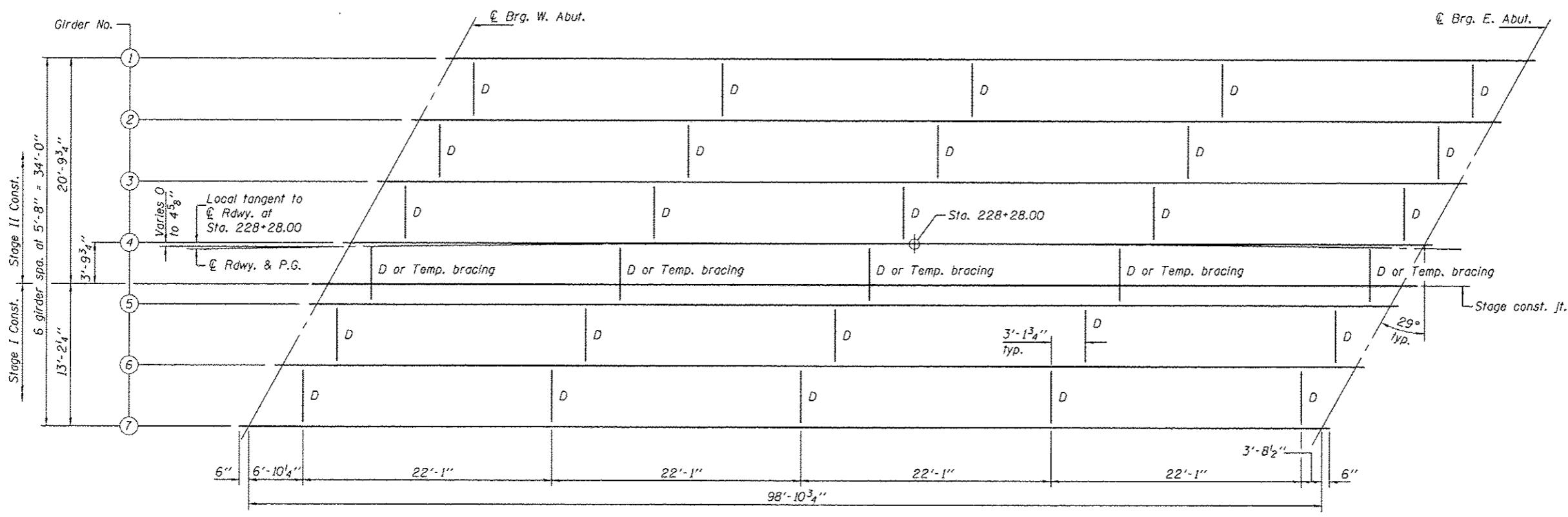


**TWO APPROACHES
 BILL OF MATERIAL**

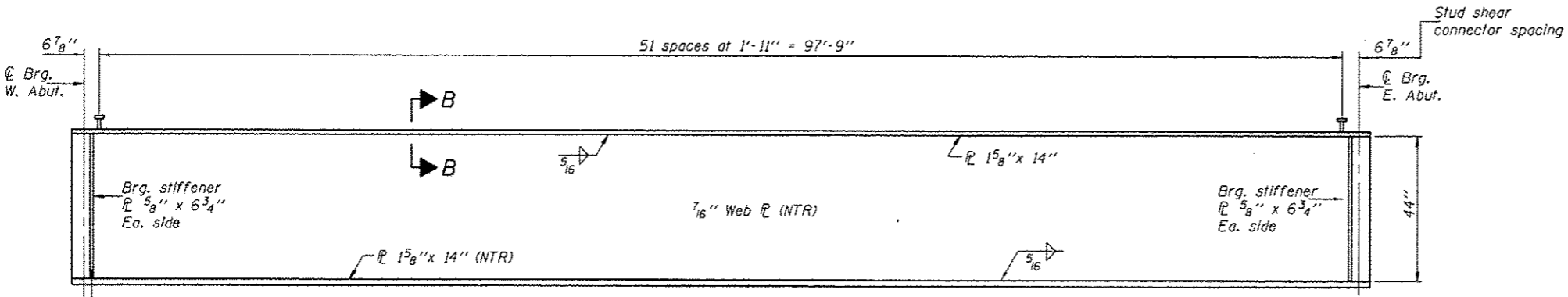
Bar	No.	Size	Length	Shape
a ₁₀₀ (E)	50	#4	17'-0"	—
a ₁₀₁ (E)	92	#5	16'-10"	—
a ₁₀₂ (E)	50	#4	25'-8"	—
a ₁₀₃ (E)	92	#5	25'-7"	—
b ₁₀₀ (E)	64	#4	29'-8"	—
b ₁₀₁ (E)	180	#9	29'-9"	—
b ₁₀₂ (E)	4	#4	29'-8"	—
t ₁₀₀ (E)	160	#4	11'-1"	—
w ₁₀₀ (E)	80	#5	16'-11"	—
w ₁₀₁ (E)	80	#5	25'-8"	—
Concrete Superstructure			Cu. Yd.	106.5
Concrete Structures			Cu. Yd.	26.6
Reinforcement Bars, Epoxy Coated			Pound	29790



▲ SHEET ADDED 1-4-13

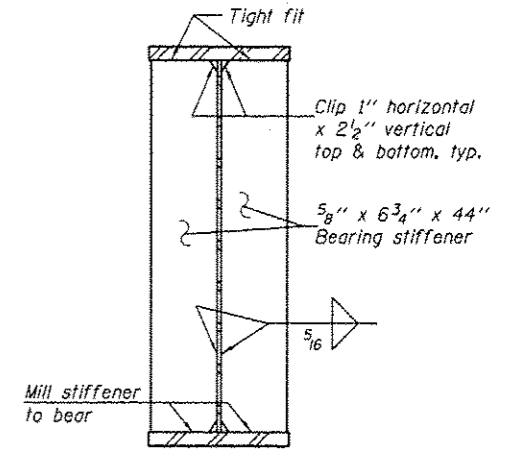


PLAN

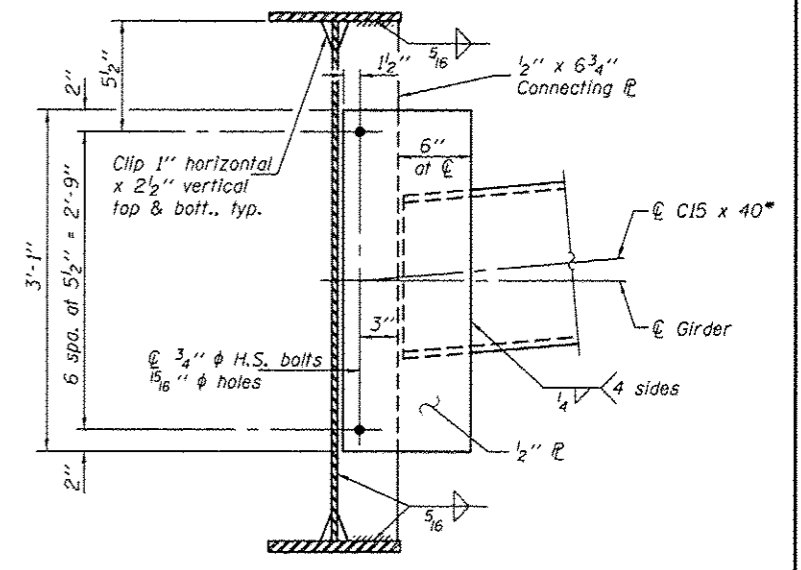


GIRDER ELEVATION

All plates of girder, including bearing stiffeners shall be AASHTO M 270, Grade 50.

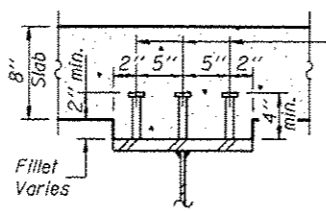


SECTION AT ABUTMENT

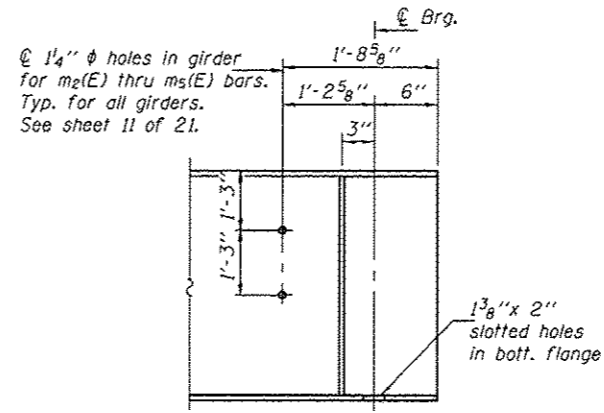


DIAPHRAGM D

*Alternate channel C15x50 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on lighter section. The alternate, if utilized, shall be provided at no cost to the department.



SECTION B-B

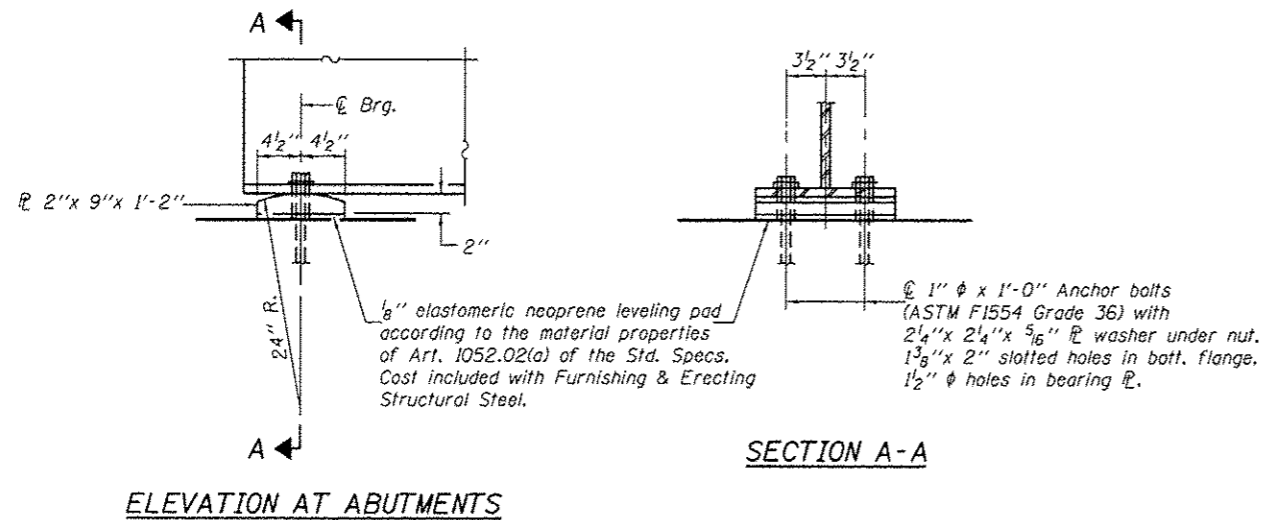


END OF GIRDER ELEVATION

Notes: Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2. Omit connecting plates on exterior side of exterior girder. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts.

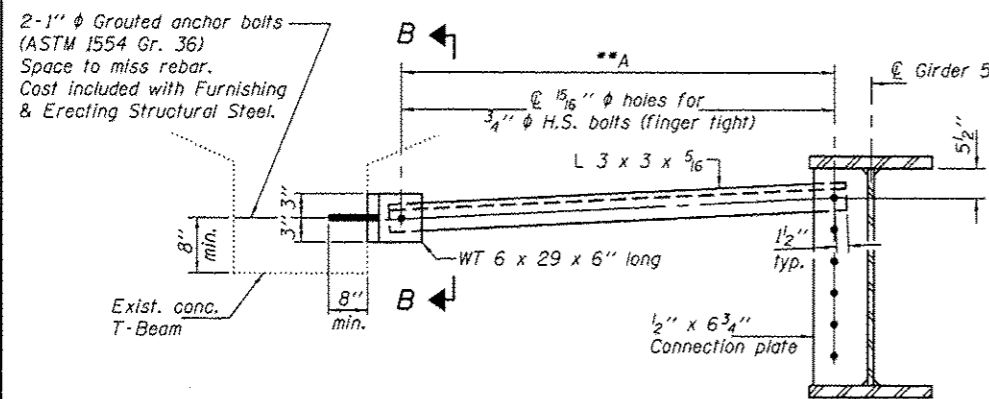
▲ SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolope	EXAMINED - <i>Joan F. [Signature]</i> ACTING ENGINEER OF BRIDGE DESIGN	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL STRUCTURE NO. 035-0016	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
CHECKED - Stephen M. Ryan	PASSED - <i>[Signature]</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			885	11B-1	HARDIN	50	34	
DRAWN - h.t. duong		REVISED			CONTRACT NO. T8152					
CHECKED - GRA/SMR					ILLINOIS FED. AID PROJECT					
					SHEET NO. 14 OF 21 SHEETS					

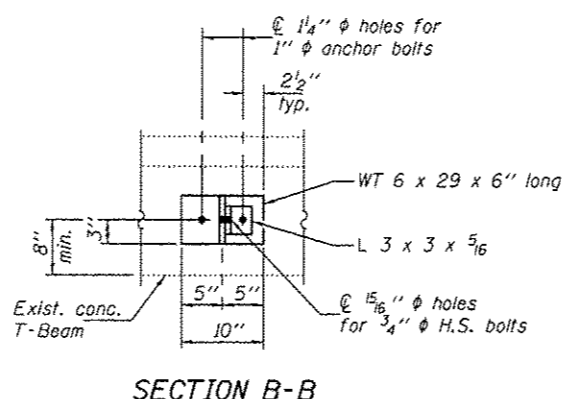


ELEVATION AT ABUTMENTS

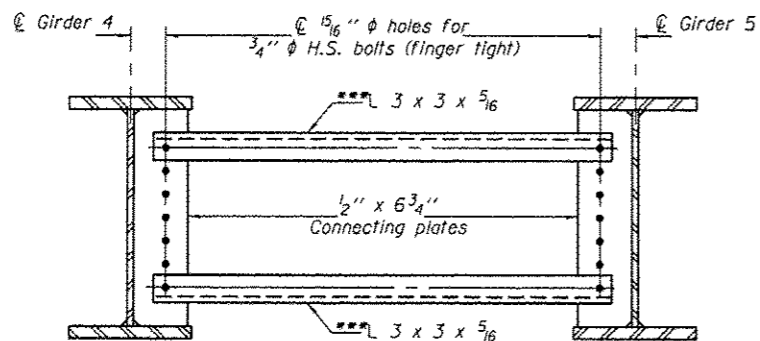
ABUTMENT BEARING
(14 Required)



TEMPORARY BRACING FOR STAGE I CONSTRUCTION
(5 Required)



SECTION B-B



TEMPORARY BRACING FOR STAGE II CONSTRUCTION
(5 Required)

*TOP OF WEB ELEVATIONS

	© Brg. W. Abut.	© Brg. E. Abut.
Girder 1	369.72	372.38
Girder 2	369.54	372.17
Girder 3	369.35	371.96
Girder 4	369.17	371.76
Girder 5	368.99	371.55
Girder 6	368.81	371.34
Girder 7	368.63	371.13

*For fabrication use only.

▲ SHEET ADDED 1-4-13

INTERIOR GIRDER MOMENT TABLE		
0.5 Span		
I_s	(in ⁴)	26794
$I_c(n)$	(in ⁴)	52287
$I_c(3n)$	(in ⁴)	39274
S_s	(in ³)	1134
$S_c(n)$	(in ³)	1401
$S_c(3n)$	(in ³)	1294
DC1	(k/')	.842
DC2	(k/')	.129
M _{DC1}	(k)	1029
M _{DC2}	(k)	158
DW	(k/')	.283
M _{DW}	(k)	346
$M_k \cdot IM$	(k)	1378
M_u (Strength I)	(k)	4414
$\phi_r M_n$	(k)	6657
f_s DC1	(ksi)	10.9
f_s DC2	(ksi)	1.5
f_s DW	(ksi)	3.2
f_s ($k \cdot IM$)	(ksi)	11.8
f_s (Service II)	(ksi)	30.9
$0.95R_n F_y f$	(ksi)	47.5
V_r	(k)	27.4

INTERIOR GIRDER REACTION TABLE		
		Abut.
R_{DC1}	(k)	41.6
R_{DC2}	(k)	6.4
R_{DW}	(k)	14.0
$R_k \cdot IM$	(k)	84.6
R_{Total}	(k)	146.6

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in⁴ and in³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in⁴ and in³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_k \cdot IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
- $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k \cdot IM$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
- M_{DC1} / S_{nc}
- f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
- $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
- f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
- $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
- f_s ($k \cdot IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
- $M_k \cdot IM / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.
- f_s (Service II): Sum of stresses as computed below (ksi).
- $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (k \cdot IM)$
- $0.95R_n F_y f$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- V_r : Maximum factored shear range in span computed according to Article 6.10.10.

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

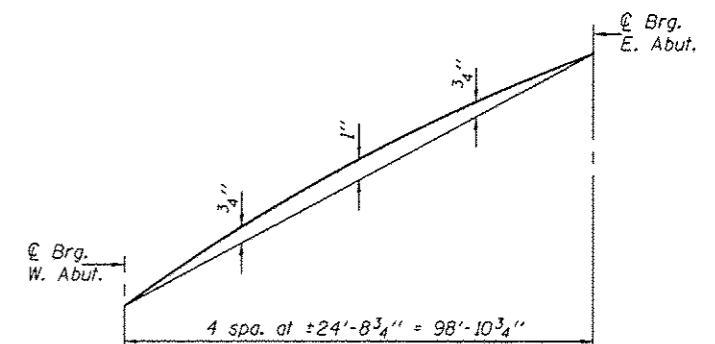
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

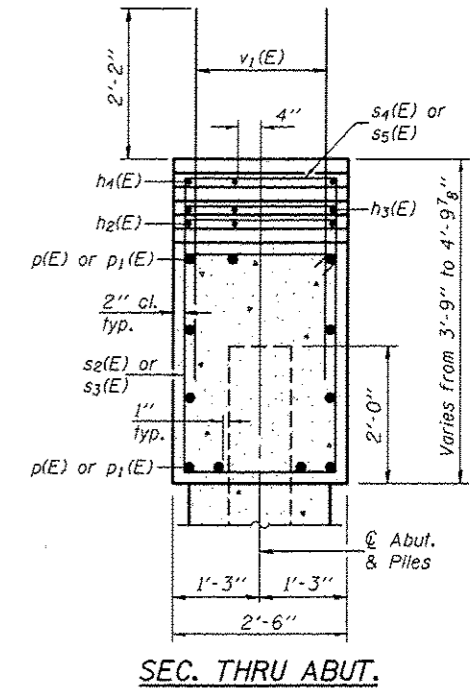
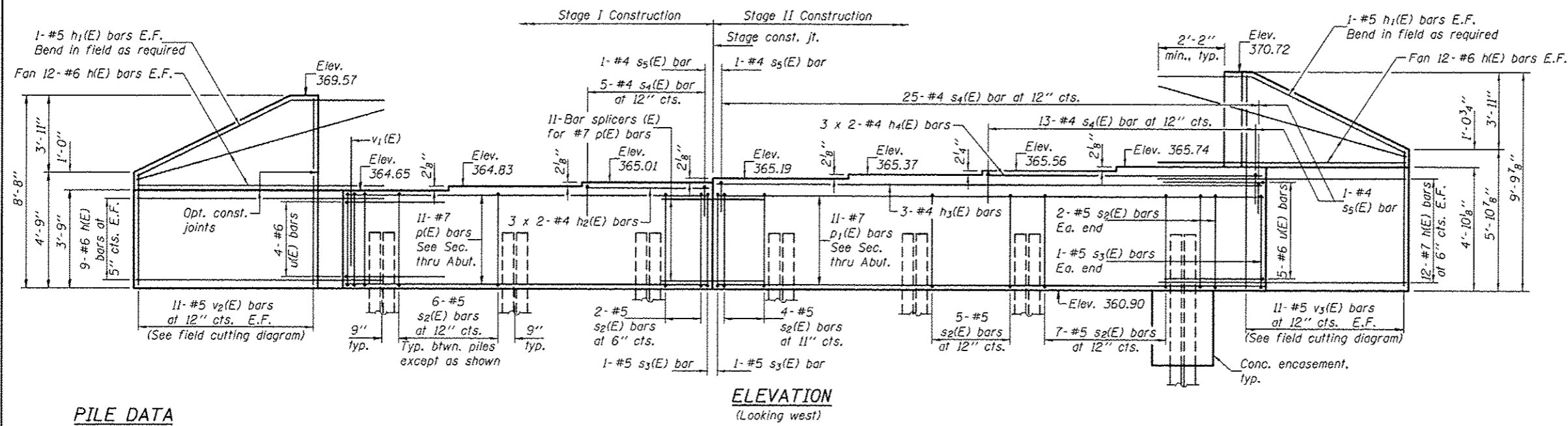
Two hardened washers required for each set of oversized holes.

**The horizontal dimension A between the holes in the diaphragm connection plate and L 3 1/2 x 3 1/2 shall be measured in the field. The holes in the L 3 1/2 x 3 1/2 shall be field drilled at this dimension. Cost included with Furnishing & Erecting Structural Steel.

**L 3 x 3 x 5/16 to be used as temporary during Stage I and Stage II deck pour. Remove and replace with diaphragm D after Stage II deck pour is complete. Use between Girders 4 & 5 only. Cost included with Furnishing & Erecting Structural Steel.

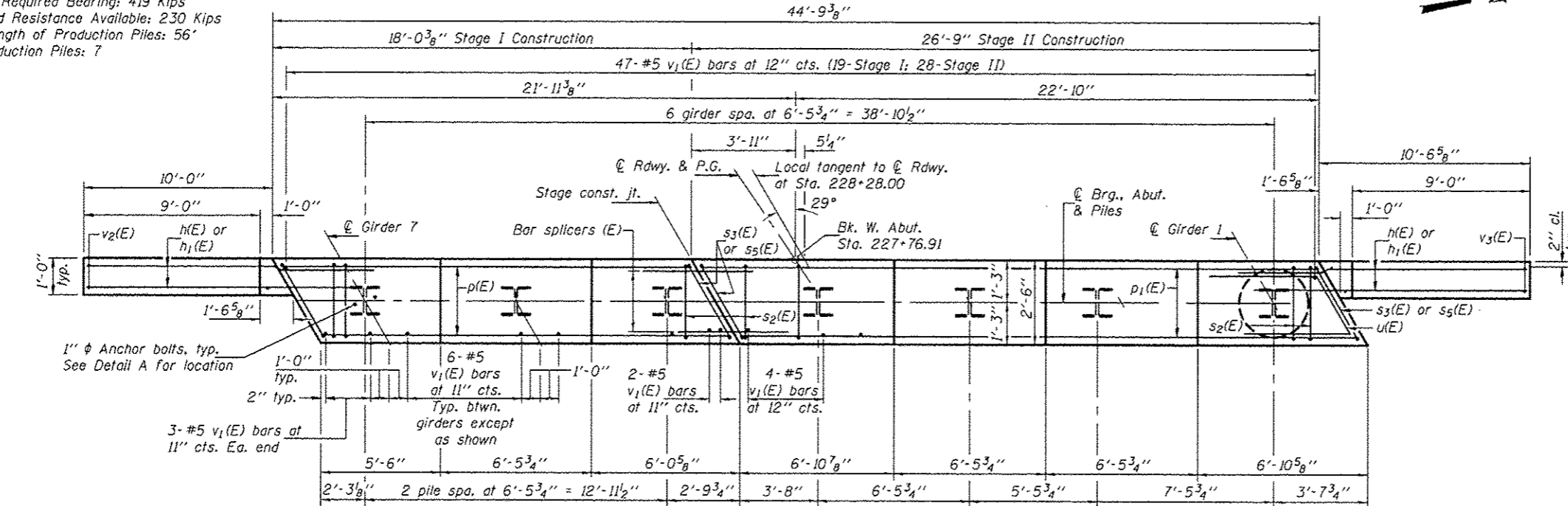


CAMBER DIAGRAM



PILE DATA
 Type: Steel HP12x53 with pile shoes
 Nominal Required Bearing: 419 Kips
 Factored Resistance Available: 230 Kips
 Est. Length of Production Piles: 56'
 No. Production Piles: 7

ELEVATION
(Looking west)



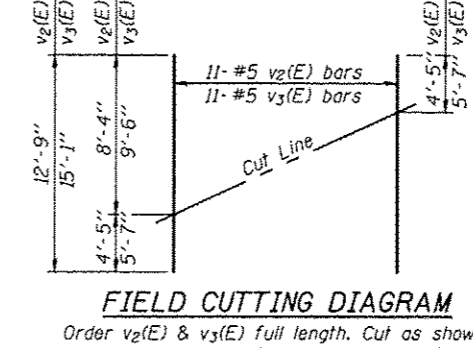
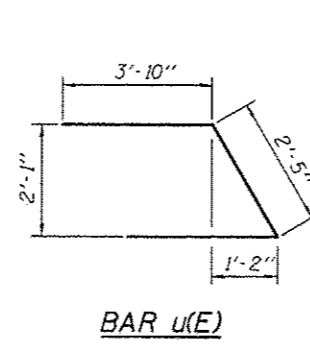
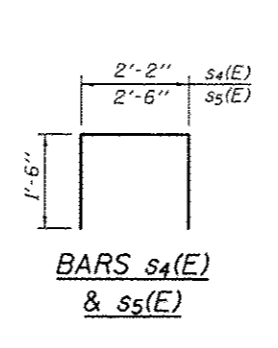
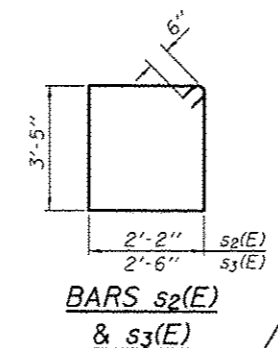
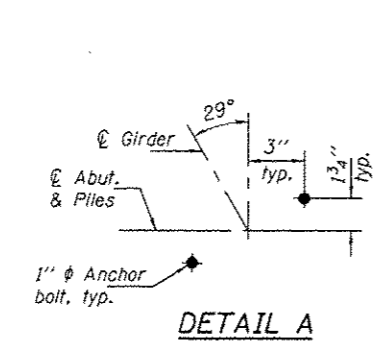
PLAN

BILL OF MATERIAL

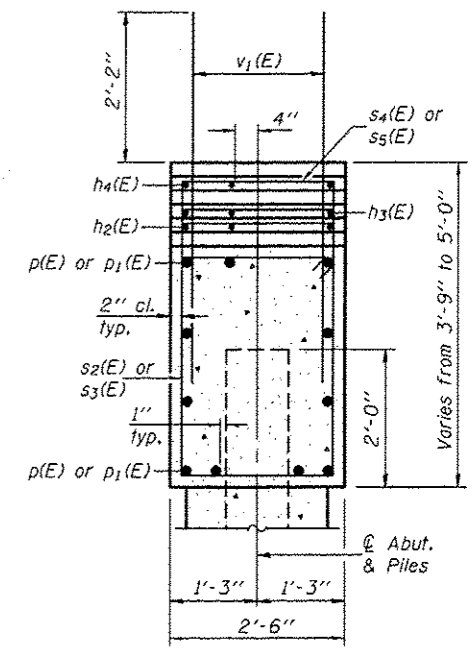
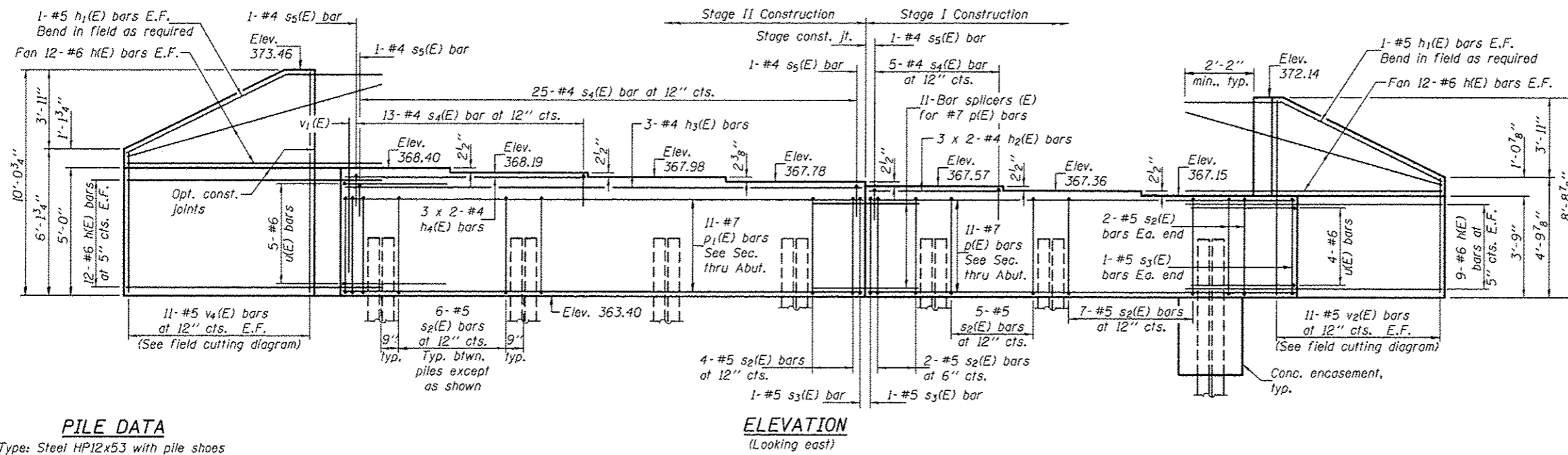
Bar	No.	Size	Length	Shape
h1(E)	90	#6	12'-6"	—
h2(E)	4	#5	13'-3"	—
h3(E)	6	#4	3'-10"	—
h4(E)	3	#4	26'-5"	—
h5(E)	4	#4	7'-6"	—
p(E)	11	#7	17'-8"	—
p1(E)	11	#7	26'-5"	—
s2(E)	40	#5	12'-2"	□
s3(E)	4	#5	12'-10"	□
s4(E)	43	#4	5'-2"	□
s5(E)	4	#4	5'-6"	□
u(E)	9	#6	10'-1"	∩
v1(E)	89	#5	4'-4"	—
v2(E)	11	#5	12'-9"	—
v3(E)	11	#5	15'-1"	—
Structure Excavation	Cu. Yd.		24.6	
Concrete Structures	Cu. Yd.		23.5	
Reinforcement Bars, Epoxy Coated	Pound		4420	
Furnishing Steel Piles HP12x53	Foot		392	
Driving Piles	Foot		392	
Pile Shoes	Each		7	
Concrete Encasement	Cu. Yd.		2.4	
Anchor Bolts 1"	Each		14	

Notes:
 Pour steps monolithically with cap.

MIN. BAR LAP
 #4 bar = 1'-10"



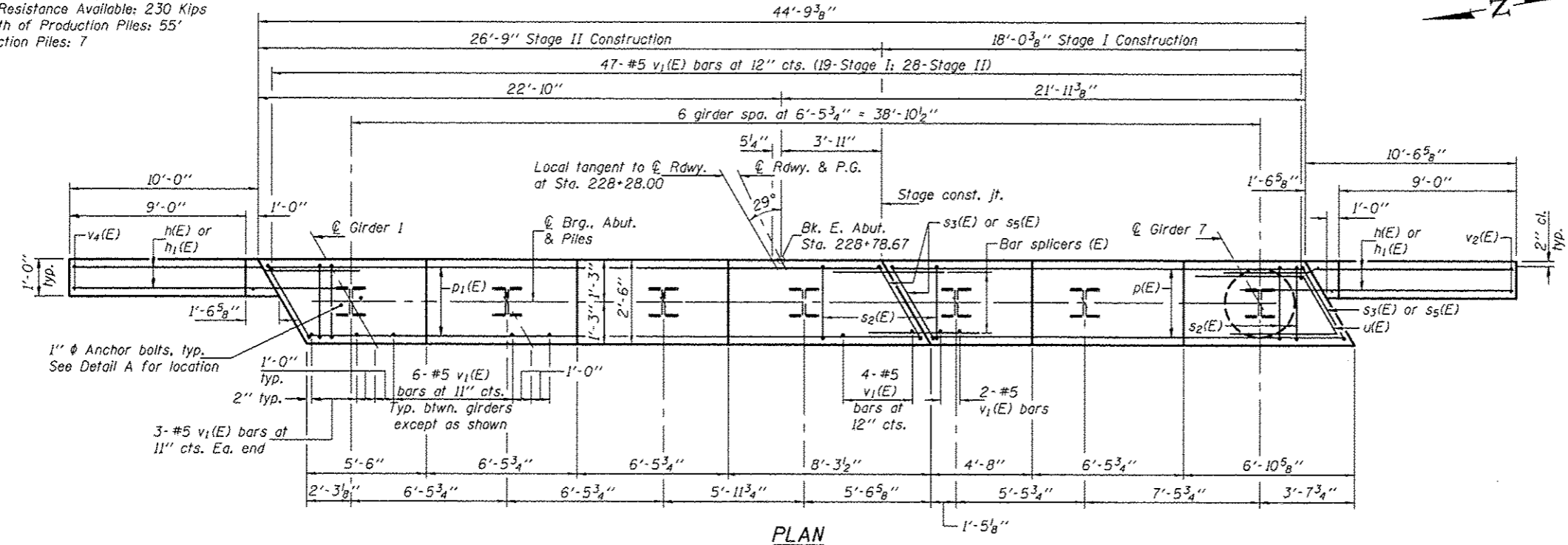
1 SHEET ADDED 1-4-13



PILE DATA

Type: Steel HP12x53 with pile shoes
 Nominal Required Bearing: 419 Kips
 Factored Resistance Available: 230 Kips
 Est. Length of Production Piles: 55'
 No. Production Piles: 7

ELEVATION
(Looking east)



PLAN

BILL OF MATERIAL

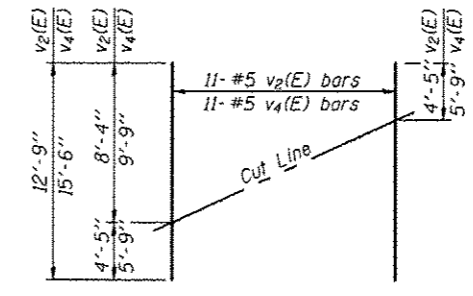
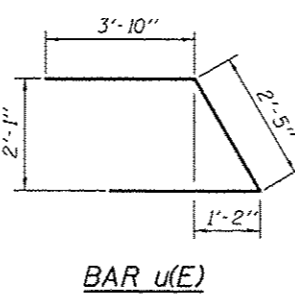
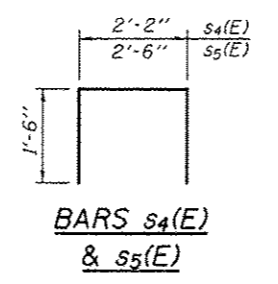
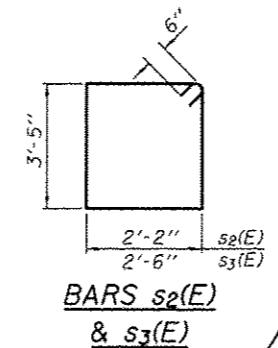
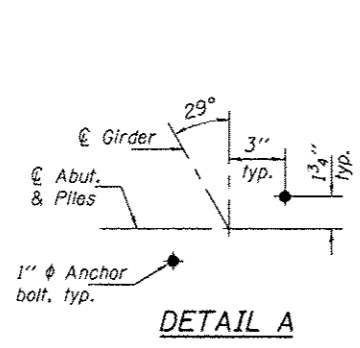
Bar	No.	Size	Length	Shape
h1(E)	90	#6	12'-6"	—
h2(E)	4	#5	13'-3"	—
h3(E)	6	#4	3'-10"	—
h4(E)	3	#4	26'-5"	—
h4(E)	6	#4	7'-6"	—
p(E)	11	#7	17'-8"	—
p1(E)	11	#7	26'-5"	—
s2(E)	40	#5	12'-2"	□
s3(E)	4	#5	12'-10"	□
s4(E)	43	#4	5'-2"	□
s5(E)	4	#4	5'-6"	□
u(E)	9	#6	10'-1"	△
v1(E)	89	#5	4'-4"	—
v2(E)	11	#5	12'-9"	—
v4(E)	11	#5	15'-6"	—

Structure Excavation	Cu. Yd.	24.6
Concrete Structures	Cu. Yd.	24.1
Reinforcement Bars, Epoxy Coated	Pound	4420
Furnishing Steel Piles HP12x53	Foot	385
Driving Piles	Foot	385
Pile Shoes	Each	7
Concrete Encasement	Cu. Yd.	2.4
Anchor Bolts 1"	Each	14

For details of bar splicers, see sheet 18 of 21.
 For details of piles and concrete encasement, see sheet 19 of 21.

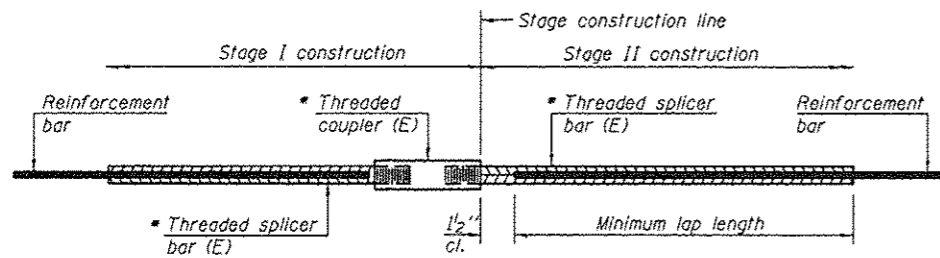
Notes:
 Pour steps monolithically with cap.

MIN. BAR LAP
 #4 bar = 1'-10"



FIELD CUTTING DIAGRAM
 Order v2(E) & v4(E) full length. Cut as shown and use remainder of bars in opposite face.

▲ SHEET ADDED 1-4-13



STANDARD BAR SPLICER ASSEMBLY

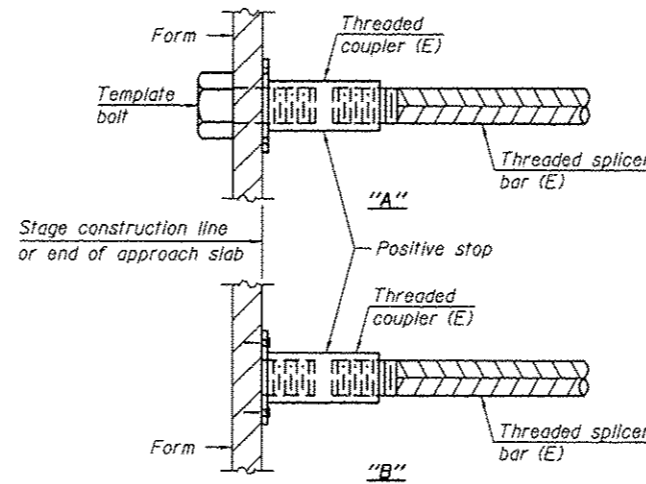
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

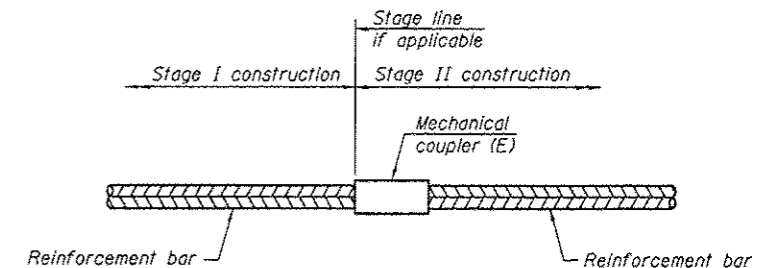
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Approach	#4	50	4
Deck, Approach & Appr. Footing	#5	462	3
Abutment Diaph.	#6	16	4
Abutment Cap	#7	22	4



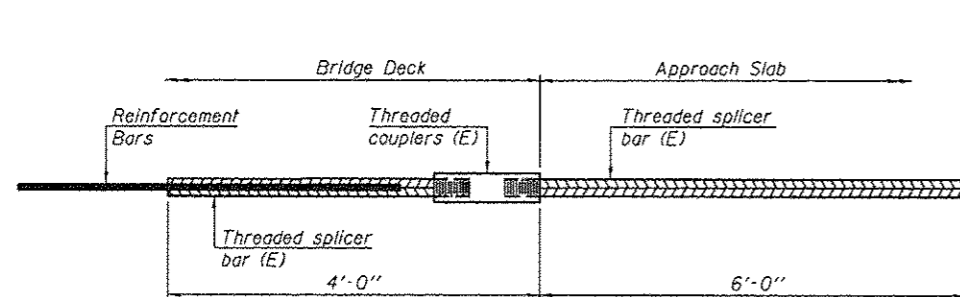
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



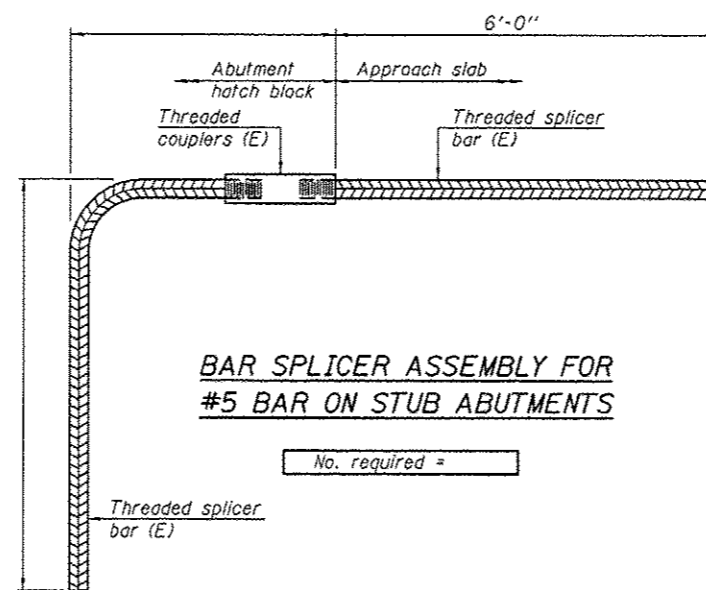
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 80



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-27-12

1 SHEET ADDED 1-4-13

DESIGNED - Michael O. Rolape
 CHECKED - Stephen M. Ryan
 DRAWN - h.f. duong
 CHECKED - CRA/SMR

EXAMINED - *John F. [Signature]*
 ACTING ENGINEER OF BRIDGE DESIGN
 PASSED - *[Signature]*
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

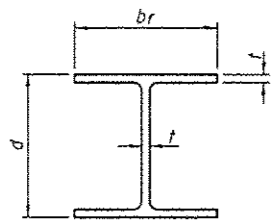
DATE - NOVEMBER 21, 2012
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 035-0016

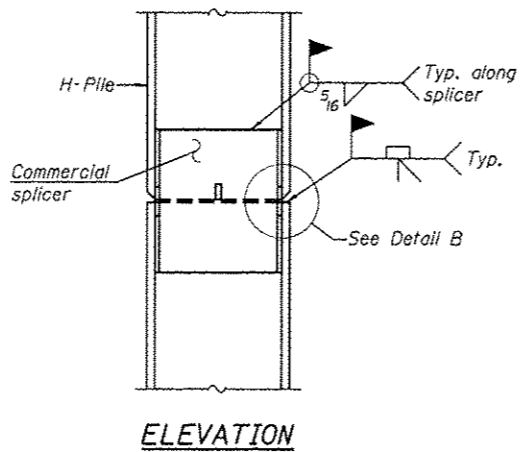
SHEET NO. 18 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	118-1	HARDIN	50	38
				CONTRACT NO. 78152
[ILLINOIS] FED. AID PROJECT				

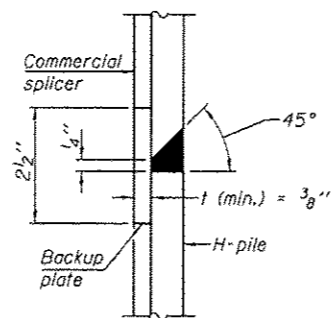


STEEL PILE TABLE

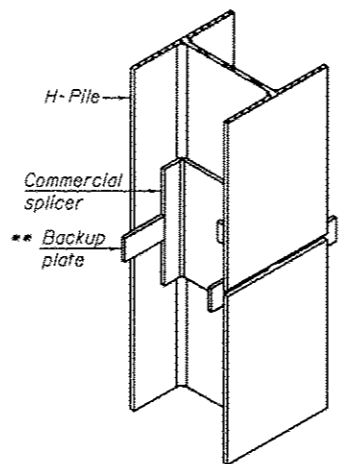
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 5/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 5/8"	7/16"	24"
HP 8x36	8"	8 5/8"	7/16"	18"



ELEVATION

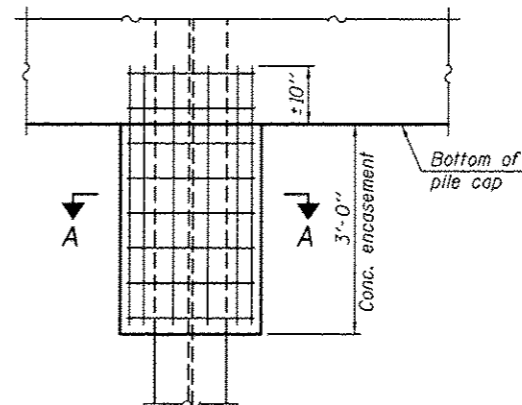


DETAIL "B"



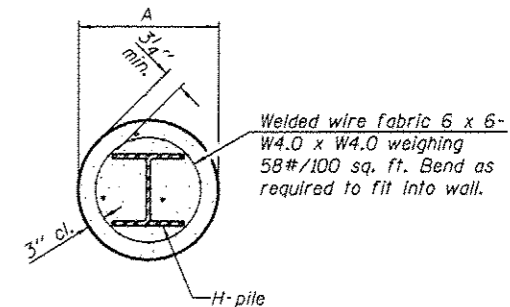
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



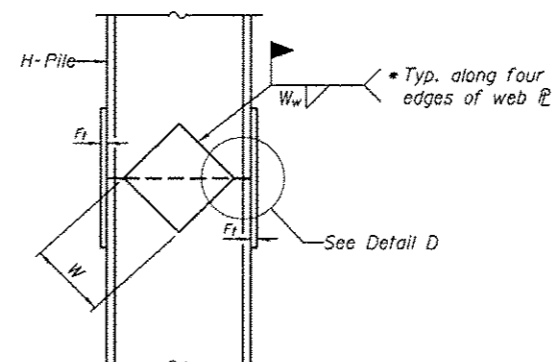
ELEVATION

PILE ENCASEMENT

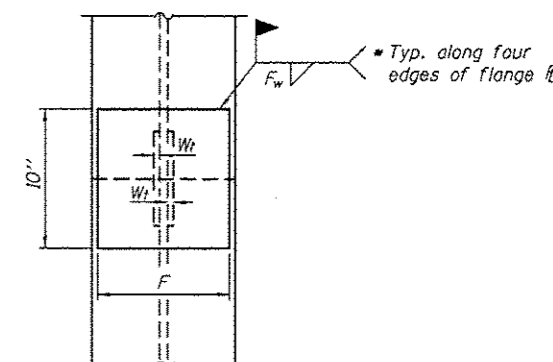


SECTION A-A

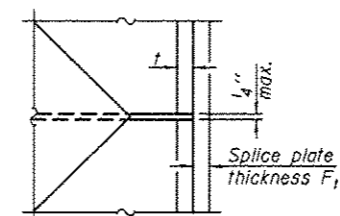
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



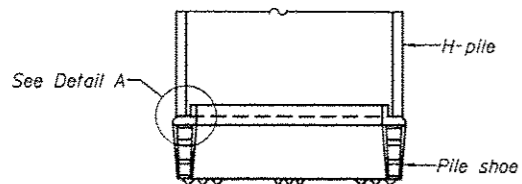
END VIEW



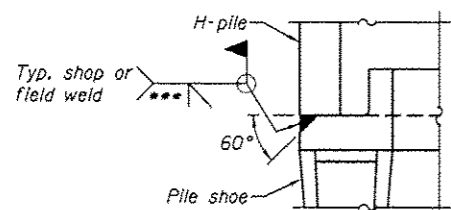
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

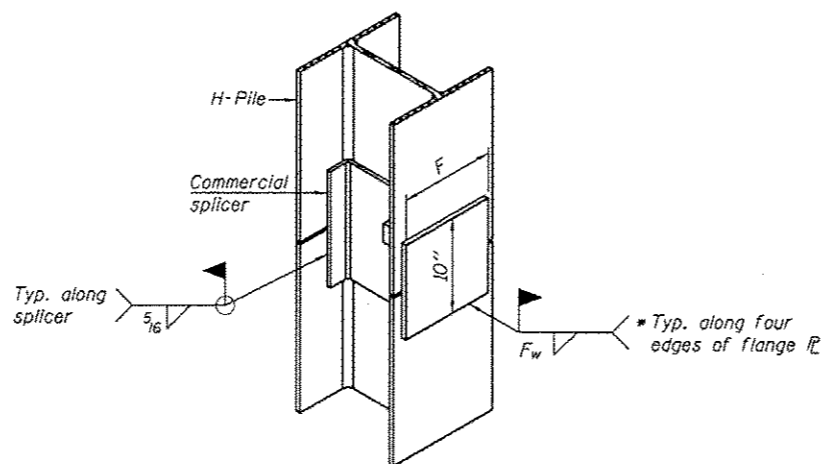


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP

1-27-12

⚠ SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolapo	EXAMINED - <i>James F. [Signature]</i>	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO. 035-0016	F.A.P. RTE. 885	SECTION 118-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 39	
CHECKED - Stephen M. Ryan	PASSED - <i>Carl [Signature]</i>	REVISED			CONTRACT NO. 78152					
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			ILLINOIS FED. AID PROJECT					
CHECKED - GRA/SMR					SHEET NO. 19 OF 21 SHEETS					

Illinois Department of Transportation
Division of Highways
District Nine, Matiasdale

SOIL BORING LOG

Page 1 of 2
Date 9/20

ROUTE FAP 885 (IL 146) DESCRIPTION FAP 885 (IL 146) over Peters Creek LOGGED BY R. Moberly

SECTION 11B-1 LONGITUDE _____ LATITUDE _____

COUNTY Hardin DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO. 035-0012
Station 228+28

BORING NO. 1-S
Station 227+60
Offset 9.00 ft
Ground Surface Elev. 359.9 ft

DEPTH (ft)	BULGE (ft)	SHEAR (lb)	UNCONSOLIDATED QUANTITY	SOIL DESCRIPTION	DEPTH (ft)	BULGE (ft)	SHEAR (lb)	UNCONSOLIDATED QUANTITY	ELEVATION (ft)	
									Surface Water	Stream Bed
0				Asphalt and Concrete	355.8				355.8	
2				Medium to soft, very moist, grey, Silty Clay A7-6 (continued)						
2.5	0.4	25	WH							
3										
3.5										
4										
4.5										
5										
5.5										
6										
6.5										
7										
7.5										
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20										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)
BBS, form 137 (Rev. 11-11)

Illinois Department of Transportation
Division of Highways
District Nine, Matiasdale

SOIL BORING LOG

Page 2 of 2
Date 9/20

ROUTE FAP 885 (IL 146) DESCRIPTION FAP 885 (IL 146) over Peters Creek LOGGED BY R. Moberly

SECTION 11B-1 LONGITUDE _____ LATITUDE _____

COUNTY Hardin DRILLING METHOD _____ HAMMER TYPE _____

STRUCT. NO. 035-0012
Station 228+28

BORING NO. 1-S
Station 227+60
Offset 9.00 ft
Ground Surface Elev. 359.9 ft

DEPTH (ft)	BULGE (ft)	SHEAR (lb)	UNCONSOLIDATED QUANTITY	SOIL DESCRIPTION	DEPTH (ft)	BULGE (ft)	SHEAR (lb)	UNCONSOLIDATED QUANTITY	ELEVATION (ft)	
									Surface Water	Stream Bed
4	1.3	30	WH	Stiff, moist, brown, Clay A7-6 (continued)						
4.5										
5										
5.5										
6										
6.5										
7										
7.5										
8										
8.5										
9										
9.5										
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17.5										
18										
18.5										
19										
19.5										
20										

Free water observed at 17.0 feet.
Elevation referenced to BM at NW wingwell; Elev. = 370.8 feet
Borehole advanced with hollow stem auger (8" O.D., 3.25" I.D.)
To convert "N" values to "N60", multiply by 1.25.

Bottom of hole = 58.1 feet

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)
BBS, form 137 (Rev. 11-11)

1 SHEET ADDED 1-4-13

DESIGNED - Michael D. Rolape	EXAMINED - <i>James F. Jaffe</i> ACTING ENGINEER OF BRIDGE DESIGN	DATE - NOVEMBER 21, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 035-0016	F.A.P. RTE. 885	SECTION 11B-1	COUNTY HARDIN	TOTAL SHEETS 50	SHEET NO. 40
CHECKED - Stephen M. Ryan	PASSED - <i>Carl...</i> ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 20 OF 21 SHEETS					
DRAWN - Michael B. Mosaman		REVISED -							
CHECKED - GRA/SMR									CONTRACT NO. 78152 [ILLINOIS] FED. AID PROJECT

