

GENERAL NOTES

Fasteners shall be ASTM A325 Type 3. Bolts 3/4" φ, holes 5/8" φ, unless otherwise noted.

Calculated weight of Structural Steel = 98850 lbs (M 270 Grade 50W).

All structural steel shall be AASHTO M 270 Grade 50W.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete diaphragm plus 1'-6". Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.

The Contractor is advised that the existing structure contains members that are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal of the structure.

Slipforming of parapet is not allowed.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Granular Backfill for Structures	Cu. Yd.		135	135
Stone Riprap, Class A4	Sq. Yd.		915	915
Filter Fabric	Sq. Yd.		915	915
Removal of Existing Structures No. 3	Each	1		1
Structure Excavation	Cu. Yd.		132	132
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		83.5	83.5
Concrete Superstructure	Cu. Yd.	247.0		247.0
Bridge Deck Grooving	Sq. Yd.	504		504
Protective Coat	Sq. Yd.	643		643
Furnishing and Erecting Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	1386		1386
Reinforcement Bars, Epoxy Coated	Pound	58340	9500	67840
Furnishing Metal Shell Piles 14"x .312"	Foot		438	438
Driving Piles	Foot		438	438
Test Pile Metal Shells	Each		2	2
Name Plates	Each		1	1
Anchor Bolt 1"	Each		24	24
Geocomposite Wall Drain	Sq. Yd.		94	94
Pipe Underdrains for Structures, 4"	Foot		174	174
Asbestos Bearing Pad Removal	Each		22	22

WATERWAY INFORMATION

		Existing Low Grade Elev. 785.35 @ Sta. 682+00		Proposed Low Grade Elev. 785.85 @ Sta. 685+00		
Flood	Freq. Yr.	0	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
		C.F.S.	Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	10	851	195 306	780.2	0.1 0.0	780.2 780.2
Base	50	1390	236 356	781.1	0.3 0.0	781.3 781.1
Overtopping	100	1640	249 373	781.4	1.3 0.1	782.7 781.5
Max. Calc.	500	2230	274 405	782.0	1.3 1.0	783.2 782.9

10-year existing velocity = 4.2 ft./sec.

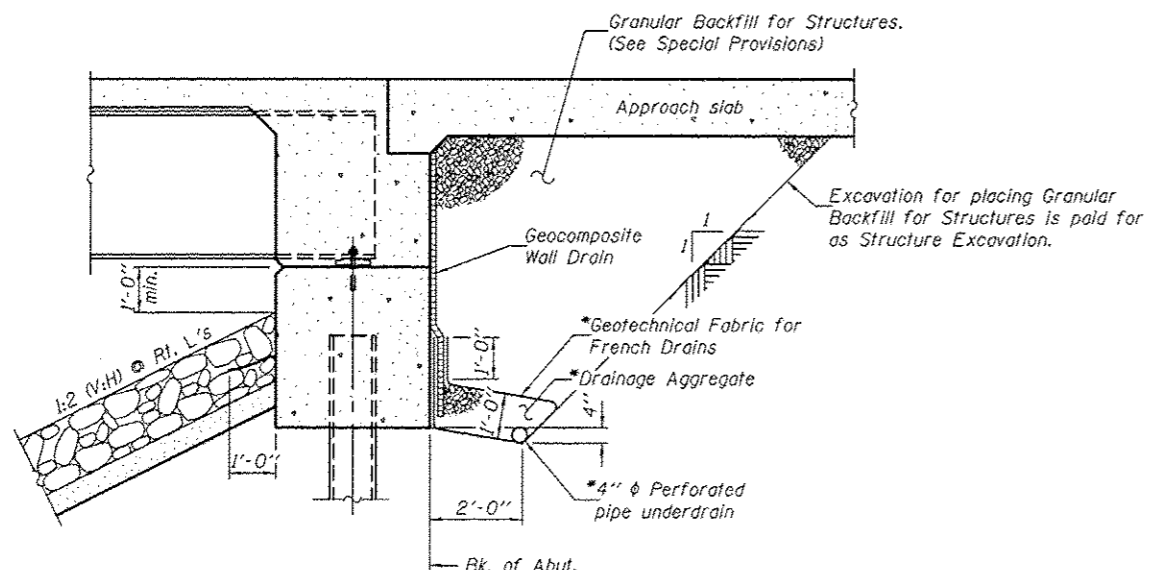
10-year proposed velocity = 2.8 ft./sec.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)		
	E. Abut.	W. Abut.
Q500	779.01	779.01

INDEX OF SHEETS

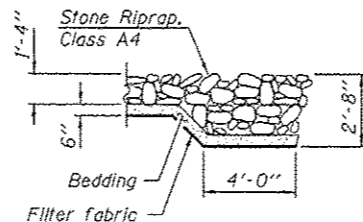
- 1 General Plan & Elevation
- 2 General Data
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- 5 Top of East Approach Slab Elevations
- 6 Top of West Approach Slab Elevations
- 7 Superstructure
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- 12 Structural Steel
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- 14 East Abutment
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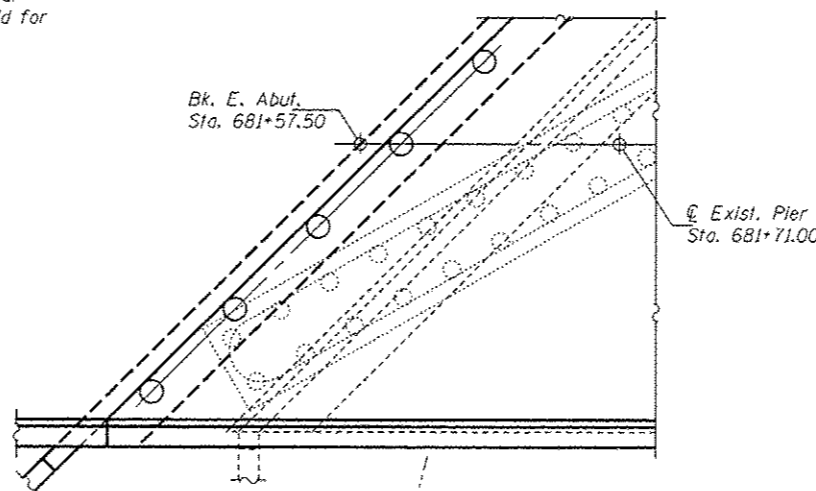
SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:
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 60110).

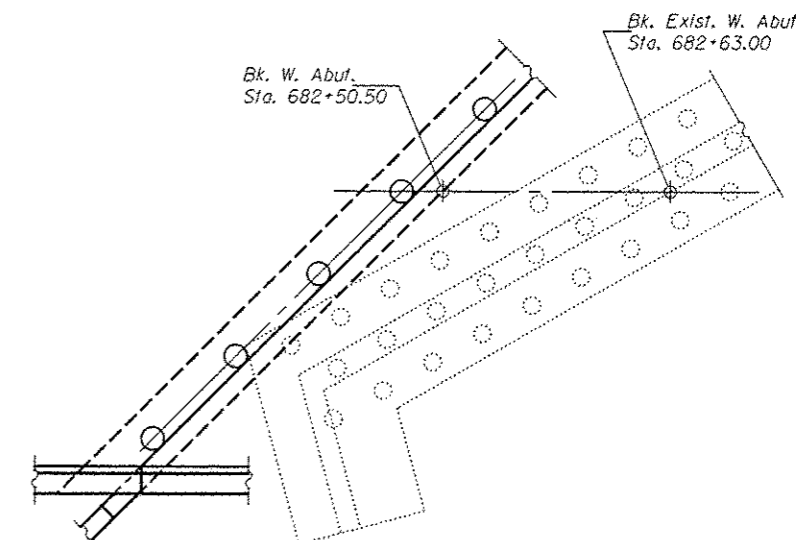


SECTION A-A



EXISTING & PROPOSED PILES AT WEST ABUTMENT

Information shown regarding existing pier & piles is from 1931 existing plans. There may be variations in the existing field conditions.



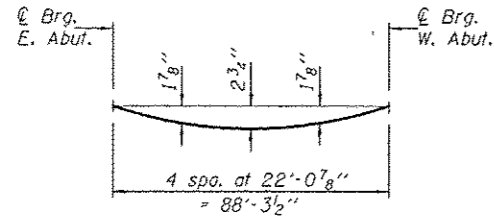
EXISTING & PROPOSED PILES AT EAST ABUTMENT

Information shown regarding existing pier & piles is from 1931 existing plans. There may be variations in the existing field conditions.

△ Entire sheet revised.

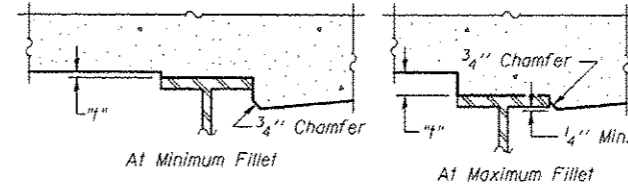
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DESIGNED - Foss Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 027-0102 SHEET NO. 2 OF 21 SHEETS	F.A.P. RTE. 71	SECTION (115)BR, BR-1C, BR-4	COUNTY FORD	TOTAL SHEETS	SHEET NO.
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>	REVISED △ 12/21/2015 F.T.						158	101
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	CONTRACT NO. 66994		ILLINOIS FED. AID PROJECT				
CHECKED - GRA									



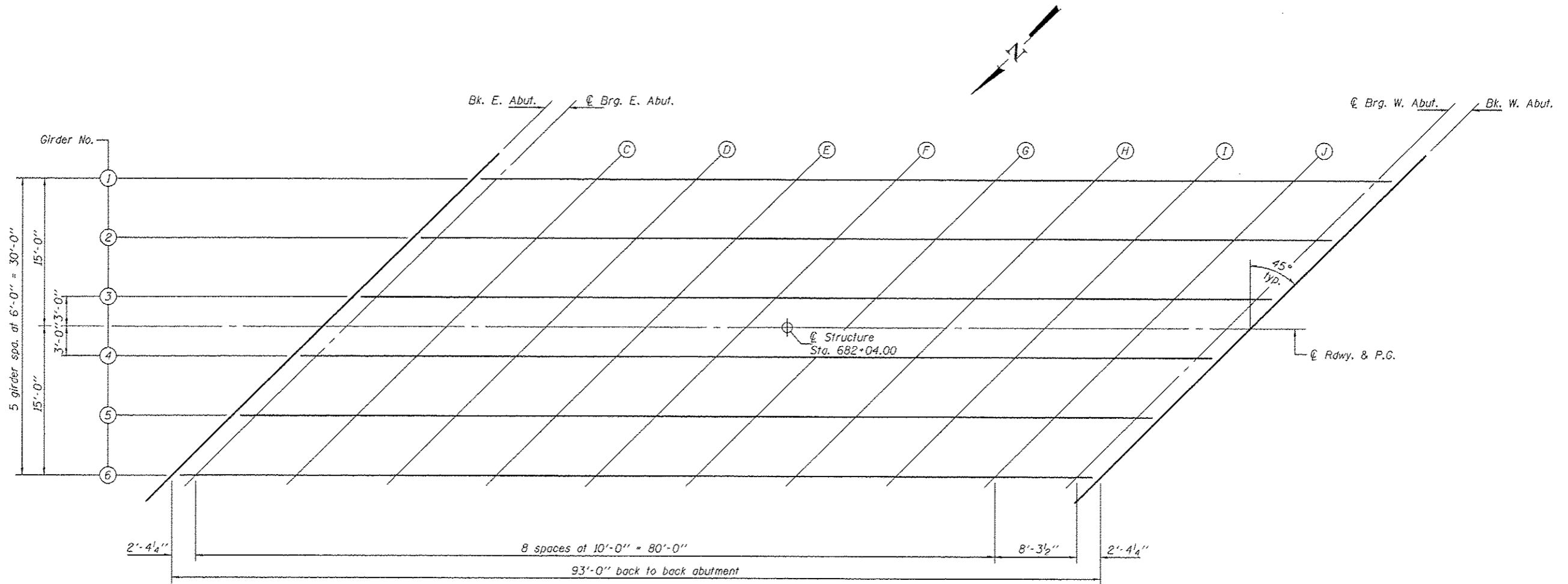
DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

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 4 of 21.



To determine "t": 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 4 of 21, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS



PLAN

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Entire sheet revised.

DESIGNED - Foss Teklehmanot	EXAMINED - <i>James F. [Signature]</i>
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>
DRAWN - h.t. duong	
CHECKED - GRA	

ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 23, 2015
REVISED Δ 12/21/2015 F.T.
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 027-0102

SHEET NO. 3 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	(115)BR, BR-1C, BR-4	FORD	158	102
CONTRACT NO. 66994				
ILLINOIS FED. AID PROJECT				

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+72.50	-15.00	786.69	786.69
⊕ Brg. E. Abut.	681+74.85	-15.00	786.69	786.69
C	681+84.85	-15.00	786.71	786.78
D	681+94.85	-15.00	786.72	786.86
E	682+04.85	-15.00	786.72	786.90
F	682+14.85	-15.00	786.72	786.93
G	682+24.85	-15.00	786.71	786.91
H	682+34.85	-15.00	786.69	786.87
I	682+44.85	-15.00	786.67	786.80
J	682+54.85	-15.00	786.64	786.70
⊕ Brg. W. Abut.	682+63.15	-15.00	786.61	786.61
Bk. W. Abut.	682+65.50	-15.00	786.60	786.60

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+66.50	-9.00	786.79	786.79
⊕ Brg. E. Abut.	681+68.85	-9.00	786.80	786.80
C	681+78.85	-9.00	786.81	786.89
D	681+88.85	-9.00	786.83	786.97
E	681+98.85	-9.00	786.83	787.02
F	682+08.85	-9.00	786.83	787.05
G	682+18.85	-9.00	786.83	787.04
H	682+28.85	-9.00	786.81	786.99
I	682+38.85	-9.00	786.80	786.93
J	682+48.85	-9.00	786.77	786.83
⊕ Brg. W. Abut.	682+57.15	-9.00	786.75	786.75
Bk. W. Abut.	682+59.50	-9.00	786.74	786.74

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+60.50	-3.00	786.87	786.87
⊕ Brg. E. Abut.	681+62.85	-3.00	786.88	786.88
C	681+72.85	-3.00	786.90	786.97
D	681+82.85	-3.00	786.91	787.06
E	681+92.85	-3.00	786.92	787.11
F	682+02.85	-3.00	786.93	787.14
G	682+12.85	-3.00	786.92	787.13
H	682+22.85	-3.00	786.92	787.10
I	682+32.85	-3.00	786.90	787.03
J	682+42.85	-3.00	786.88	786.94
⊕ Brg. W. Abut.	682+51.15	-3.00	786.86	786.86
Bk. W. Abut.	682+53.50	-3.00	786.85	786.85

⊕ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+57.50	0.00	786.91	786.91
⊕ Brg. E. Abut.	681+59.85	0.00	786.92	786.92
C	681+69.85	0.00	786.94	787.01
D	681+79.85	0.00	786.96	787.10
E	681+89.85	0.00	786.97	787.15
F	681+99.85	0.00	786.97	787.19
G	682+09.85	0.00	786.97	787.18
H	682+19.85	0.00	786.97	787.15
I	682+29.85	0.00	786.95	787.09
J	682+39.85	0.00	786.93	787.00
⊕ Brg. W. Abut.	682+48.15	0.00	786.92	786.92
Bk. W. Abut.	682+50.50	0.00	786.91	786.91

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+54.50	3.00	786.85	786.85
⊕ Brg. E. Abut.	681+56.85	3.00	786.86	786.86
C	681+66.85	3.00	786.89	786.96
D	681+76.85	3.00	786.90	787.05
E	681+86.85	3.00	786.92	787.10
F	681+96.85	3.00	786.93	787.14
G	682+06.85	3.00	786.93	787.14
H	682+16.85	3.00	786.92	787.10
I	682+26.85	3.00	786.91	787.04
J	682+36.85	3.00	786.89	786.95
⊕ Brg. W. Abut.	682+45.15	3.00	786.88	786.88
Bk. W. Abut.	682+47.50	3.00	786.87	786.87

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+48.50	9.00	786.74	786.74
⊕ Brg. E. Abut.	681+50.85	9.00	786.75	786.75
C	681+60.85	9.00	786.78	786.85
D	681+70.85	9.00	786.80	786.95
E	681+80.85	9.00	786.82	787.00
F	681+90.85	9.00	786.83	787.04
G	682+00.85	9.00	786.83	787.04
H	682+10.85	9.00	786.83	787.01
I	682+20.85	9.00	786.82	786.96
J	682+30.85	9.00	786.81	786.87
⊕ Brg. W. Abut.	682+39.15	9.00	786.80	786.80
Bk. W. Abut.	682+41.50	9.00	786.79	786.79

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	681+42.50	15.00	786.60	786.60
⊕ Brg. E. Abut.	681+44.85	15.00	786.61	786.61
C	681+54.85	15.00	786.65	786.72
D	681+64.85	15.00	786.67	786.82
E	681+74.85	15.00	786.69	786.88
F	681+84.85	15.00	786.71	786.92
G	681+94.85	15.00	786.72	786.92
H	682+04.85	15.00	786.72	786.90
I	682+14.85	15.00	786.72	786.85
J	682+24.85	15.00	786.71	786.77
⊕ Brg. W. Abut.	682+33.15	15.00	786.69	786.69
Bk. W. Abut.	682+35.50	15.00	786.69	786.69

△ Entire sheet revised.

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DESIGNED - Fess Teklehaimanot	EXAMINED - <i>John F. J...</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS STRUCTURE NO. 027-0102	F.A.P. RTE. 71	SECTION (115)BR, BR-1C, BR-4	COUNTY FORD	TOTAL SHEETS 158	SHEET NO. 103
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>John F. J...</i>	REVISED △ 12/21/2015 F.T.			CONTRACT NO. 66994				
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			ILLINOIS FED. AID PROJECT				
CHECKED - GRA					SHEET NO. 4 OF 21 SHEETS				

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Appr. Slab	681+44.91	-16.00	786.59
A	681+54.91	-16.00	786.62
B	681+64.91	-16.00	786.65
West end of E. Appr. Slab	681+74.91	-16.00	786.67

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Appr. Slab	681+39.91	-11.00	786.68
A	681+49.91	-11.00	786.71
B	681+59.91	-11.00	786.74
West end of E. Appr. Slab	681+69.91	-11.00	786.77

Q ROADWAY & PROFILE GRADE

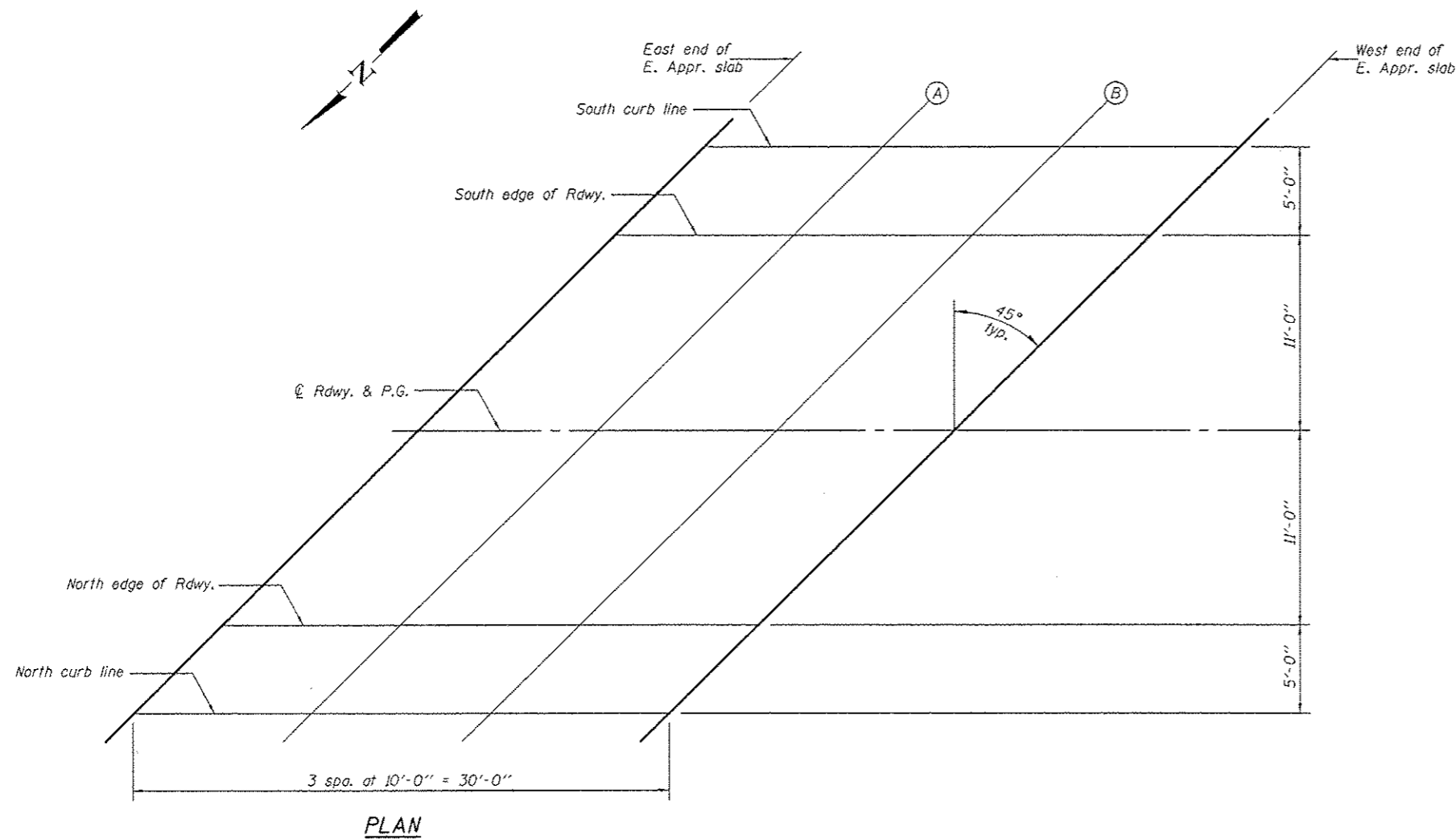
Location	Station	Offset	Theoretical Grade Elevations
East end of E. Appr. Slab	681+28.91	0.00	786.80
A	681+38.91	0.00	786.84
B	681+48.91	0.00	786.88
West end of E. Appr. Slab	681+58.91	0.00	786.91

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Appr. Slab	681+17.91	11.00	786.58
A	681+27.91	11.00	786.63
B	681+37.91	11.00	786.67
West end of E. Appr. Slab	681+47.91	11.00	786.71

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Appr. Slab	681+12.91	16.00	786.45
A	681+22.91	16.00	786.50
B	681+32.91	16.00	786.54
West end of E. Appr. Slab	681+42.91	16.00	786.58



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CHECKED - GRA		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 027-0102

SHEET NO. 5 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	(115)BR, BR-1C, BR-4	FORD	158	104
CONTRACT NO. 66994			ILLINOIS FED. AID PROJECT	

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	682+65.09	-16.00	786.58
K	682+75.09	-16.00	786.54
L	682+85.09	-16.00	786.50
West end of W. Appr. Slab	682+95.09	-16.00	786.45

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	682+60.09	-11.00	786.71
K	682+70.09	-11.00	786.67
L	682+80.09	-11.00	786.63
West end of W. Appr. Slab	682+90.09	-11.00	786.58

☉ ROADWAY & PROFILE GRADE

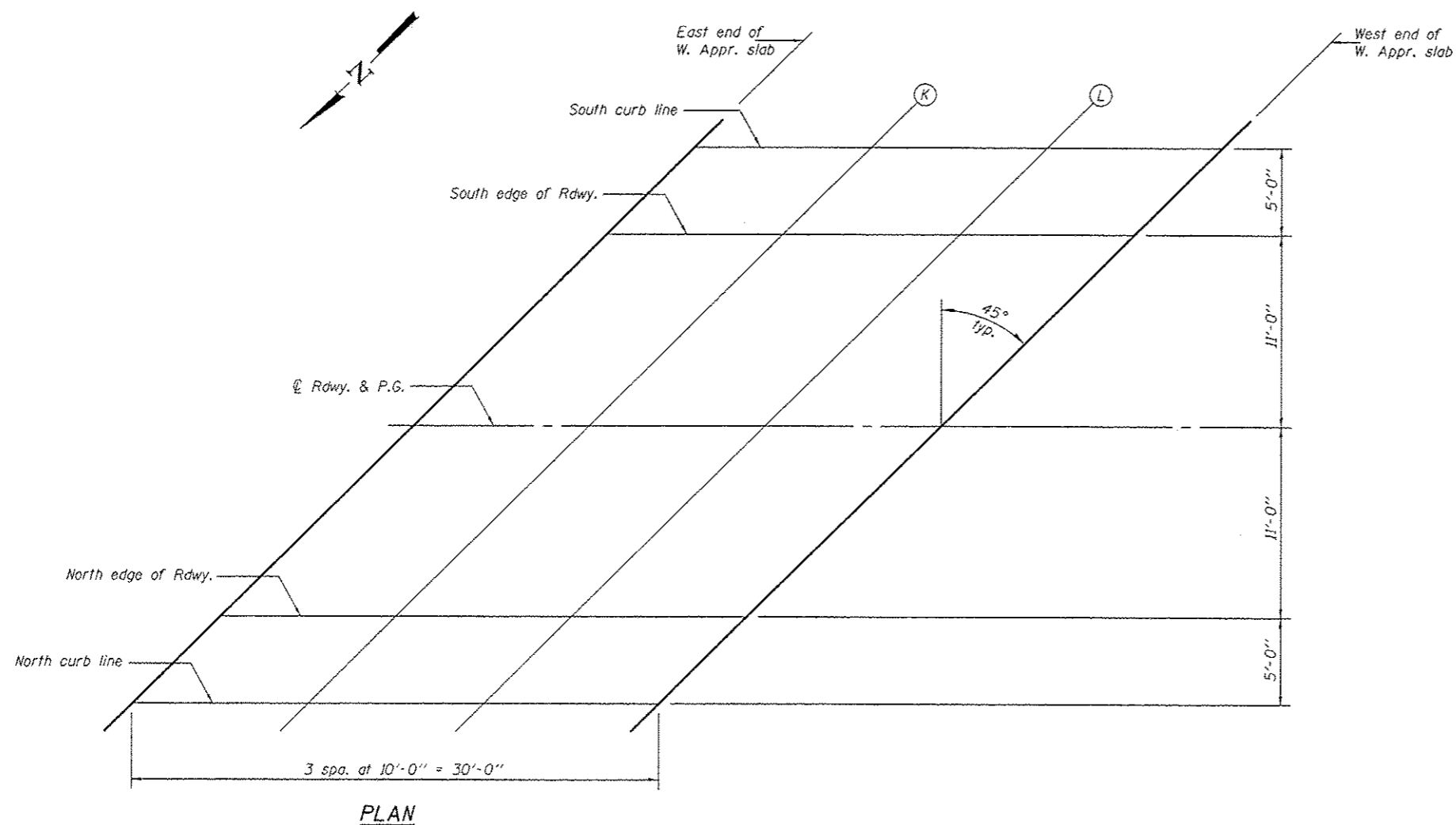
Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	682+49.09	0.00	786.91
K	682+59.09	0.00	786.88
L	682+69.09	0.00	786.85
West end of W. Appr. Slab	682+79.09	0.00	786.80

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	682+38.09	11.00	786.77
K	682+48.09	11.00	786.74
L	682+58.09	11.00	786.71
West end of W. Appr. Slab	682+68.09	11.00	786.68

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	682+33.09	16.00	786.67
K	682+43.09	16.00	786.65
L	682+53.09	16.00	786.62
West end of W. Appr. Slab	682+63.09	16.00	786.59



PLAN

⚠ Entire sheet revised.

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DESIGNED - Fess Teklehaimanot
 CHECKED - Josue D. Ortiz-Varela
 DRAWN - h.t. duong
 CHECKED - GRA

EXAMINED
 PASSED
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 23, 2015
 REVISED 12/21/2015 F.T.
 REVISED

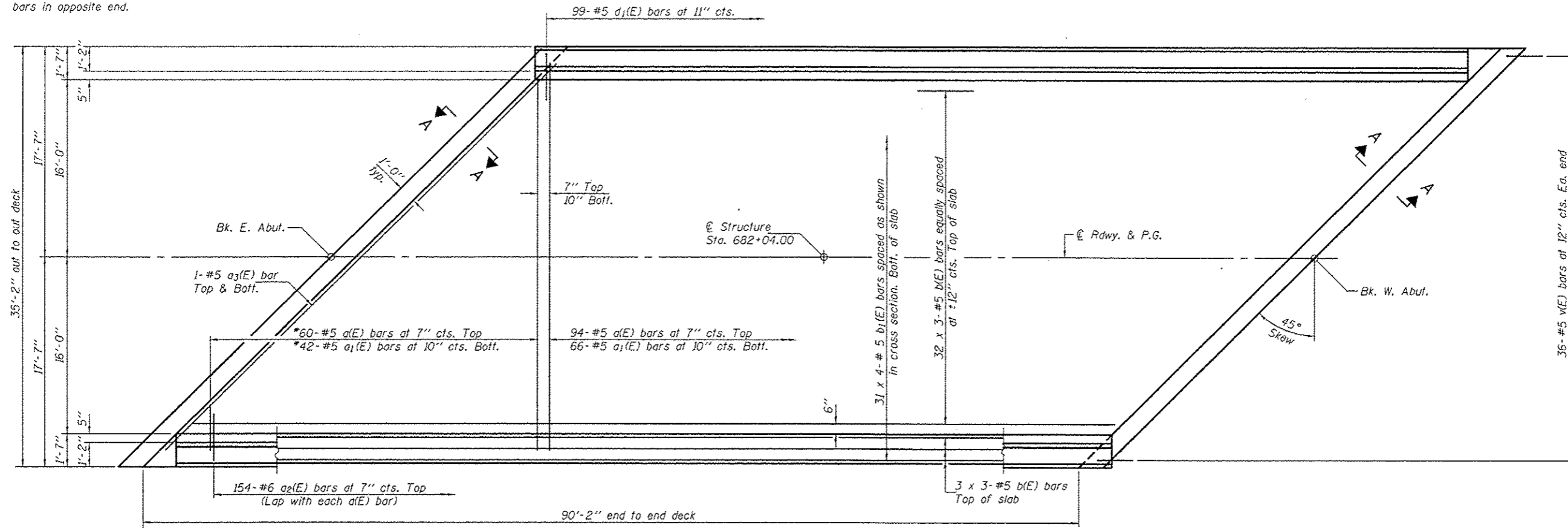
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS
 STRUCTURE NO. 027-0102**

SHEET NO. 6 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	(1)51BR, BR-1C, BR-4	FORD	158	105
CONTRACT NO. 66994				
ILLINOIS FEG. AID PROJECT				

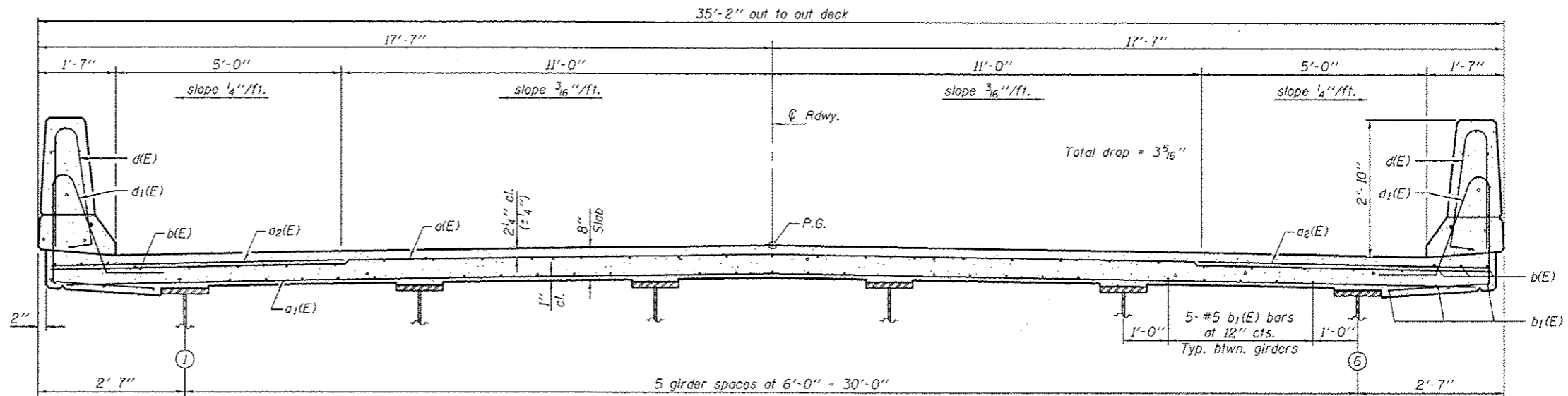
*Order d(E) and a₁(E) bars full length.
Cut to fit skew and use remainder of
bars in opposite end.



PLAN

MIN. BAR LAP
#5 bar = 2'-7"

Notes:
See sheet 8 of 21 for superstructure details
and Bill of Material.
Bars indicated thus 32 x 3-#5 etc. indicates
32 lines of bars with 3 lengths per line.
See sheet 8 of 21 for parapet reinforcement.
See sheet 9 of 21 for Section A-A.

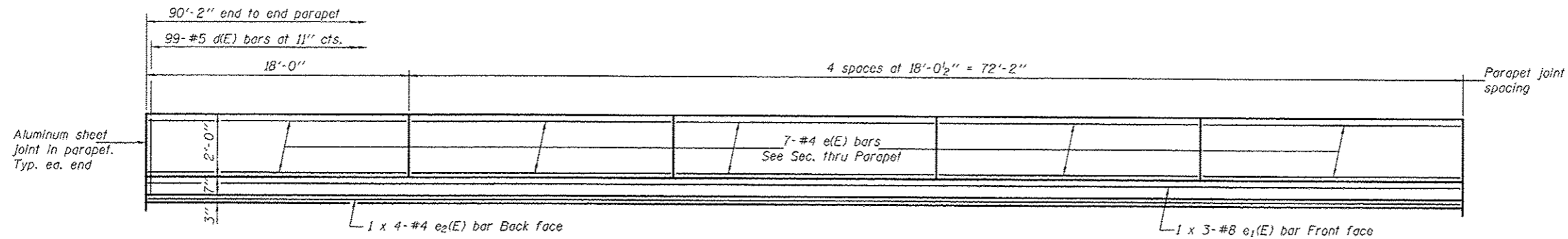


CROSS SECTION
(Looking West)

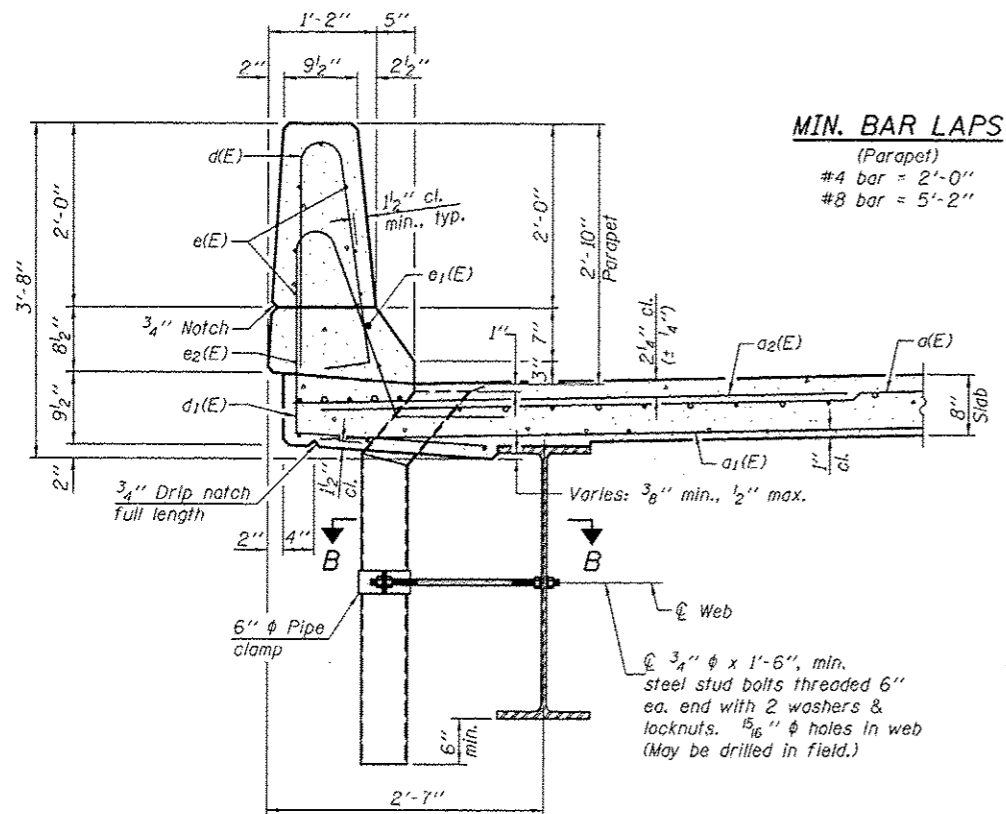
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DESIGNED - Fess Teklehaimanot	EXAMINED - <i>Joseph J. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 027-0102	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>	REVISED - 12/21/2015 F.T.			71	(115)BR, BR-1C, BR-4	FORD	158	106
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	SHEET NO. 7 OF 21 SHEETS		CONTRACT NO. 66994				
CHECKED - GRA					ILLINOIS FED. AID PROJECT				

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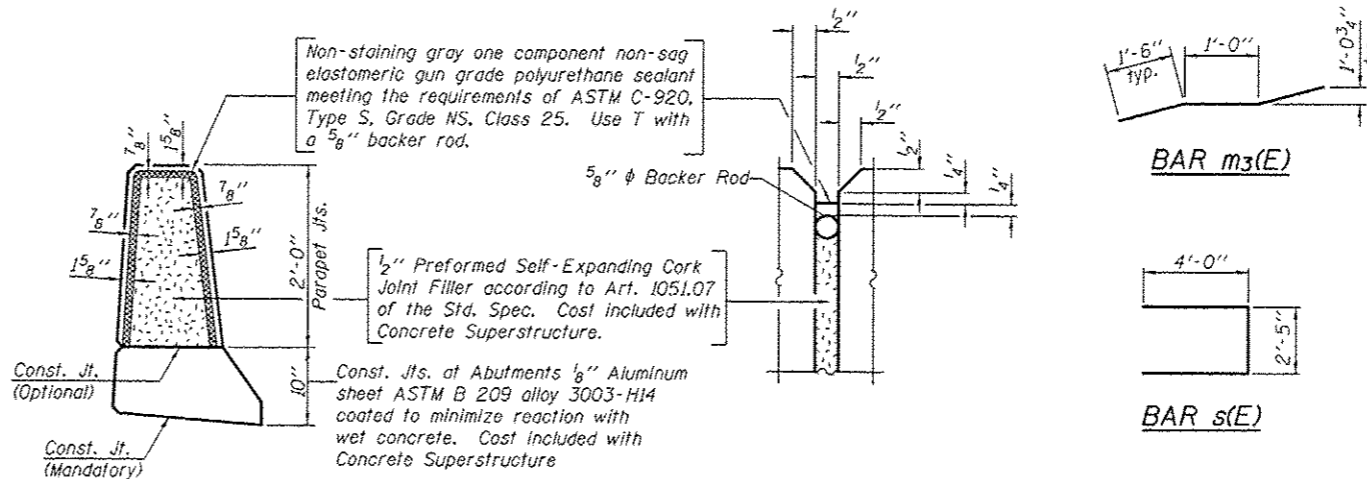


INSIDE ELEVATION OF PARAPET



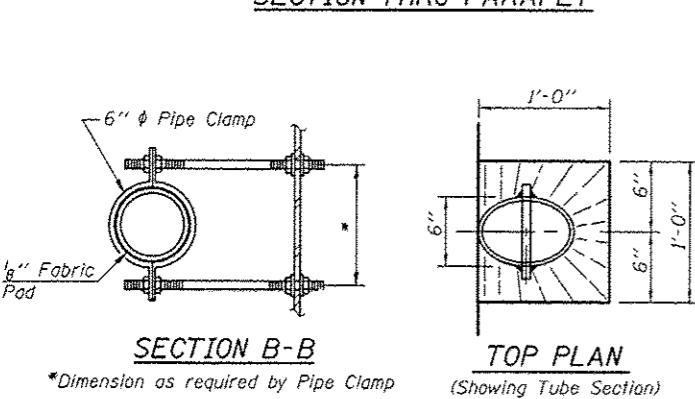
SECTION THRU PARAPET

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



PARAPET JOINT DETAILS

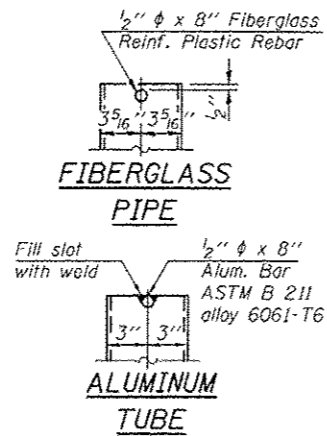
Notes:
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.
Floor drains need not be painted.



SECTION B-B

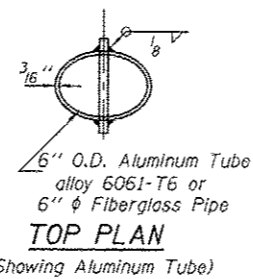
*Dimension as required by Pipe Clamp

TOP PLAN
(Showing Tube Section)

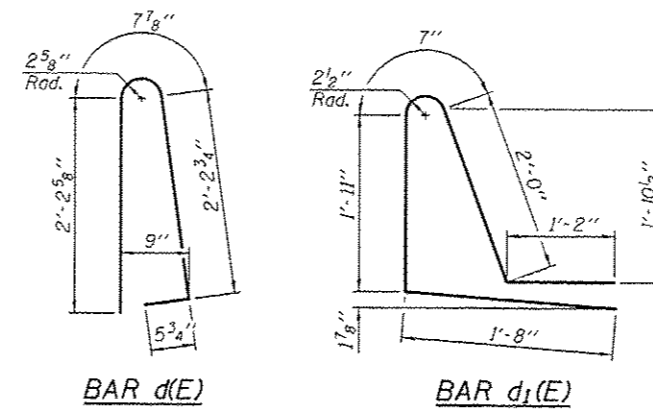


FIBERGLASS PIPE

ALUMINUM TUBE

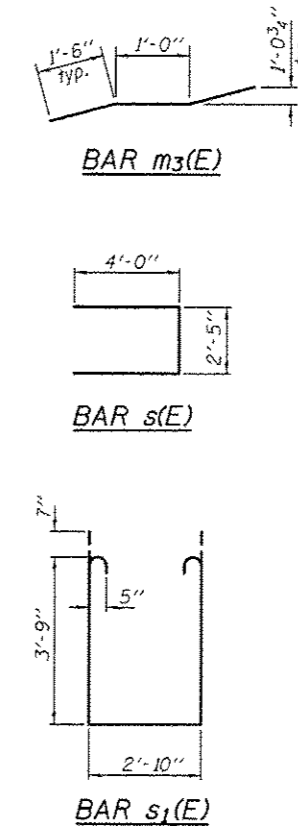


TOP PLAN
(Showing Aluminum Tube)



BAR d(E)

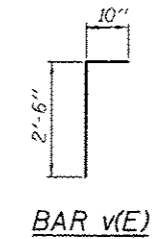
BAR d1(E)



BAR m3(E)

BAR s(E)

BAR s1(E)



BAR v(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	154	#5	31'-7"	—
a1(E)	108	#5	32'-10"	—
a2(E)	308	#6	6'-6"	—
a3(E)	4	#5	48'-9"	—
b(E)	114	#5	31'-8"	—
b1(E)	124	#5	24'-5"	—
d(E)	198	#5	5'-7"	⌒
d1(E)	198	#5	7'-4"	⌒
e(E)	70	#4	17'-8"	—
e1(E)	6	#8	33'-5"	—
e2(E)	8	#4	24'-0"	—
m(E)	8	#6	49'-4"	—
m1(E)	30	#6	8'-0"	—
m2(E)	12	#6	3'-2"	—
m3(E)	36	#5	4'-0"	—
s(E)	72	#5	10'-5"	⊓
s1(E)	62	#5	11'-6"	⊓
v(E)	72	#5	3'-4"	⌒
Reinforcement Bars, Epoxy Coated		Pound	26480	
Concrete Superstructure		Cu. Yds.	140.2	

Bars indicated thus 1 x 4-#4 etc. indicates 1 line of bars with 4 lengths per line.

12/21/2015 8:44:08 AM

DESIGNED - Fess Tekialhamanot
CHECKED - Josue D. Ortiz-Varela
DRAWN - h.t. duong
CHECKED - GRA

EXAMINED - *Jayne F. [Signature]*
PASSED - *[Signature]*
ACTING ENGINEER OF BRIDGES AND STRUCTURES

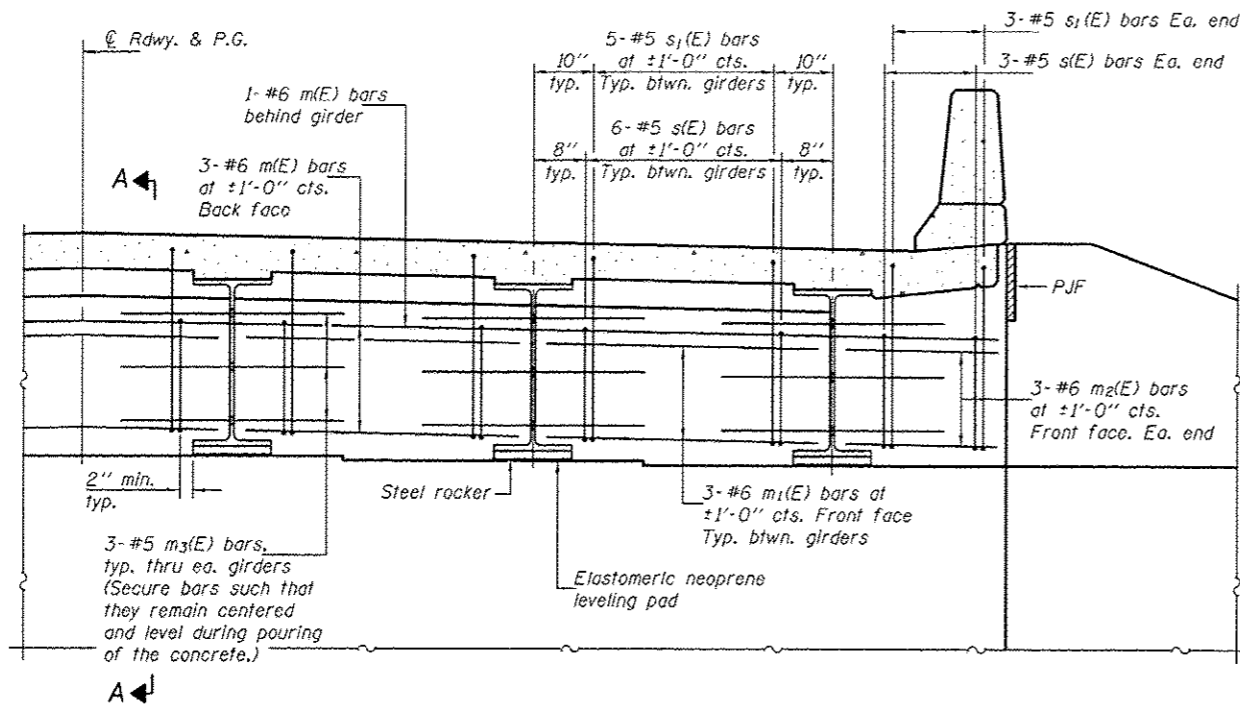
DATE - SEPTEMBER 23, 2015
REVISED - 12/21/2015 F.T.
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

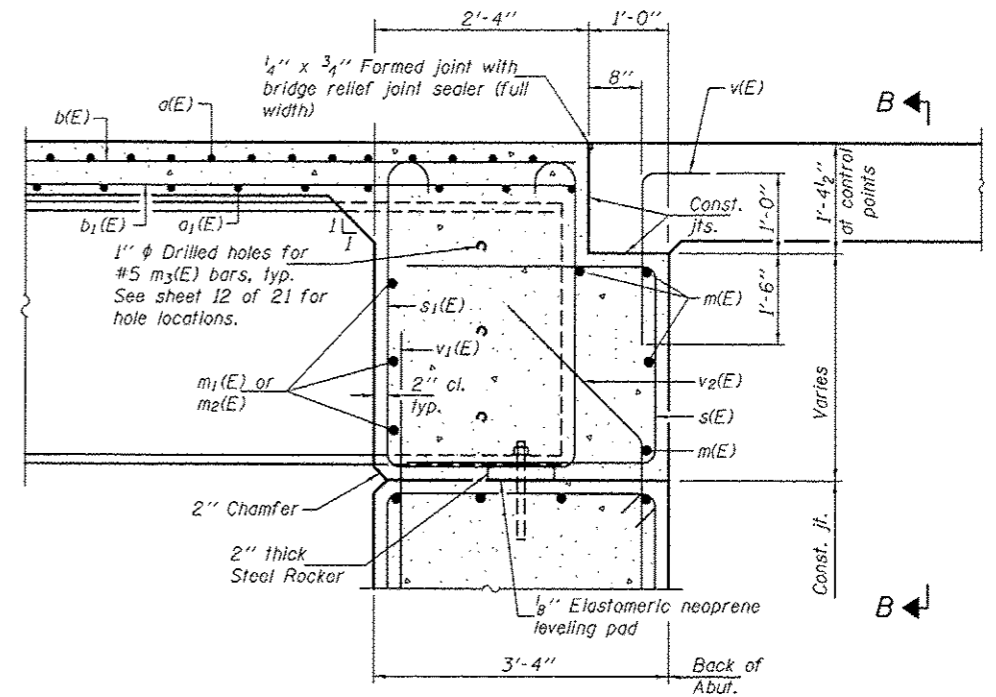
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 027-0102

SHEET NO. 8 OF 21 SHEETS

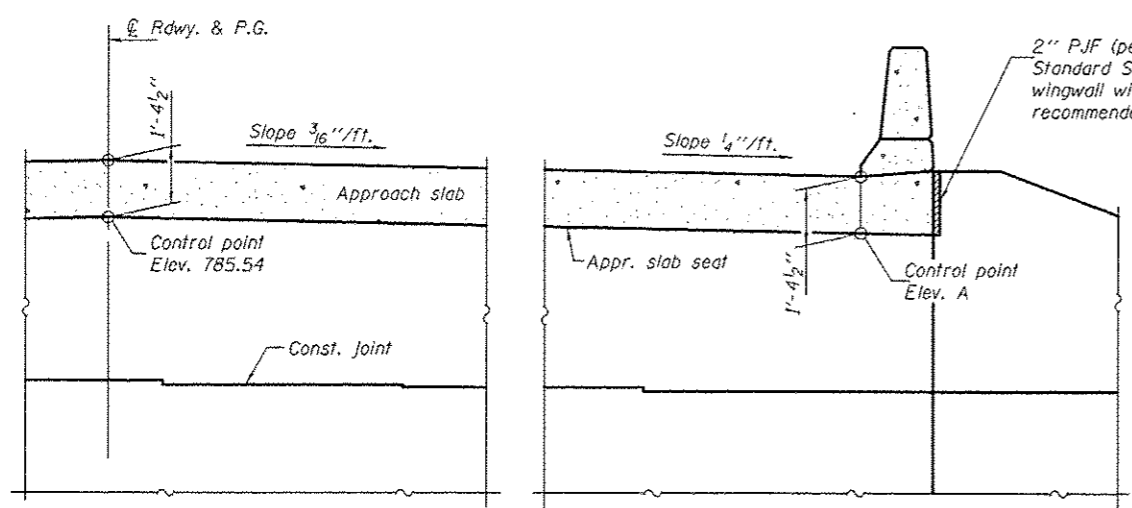
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	015HR, BR-1C, BR-4	FORD	158	107
CONTRACT NO. 66994				
ILLINOIS FED. AID PROJECT				



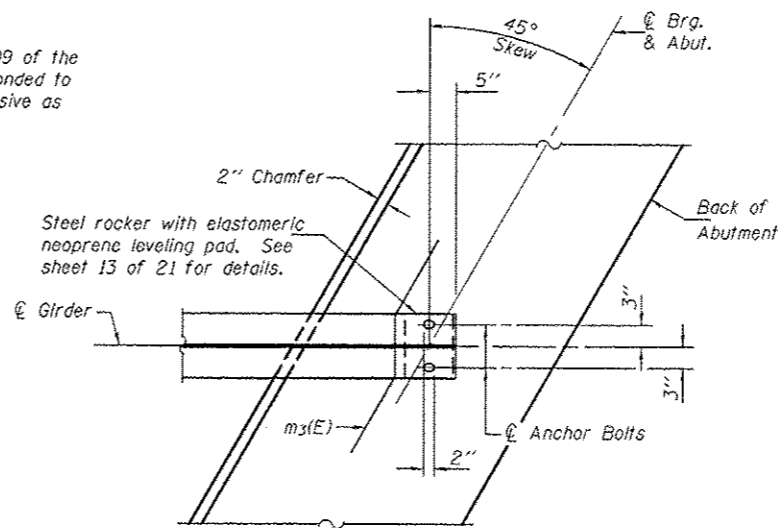
DIAPHRAGM ELEVATION AT ABUTMENT



SECTION A-A
(at Rt. L's)



SECTION B-B



PARTIAL PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 21.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 21.
 For details of bars s(E), s1(E) and v(E) see sheet 8 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.
 The approach slab seat shall have a constant slope determined from the control points shown.
 For bearing details see sheet 13 of 21.

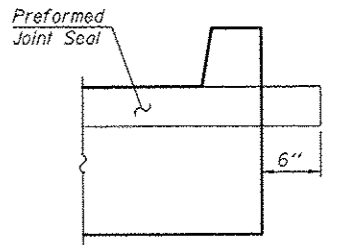
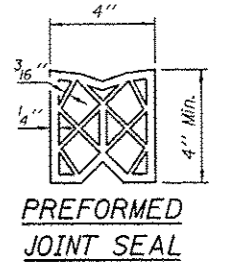
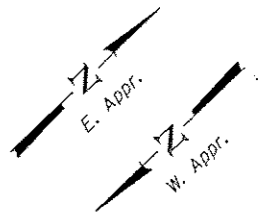
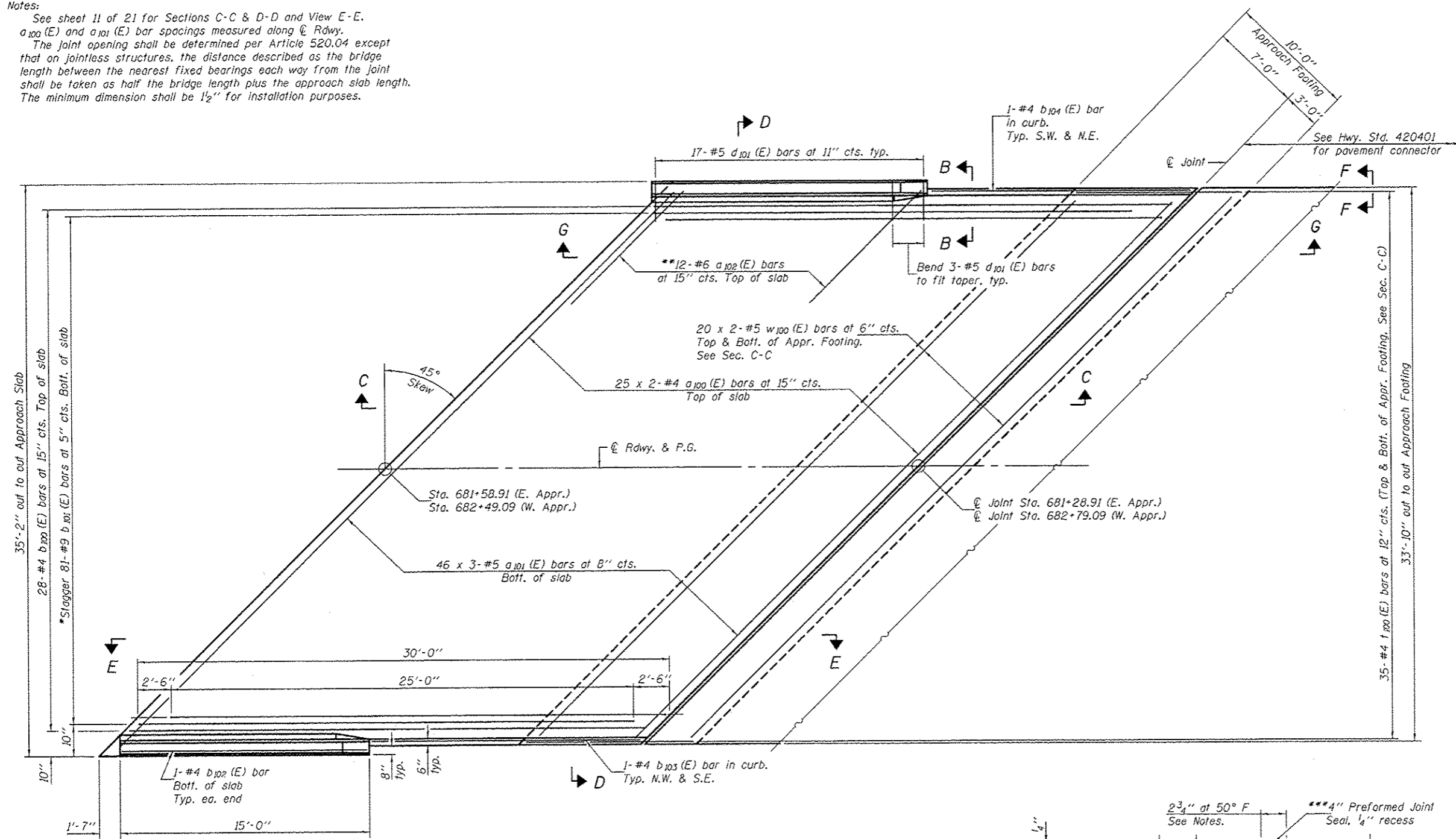
Elev. A	South	North
E. Abut.	785.30	785.21
W. Abut.	785.21	785.30

Entire sheet revised.

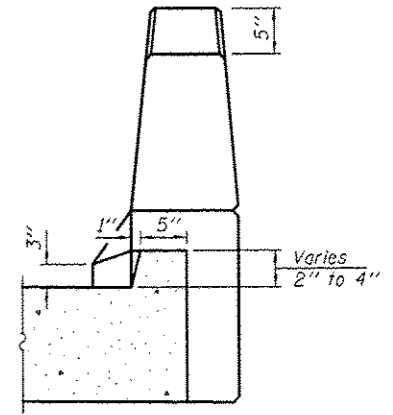
12/21/2015 8:44:31 AM

DESIGNED - Fess Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DIAPHRAGM DETAILS STRUCTURE NO. 027-0102	SHEET NO. 9 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>	REVISED - 12/21/2015 F.T.				71	(115)BR, BR-1C, BR-4	FORD	158	108

Notes:
 See sheet 11 of 21 for Sections C-C & D-D and View E-E.
 a_{100} (E) and a_{101} (E) bar spacings measured along C.R.
 The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be $1\frac{1}{2}$ ' for installation purposes.



VIEW F-F

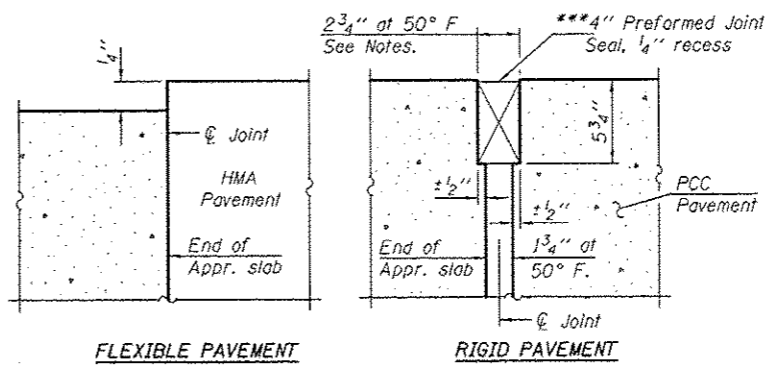


VIEW B-B

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

*Tilt #9 b_{101} (E) bars as required to maintain clearance.
 **Space between a_{100} (E) bars, typ. each parapet.

MIN. BAR LAPS
 #4 bar = 2'-7"
 #5 bar = 3'-3"



DETAIL A

*** Cost Included with Concrete Superstructure.

12/21/2015 8:44:52 AM

Entire sheet revised.

DESIGNED - Fess Teklehmanat
 CHECKED - Josue D. Ortiz-Varela
 DRAWN - h.t. duong
 CHECKED - GRA

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

DATE - SEPTEMBER 23, 2015
 REVISED - 12/21/2015 F.T.
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

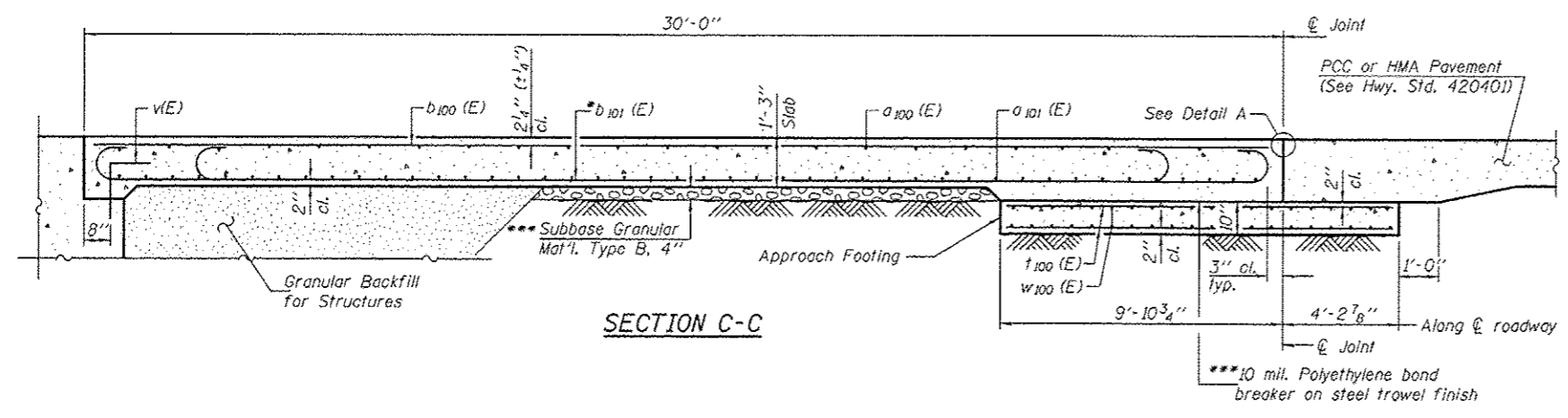
BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 027-0102

SHEET NO. 10 OF 21 SHEETS

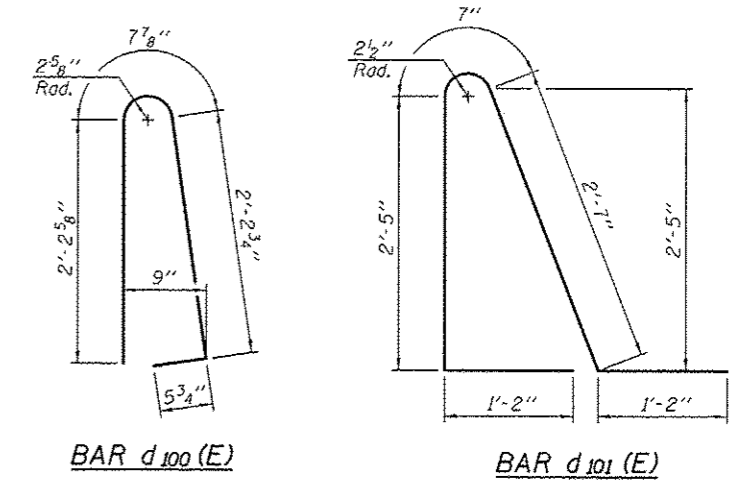
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	015/BR, BR-1C, BR-4	FORD	158	109
			CONTRACT NO. 66994	
ILLINOIS FED. AID PROJECT				

Notes:
 See sheet 10 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 8 of 21.
 The approach footing maximum applied service bearing pressure (Omax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 21.
 For additional parapet details, see sheet 10 of 21.

*Tilt #9 b₁₀₁(E) bars as required to maintain clearance.
 ***Cost included with Concrete Superstructure.

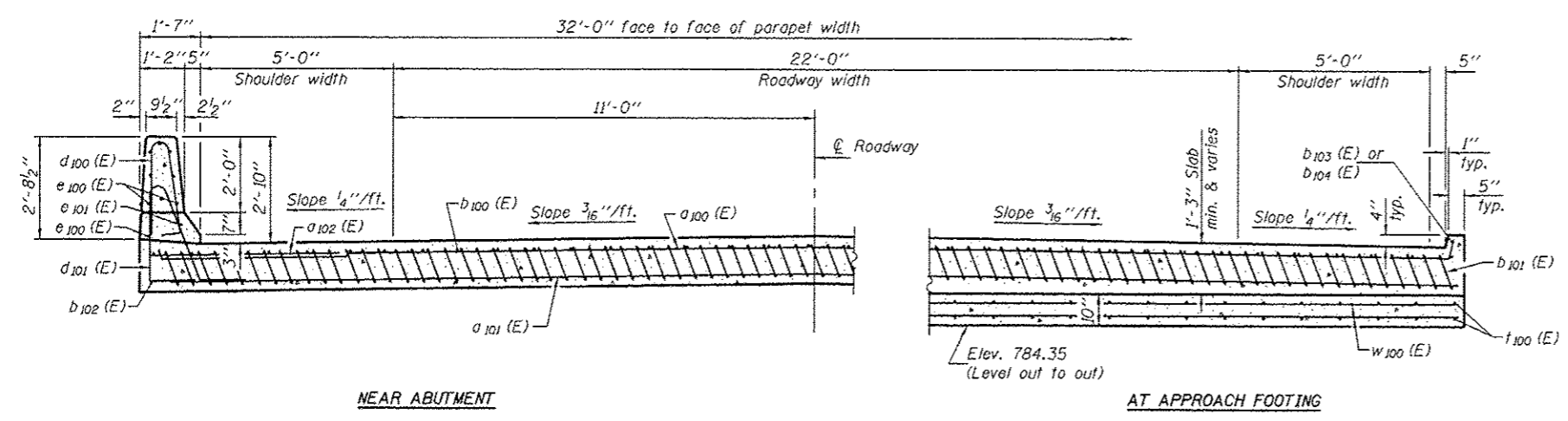


SECTION C-C



BAR d₁₀₀(E)

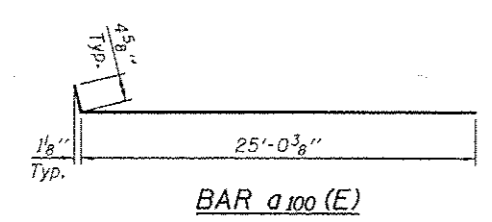
BAR d₁₀₁(E)



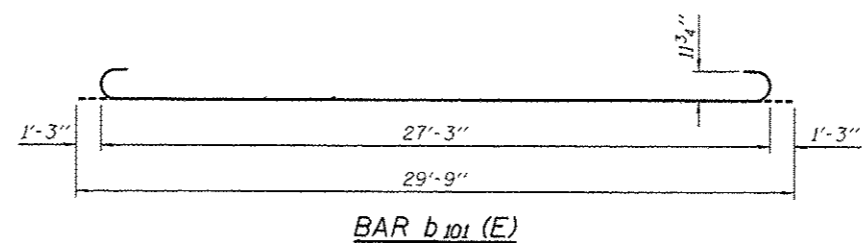
SECTION D-D
 (See Plan for dimensions not shown)

NEAR ABUTMENT

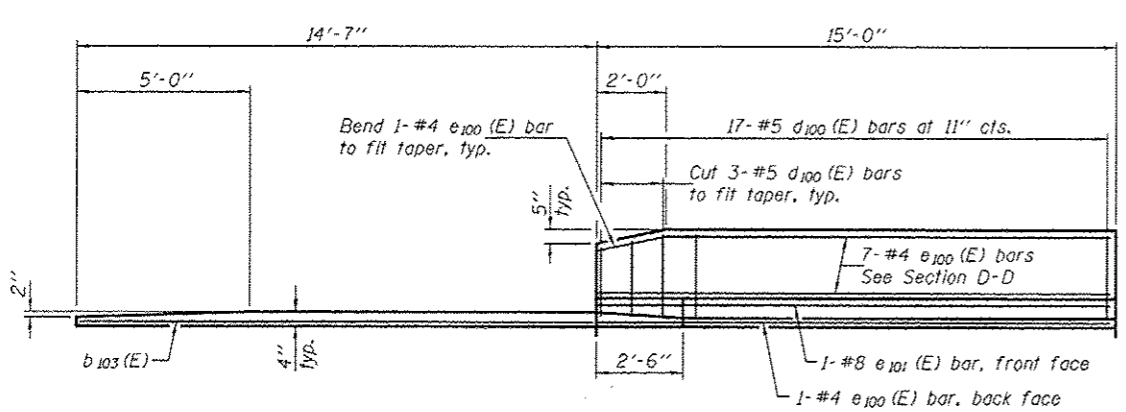
AT APPROACH FOOTING



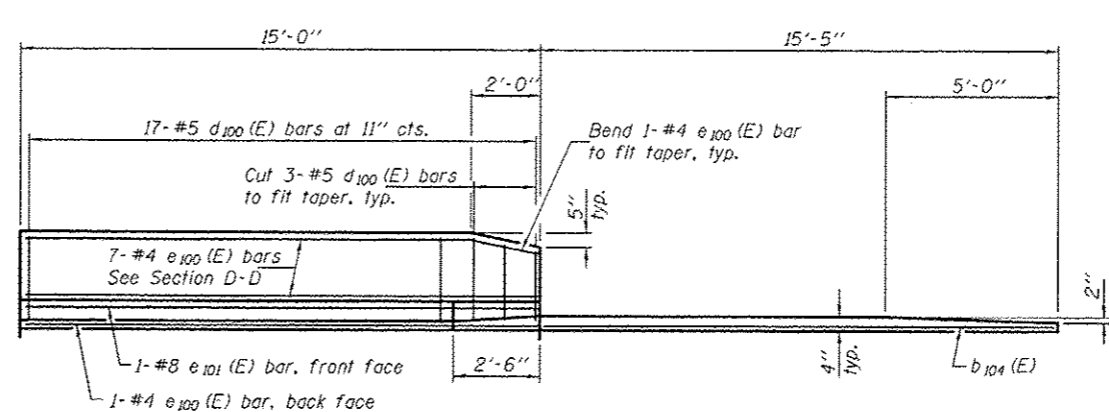
BAR a₁₀₀(E)



BAR b₁₀₁(E)



VIEW E-E



VIEW G-G

TWO APPROACHES
 BILL OF MATERIAL

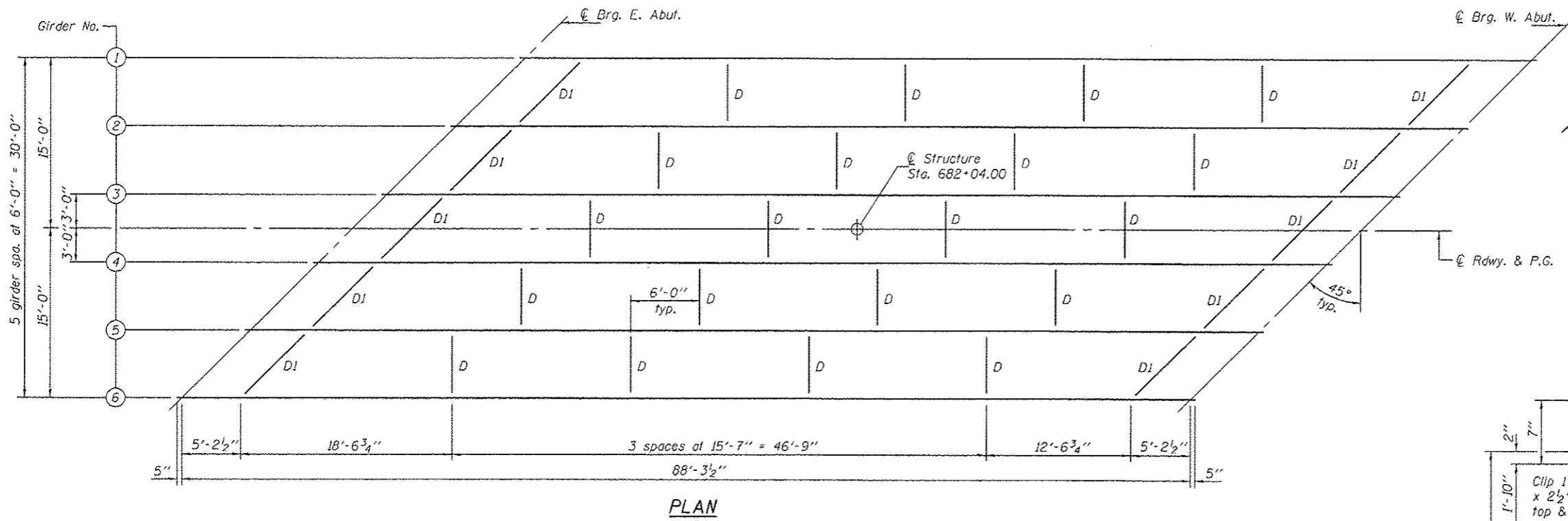
Bar	No.	Size	Length	Shape
a ₁₀₀ (E)	100	#4	25'-5"	—
a ₁₀₁ (E)	276	#5	18'-0"	—
a ₁₀₂ (E)	48	#6	6'-6"	—
b ₁₀₀ (E)	56	#4	29'-8"	—
b ₁₀₁ (E)	162	#9	29'-9"	—
b ₁₀₂ (E)	4	#4	14'-8"	—
b ₁₀₃ (E)	2	#4	14'-0"	—
b ₁₀₄ (E)	2	#4	15'-4"	—
d ₁₀₀ (E)	68	#5	5'-7"	U
d ₁₀₁ (E)	68	#5	7'-11"	U
e ₁₀₀ (E)	32	#4	14'-8"	—
e ₁₀₁ (E)	4	#8	14'-8"	—
f ₁₀₀ (E)	140	#4	13'-8"	—
w ₁₀₀ (E)	160	#5	25'-4"	—
Concrete Superstructure		Cu. Yd.	106.8	
Concrete Structures		Cu. Yd.	29.5	
Reinforcement Bars, Epoxy Coated		Pound	31860	

Entire sheet revised.

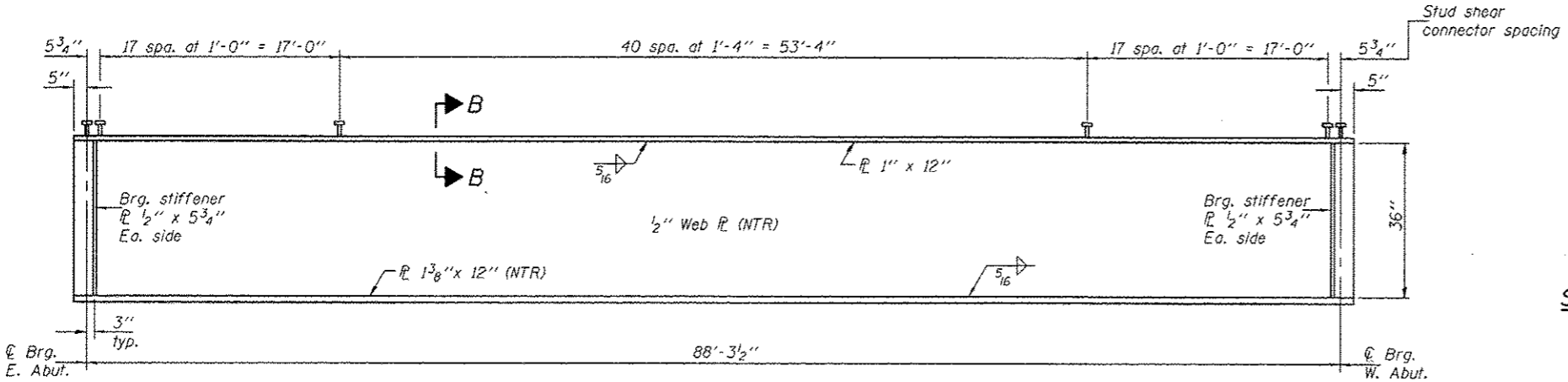
12/21/2015 8:45:20 AM

DESIGNED - Foss Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 027-0102	SHEET NO. 11 OF 21 SHEETS
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>[Signature]</i>	REVISED - 12/21/2015 F.T.			
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			
CHECKED - GRA					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	(15)BR, BR-1C, BR-4	FORD	158	110
CONTRACT NO. 66994				
ILLINOIS FED. AID PROJECT				



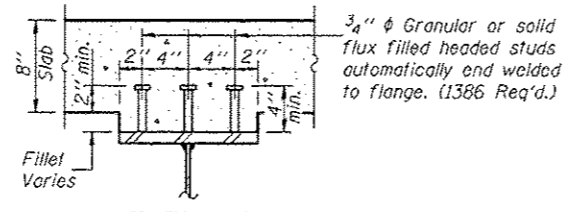
PLAN



GIRDER ELEVATION

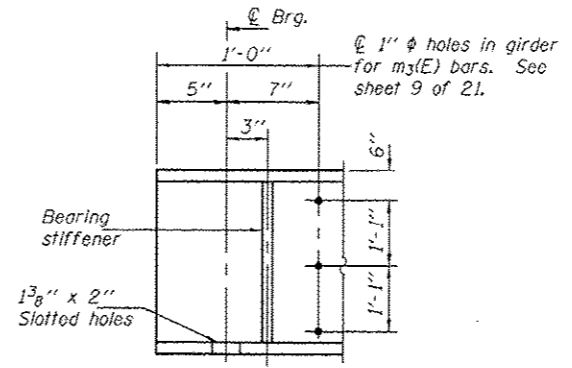
All structural steel shall be AASHTO M 270, Grade 50W.

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.

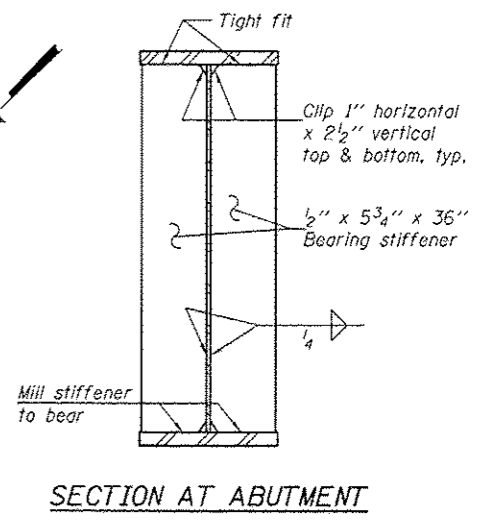


SECTION B-B

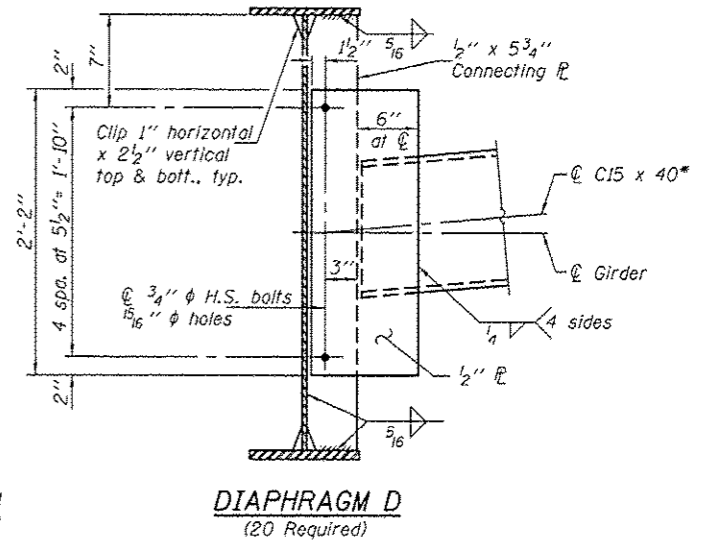
Entire sheet revised.



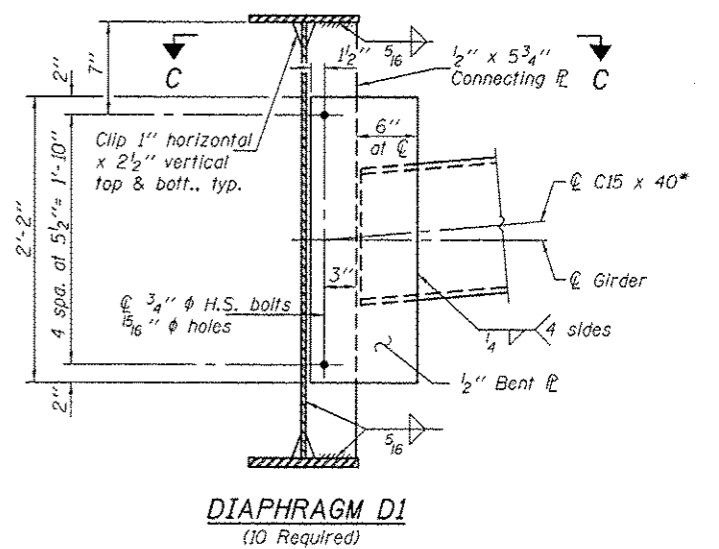
END OF GIRDER ELEVATION



SECTION AT ABUTMENT



DIAPHRAGM D (20 Required)

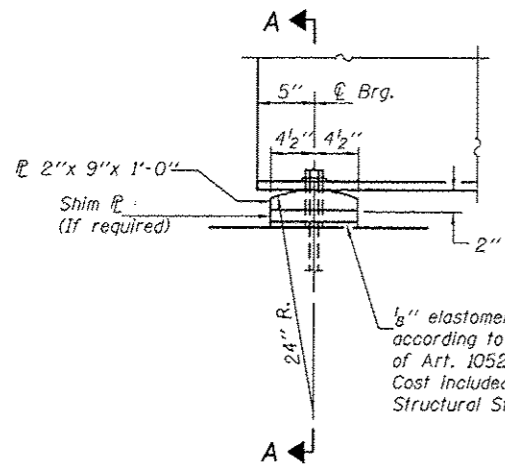


DIAPHRAGM D1 (10 Required)

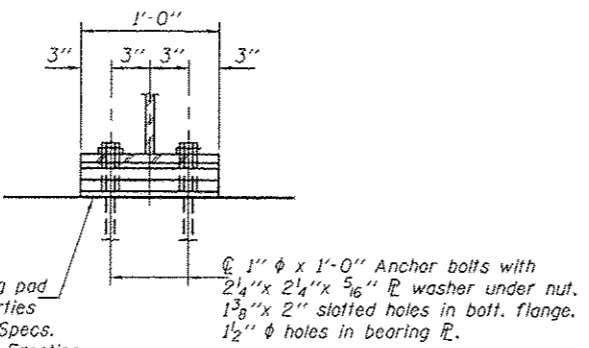
*Alternate channel C15x50 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on lighter section. The alternate, if utilized, shall be provided at no cost to the department.

12/21/2015 8:45:42 AM

DESIGNED - Fess Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL STRUCTURE NO. 027-0102	F.A.P. R.T.E. - 71	SECTION - (I15)BR, BR-1C, BR-4	COUNTY - FORD	TOTAL SHEETS - 15B	SHEET NO. - 111
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>	REVISED - 12/21/2015 F.T.			CONTRACT NO. 66994				
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			SHEET NO. 12 OF 21 SHEETS				
CHECKED - GRA					ILLINOIS FED. AID PROJECT				

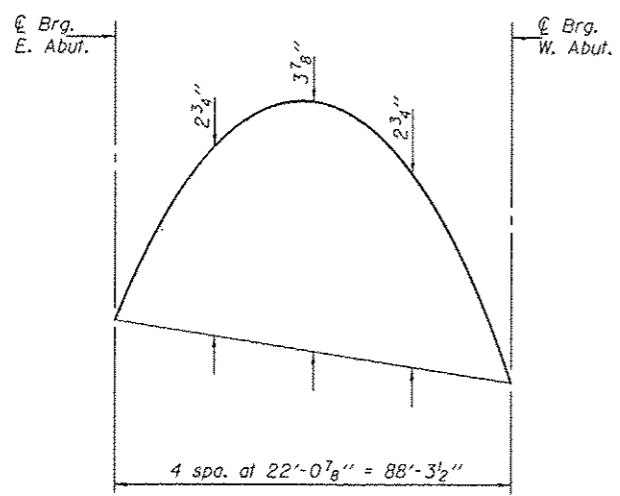


ELEVATION AT ABUTMENTS



SECTION A-A

ABUTMENT BEARING
(12 Required)



CAMBER DIAGRAM

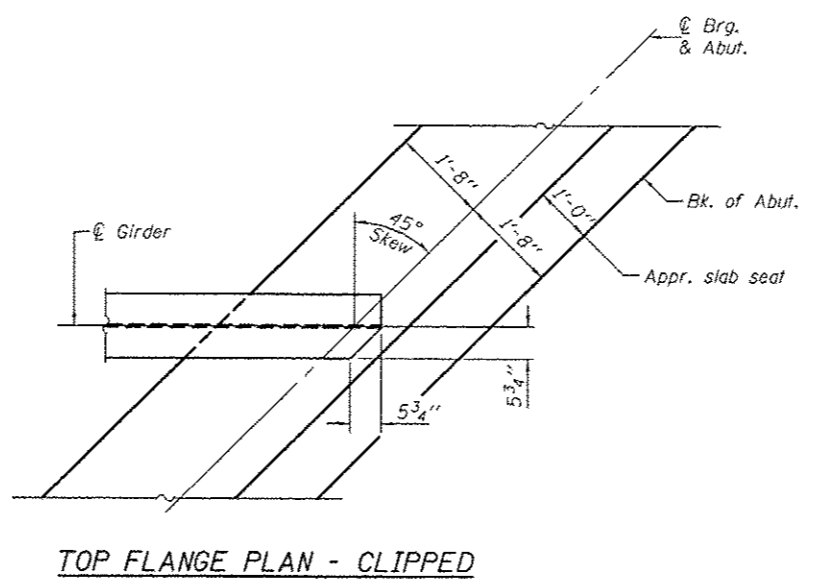
*TOP OF WEB ELEVATIONS

	℄ Brg. E. Abut.	℄ Brg. W. Abut.
Girder 1	785.88	785.80
Girder 2	785.99	785.94
Girder 3	786.07	786.05
Girder 4	786.05	786.07
Girder 5	785.94	785.99
Girder 6	785.80	785.88

*For fabrication use only.

INTERIOR GIRDER MOMENT TABLE		0.5 Span 1
I_s	(in ⁴)	11656
$I_c(n)$	(in ⁴)	29658
$I_c(3n)$	(in ⁴)	21359
S_s	(in ³)	665
$S_c(n)$	(in ³)	917
$S_c(3n)$	(in ³)	835
DC1	(k/ft)	0.791
MDC1	(k)	770.8
DC2	(k/ft)	0.15
MDC2	(k)	146.2
DW	(k/ft)	0.3
MDW	(k)	292.3
$M_k + IM$	(k)	1118.2
M_u (Strength I)	(k)	354.2
$\phi_r M_n$	(k)	4475
f_s DC1	(ksi)	13.9
f_s DC2	(ksi)	2.1
f_s DW	(ksi)	4.2
f_s ($k + IM$)	(ksi)	14.6
f_s (Service II)	(ksi)	39.2
$0.95R_n F_y$	(ksi)	47.5
V_r	(k)	30.1

INTERIOR GIRDER REACTION TABLE		Abuts.
R_{DC1}	(k)	34.9
R_{DC2}	(k)	6.6
R_{DW}	(k)	13.2
$R_k + IM$	(k)	93.5
R_{Total}	(k)	148.2



TOP FLANGE PLAN - CLIPPED

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.).

MDC1: 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.).

MDC2: 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.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_k + IM$: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).

$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k + IM$

$\phi_r M_n$: 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_n

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 ($k + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).

$M_k + IM / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).

$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (k + IM)$

$0.95R_n F_y$: 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. 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.

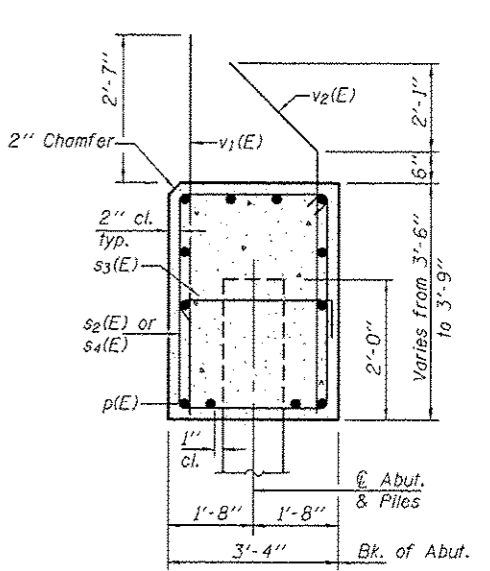
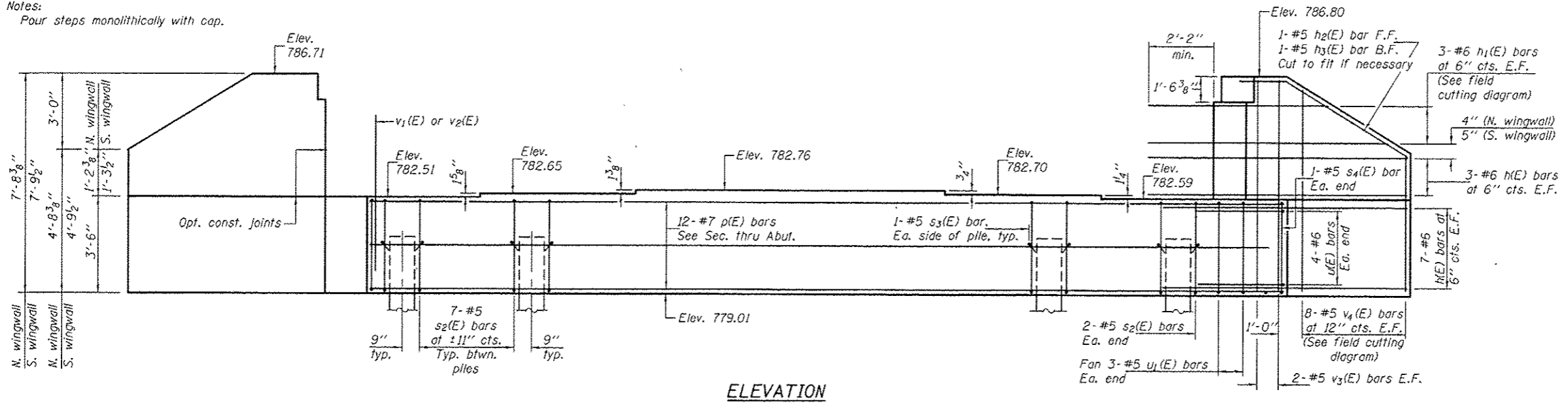
Two hardened washers required for each set of oversized holes.

Entire sheet revised.

12/21/2015 8:46:04 AM

DESIGNED - Fess Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS STRUCTURE NO. 027-0102	SHEET NO. 13 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
CHECKED - Josua D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>	REVISOR - 12/21/2015 F.T.				71	(1)5BR, BR-1C, BR-4	FORD	158
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISOR	CONTRACT NO. 66994			ILLINOIS FED. AID PROJECT			

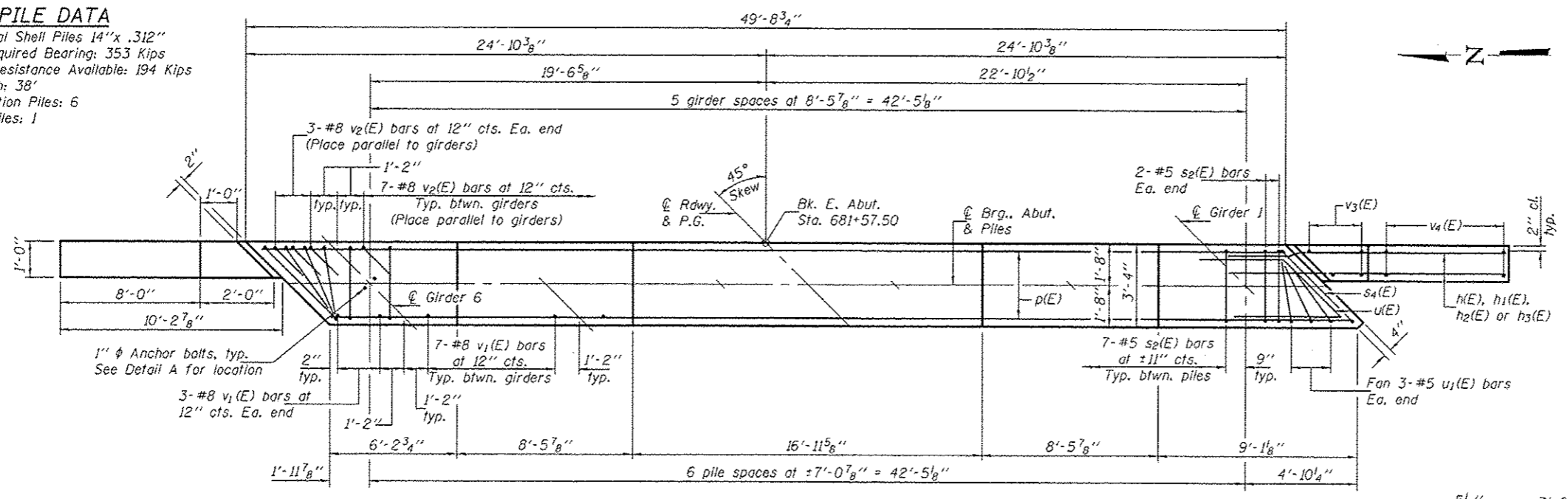
Notes:
Four steps monolithically with cap.



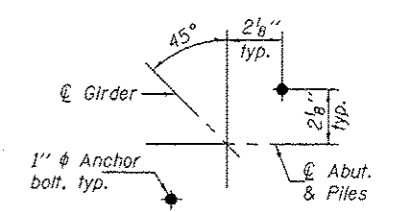
SEC. THRU ABUT.
Dimensions of Rt. L's to Abut.

PILE DATA

Type: Metal Shell Piles 14"x .312"
Nominal Required Bearing: 353 Kips
Factored Resistance Available: 194 Kips
Est. Length: 38'
No. Production Piles: 6
No. Test Piles: 1



PLAN

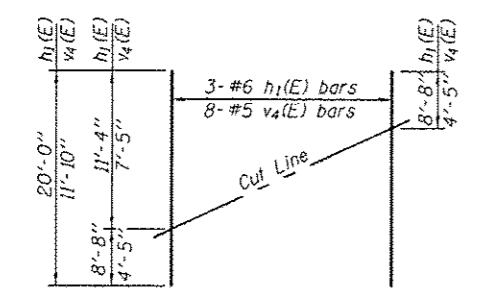


DETAIL A

BILL OF MATERIAL

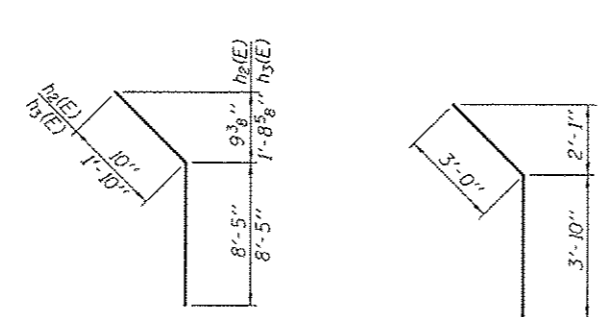
Bar	No.	Size	Length	Shape
h(E)	40	#6	12'-2"	—
h1(E)	6	#6	20'-0"	—
h2(E)	2	#5	9'-3"	—
h3(E)	2	#5	10'-3"	—
p(E)	12	#7	49'-5"	—
s2(E)	46	#5	13'-3"	□
s3(E)	14	#5	4'-0"	□
s4(E)	2	#5	15'-9"	□
u(E)	8	#6	12'-0"	—
u1(E)	6	#5	9'-2"	—
v1(E)	41	#8	5'-11"	—
v2(E)	41	#8	6'-10"	—
v3(E)	8	#5	7'-5"	—
v4(E)	16	#5	11'-10"	—
Structure Excavation			Cu. Yd.	66
Concrete Structures			Cu. Yd.	27.0
Reinforcement Bars, Epoxy Coated			Pound	4750
Furnishing Metal Shell Piles 14"x .312"			Foot	228
Driving Piles			Foot	228
Test Pile, Metal Shell			Each	1
Anchor Bolts, 1"			Each	12

For details of piles see sheet 16 of 21.



FIELD CUTTING DIAGRAM

Order h1(E) and v4(E) full length. Cut as shown & use remainder of bars in opposite face.



BARS h2(E) & h3(E)

BAR v2(E)

BARS s2(E) & s4(E)

BAR u(E)

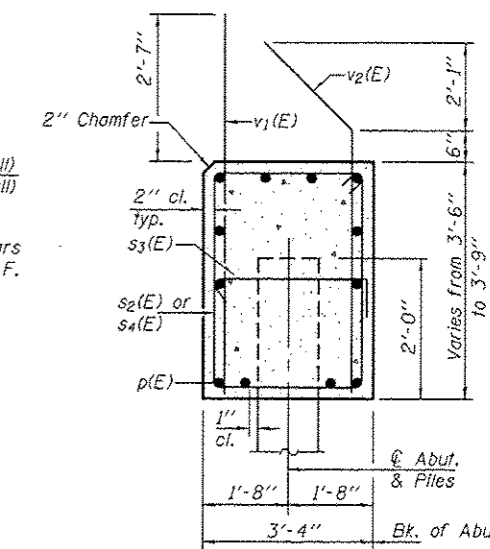
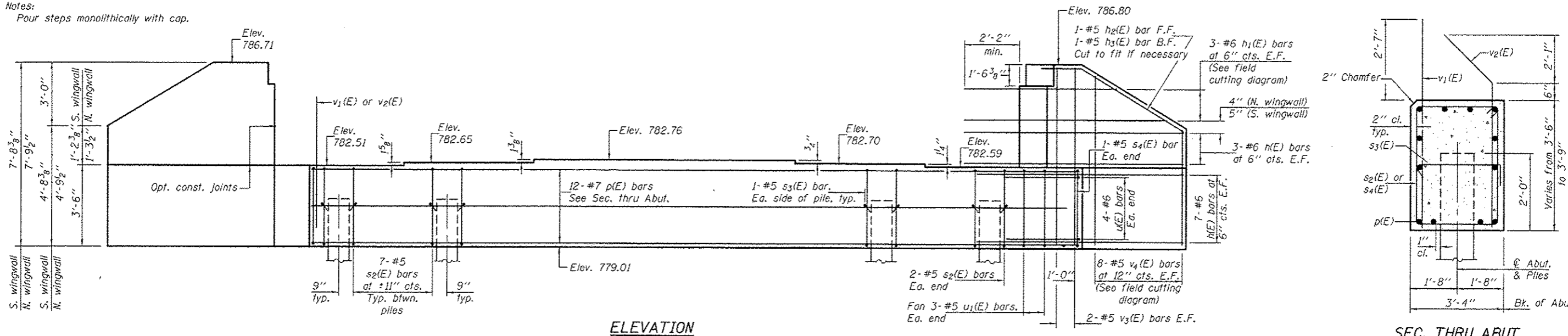
BAR u1(E)

Entire sheet revised.

12/21/2015 8:46:31 AM

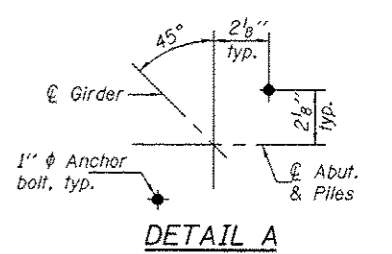
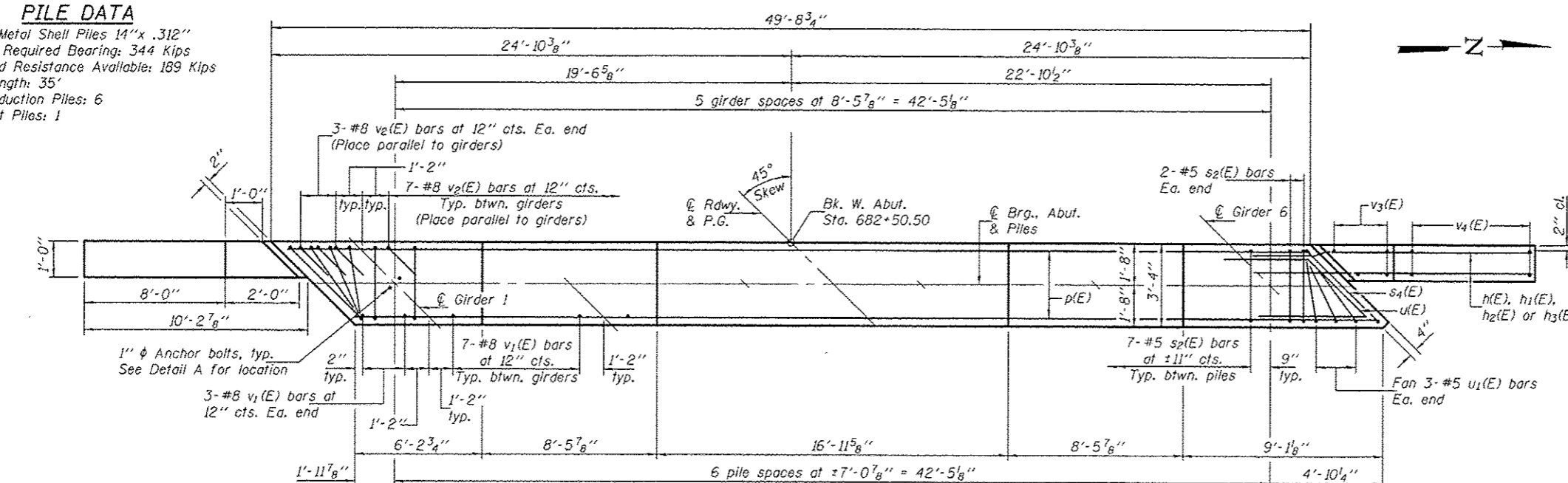
DESIGNED - Fess Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EAST ABUTMENT STRUCTURE NO. 027-0102	F.A.P. RTE. 71	SECTION (115)BR, BR-1C, BR-4	COUNTY FORD	TOTAL SHEETS 158	SHEET NO. 113
CHECKED - Josue D. Ortiz-Varola	PASSED - <i>[Signature]</i>	REVISED 12/21/2015 F.T.			CONTRACT NO. 66994				
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISOR			ILLINOIS FED. AID PROJECT				
CHECKED - GRA			SHEET NO. 14 OF 21 SHEETS						

Notes:
Pour steps monolithically with cap.



PILE DATA

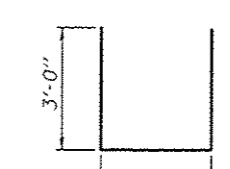
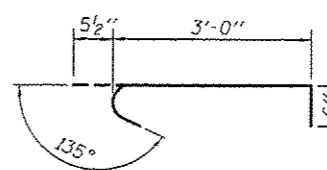
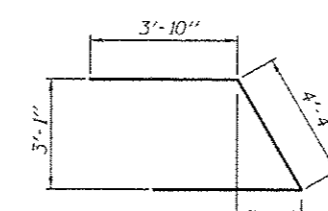
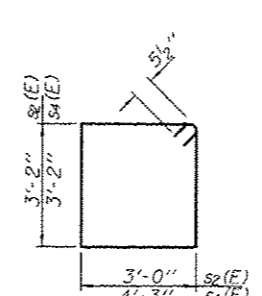
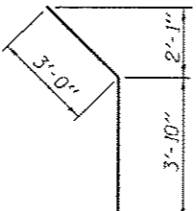
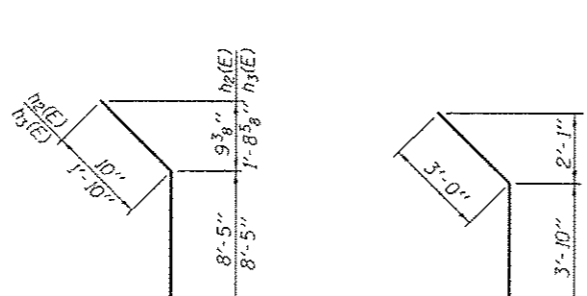
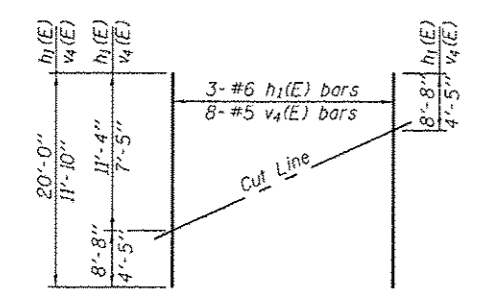
Type: Metal Shell Piles 14"x .312"
Nominal Required Bearing: 344 Kips
Factored Resistance Available: 189 Kips
Est. Length: 35'
No. Production Piles: 6
No. Test Piles: 1



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	40	#6	12'-2"	—
h1(E)	6	#6	20'-0"	—
h2(E)	2	#5	9'-3"	—
h3(E)	2	#5	10'-3"	—
p(E)	12	#7	49'-5"	—
s2(E)	46	#5	13'-3"	□
s3(E)	14	#5	4'-0"	□
s4(E)	2	#5	15'-9"	□
u(E)	8	#6	12'-0"	—
u1(E)	6	#5	9'-2"	—
v1(E)	41	#8	5'-11"	—
v2(E)	41	#8	6'-10"	—
v3(E)	8	#5	7'-5"	—
v4(E)	16	#5	11'-10"	—
Structure Excavation			Cu. Yd.	66
Concrete Structures			Cu. Yd.	27.0
Reinforcement Bars, Epoxy Coated			Pound	4750
Furnishing Metal Shell Piles 14"x .312"			Foot	210
Driving Piles			Foot	210
Test Pile, Metal Shell			Each	1
Anchor Bolts, 1"			Each	12

For details of piles see sheet 16 of 21.



FIELD CUTTING DIAGRAM

Order h1(E) and v4(E) full length. Cut as shown & use remainder of bars in opposite face.

BARS h2(E) & h3(E)

BAR v2(E)

BARS s2(E) & s4(E)

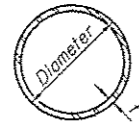
BAR u(E)

BAR u1(E)

Entire sheet revised.

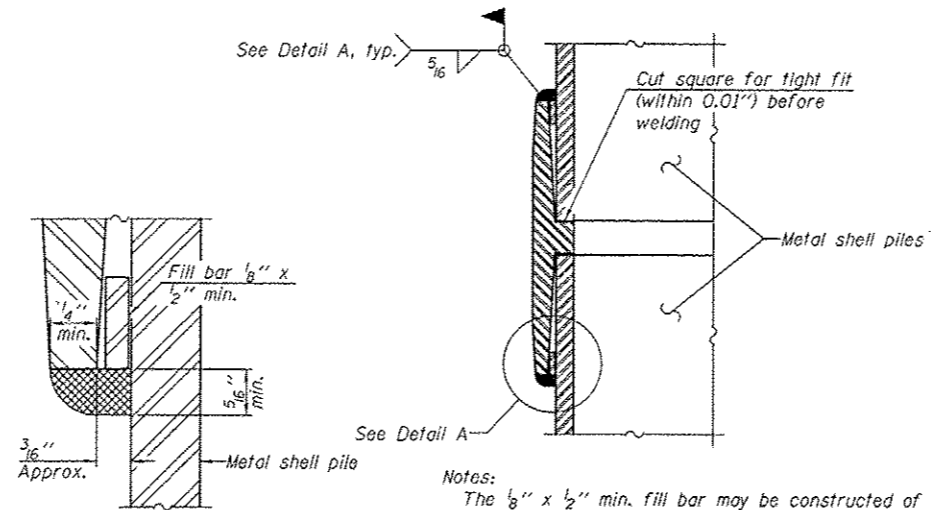
12/21/2015 8:46:57 AM

DESIGNED - Fess Tekiehalanot	EXAMINED - <i>Joanne F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST ABUTMENT STRUCTURE NO. 027-0102	F.A.P. RTE. 71	SECTION (I15)BR, BR-1C, BR-4	COUNTY FORD	TOTAL SHEETS 158	SHEET NO. 114
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>Carl [Signature]</i>	REVISED 12/21/2015 F.T.			CONTRACT NO. 66994				
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISOR			ILLINOIS FED. AID PROJECT				
CHECKED - GRA			SHEET NO. 15 OF 21 SHEETS						



METAL SHELL PILE TABLE

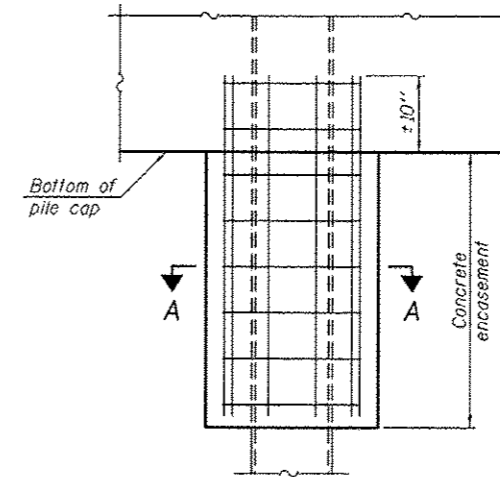
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



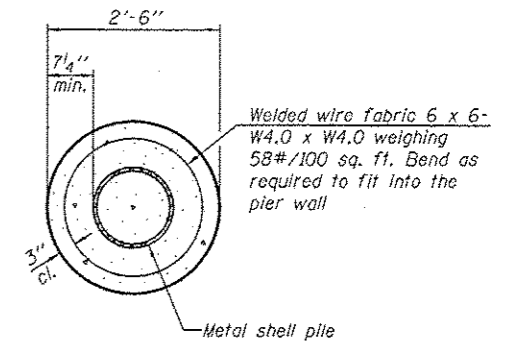
DETAIL A

Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



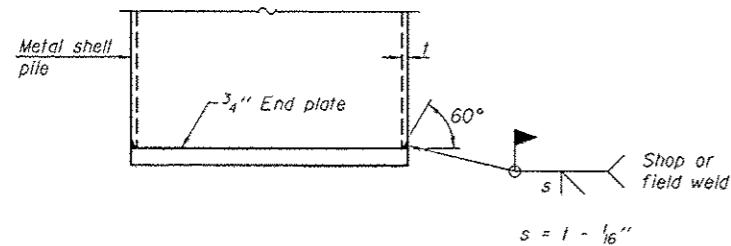
ELEVATION



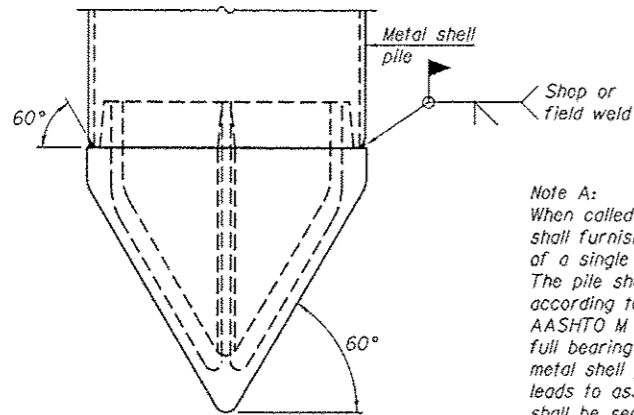
SECTION A-A

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

CONCRETE ENCASUREMENT AT PIERS

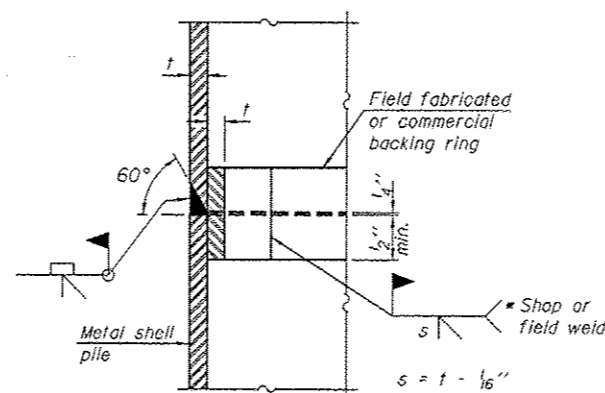


END PLATE ATTACHMENT



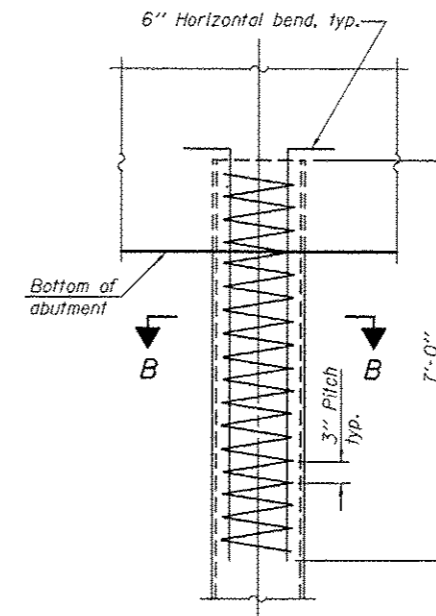
METAL SHELL PILE SHOE ATTACHMENT
 (See Note A)

Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

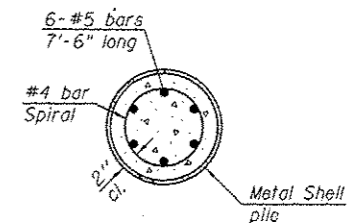


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

12/21/2015 8:47:20 AM

F-MS 1-27-12

Entire sheet revised.

DESIGNED - Fess Teklehaimanot	EXAMINED - <i>James F. [Signature]</i>
CHECKED - Josue D. Ortiz-Varela	ENGINEER OF BRIDGE DESIGN
DRAWN - h.f. duong	PASSED - <i>[Signature]</i>
CHECKED - GRA	ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - SEPTEMBER 23, 2015
REVISED - 12/21/2015 F.T.
REVISED


STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
 STRUCTURE NO. 027-0102

SHEET NO. 16 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	(1)51BR, BR-1C, BR-4	FORD	158	115
CONTRACT NO. 66994				
ILLINOIS FED. AID PROJECT				

Page 1 of 2



Illinois Department of Transportation
Division of Highways
ISBT

SOIL BORING LOG

Date 12/17/12

Page 1 of 2

ROUTE FAP 071 (IL 54) DESCRIPTION IL 54 over a drainage ditch, 2.33 miles North of IL 9 LOGGED BY Larry Myers


SECTION (115)BR-4 LOCATION NE 1/4, SEC. 1, TWP. 23N, RNG. 7E, 3rd PM

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. <u>027-0070 (Exist)</u>		DEPTH H	B L O W S	U C S Qu	M O I S T (%)	DEPTH H	B L O W S	U C S Qu	M O I S T (%)
Station <u>682+04</u>									
Surface Water Elev. <u>773.07</u> ft						Surface Water Elev. <u>773.07</u> ft			
Stream Bed Elev. <u>772.32</u> ft						Stream Bed Elev. <u>772.32</u> ft			
BORING NO. <u>1 (North Corner)</u>						Groundwater Elev.:			
Station <u>681+29</u>						First Encounter <u>770.4</u> ft			
Offset <u>14.0</u> ft RL						Upon Completion <u>767.4</u> ft			
Ground Surface Elev. <u>785.40</u> ft						After _____ Hrs.			
Augered White Shoulder Stone, Black Silty Clay Loam Fill.						Very Stiff to Hard Gray Silty Clay Loam Till. (continued)			
782.90									
Very Stiff to Hard Black Silty Clay Loam and Brown and Gray Silty Clay Loam Till Fill Interbedded with Concrete Debris at 9 feet.									
4						4			
4						5			
4						8			
4						12			
3						6			
3						8			
4						15			
4						8			
5						10			
5						16			
775.40 -10						-30			
Very Stiff Black Silty Clay Loam Topsoil.									
3						8			
4						10			
5						15			
773.40									
Stiff Gray and Brown Silty Clay and Silty Loam with Organics.									
1						6			
2						10			
2						14			
15						-35			
1						6			
2						8			
3						12			
767.90									
Very Stiff to Hard Gray Silty Clay Loam Till.									
1						5			
5						8			
3						10			
-20						-40			

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 T206) BBS, form 137 (Rev. 8-99)

Page 2 of 2



Illinois Department of Transportation
Division of Highways
ISBT

SOIL BORING LOG

Date 12/17/12

Page 2 of 2

ROUTE FAP 071 (IL 54) DESCRIPTION IL 54 over a drainage ditch, 2.33 miles North of IL 9 LOGGED BY Larry Myers


SECTION (115)BR-4 LOCATION NE 1/4, SEC. 1, TWP. 23N, RNG. 7E, 3rd PM

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. <u>027-0070 (Exist)</u>		DEPTH H	B L O W S	U C S Qu	M O I S T (%)	DEPTH H	B L O W S	U C S Qu	M O I S T (%)
Station <u>682+04</u>									
Surface Water Elev. <u>773.07</u> ft						Surface Water Elev. <u>773.07</u> ft			
Stream Bed Elev. <u>772.32</u> ft						Stream Bed Elev. <u>772.32</u> ft			
BORING NO. <u>1 (North Corner)</u>						Groundwater Elev.:			
Station <u>681+29</u>						First Encounter <u>770.4</u> ft			
Offset <u>14.0</u> ft RL						Upon Completion <u>767.4</u> ft			
Ground Surface Elev. <u>785.40</u> ft						After _____ Hrs.			
Very Stiff to Hard Gray Silty Clay Loam Till. (continued)						Hard Gray Silty Clay Loam Till with Layers of Sand, Silt, and Loam. (continued)			
4						6			
6						8			
8						14			
5									
7						5.2			
9						22			
741.40									
Hard Gray Silty Clay Loam Till with Layers of Sand, Silt, and Loam.									
-45						-65			
6						6			
8						8			
10						11			
716.90									
End of Boring									
-50						-70			
6									
8						5.0			
10						21			
-55						-75			
5									
7						5.0			
11						21			
-60						-80			

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 T206) BBS, form 137 (Rev. 8-99)

12/21/2015 8:47:45 AM

 Entire sheet revised.

DESIGNED - <u>Fess Teklehaimanot</u>	EXAMINED - <u>Jayne F. Jell</u>	DATE - <u>SEPTEMBER 23, 2015</u>	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 027-0102	F.A.P. RTE. <u>71</u>	SECTION <u>(115)BR, BR-1C, BR-4</u>	COUNTY <u>FORD</u>	TOTAL SHEETS <u>158</u>	SHEET NO. <u>116</u>		
CHECKED - <u>Josue D. Ortiz-Varela</u>	PASSED - <u>h.f. duang</u>	REVISED <u>12/21/2015 F.T.</u>			CONTRACT NO. <u>66994</u>			SHEET NO. 17 OF 21 SHEETS			
DRAWN - <u>h.f. duang</u>	CHECKED - <u>GRA</u>	REVISED _____			ILLINOIS FED. AID PROJECT						

Page 1 of 2

Illinois Department of Transportation
Division of Highways
1907

SOIL BORING LOG

Date 3/22/77

ROUTE FAP 071 (IL 54) DESCRIPTION FA 71 over a Fork of Dickerson Slough LOGGED BY _____

SECTION (115)BR-4 LOCATION NE 1/4, SEC. 1, TWP. 23N, RNG. 7E, 3rd PM.
Latitude, Longitude _____

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE _____

STRUCT. NO. 027-0070 (Prop.)
Station 682+04*

BORING NO. 1 (1977) (Pier)
Station 681+68
Offset 25.0 ft RL
Ground Surface Elev. 92.75 ft (ft) (/6") (tsf) (%)

Soil Description	Depth (ft)	Bulge (ft)	Shear (tsf)	Penetrometer (P) (%)	SPT (N)	Soil Data			
						Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	Notes
Stiff Black Silty Clay Loam	90.25					9	15		Hard Gray Silty Clay Till (continued) (Lost Sample 20.0' - 21.5')
Very Stiff Gray Brown Silty Clay Till	88.25	4	2.7	21		10	15	5.0	14
Soft Brown and Gray Silty Clay	86.25	2	0.5	32		9	14	4.5	17
Soft Gray Clay Loam	83.25	1		26		9	15	3.5	16
Very Stiff Gray Silty Clay Till	78.25	3	2.5	18		6	11	3.5	17
Hard Gray Silty Clay Till		7	4.5	18		5	7	2.7	18
		11	5.6	15		6	9	2.0	18
		17				11	11		
		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 T206) BBS, form 137 (Rev. 8-99)

Page 2 of 2

Illinois Department of Transportation
Division of Highways
1907

SOIL BORING LOG

Date 3/22/77

ROUTE FAP 071 (IL 54) DESCRIPTION FA 71 over a Fork of Dickerson Slough LOGGED BY _____

SECTION (115)BR-4 LOCATION NE 1/4, SEC. 1, TWP. 23N, RNG. 7E, 3rd PM.
Latitude, Longitude _____

COUNTY Ford DRILLING METHOD Hollow Stem Auger HAMMER TYPE _____

STRUCT. NO. 027-0070 (Prop.)
Station 682+04*

BORING NO. 1 (1977) (Pier)
Station 681+68
Offset 25.0 ft RL
Ground Surface Elev. 92.75 ft (ft) (/6") (tsf) (%)

Soil Description	Depth (ft)	Bulge (ft)	Shear (tsf)	Penetrometer (P) (%)	SPT (N)	Soil Data			
						Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	Notes
Very Stiff Gray Silty Clay Till (Stratified) (continued)	46.25	6	2.3	18		10	14		
		9	2.0	22		6	9		
		11				7	14	3.0	19
End of Boring									

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 T206) BBS, form 137 (Rev. 8-99)

12/21/2015 8:48:36 AM

▲ Entire sheet revised.

DESIGNED - Fess Teklehmanot	EXAMINED - <i>James F. [Signature]</i>	DATE - SEPTEMBER 23, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOGS STRUCTURE NO. 027-0102	SHEET NO. 19 OF 21 SHEETS
CHECKED - Josue D. Ortiz-Varela	PASSED - <i>[Signature]</i>	REVISED - 12/21/2015 F.T.			
DRAWN - h.t. duong	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISOR			
CHECKED - GRA					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71	(115)BR, BR-1C, BR-4	FORD	158	118
CONTRACT NO. 66994				
ILLINOIS FED. AID PROJECT				

